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## **A Message from the Editors**

Welcome to the annual special issue for the International Journal of Applied Management Research (IJAMR). This year, as in June 2022, we want to thank the Associate Editors of this Special issue and the Editorial Team Members for all their hard work in putting together this distinctive and important issue, special issue thanks to editorial members AVC College. In this edition to motivate the new research scholars especially students, new research paper writer young and energetic paper writer find and develop their skill to face the global perspective. The publication team are both a joy to work with.

I hope you enjoy reading this issue of IJAMR; as always, we can be reached for comment at [editor@tisslinternational.org](mailto:editor@tisslinternational.org).

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# International Journal of Applied Management Research

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**ASSESSMENT OF AWARENESS AND HYGIENE PRACTICES - COVID-19**

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Keywords: COVID-19, Hygiene, Face Mask, Hand Sanitizer, Public University

Abstract

Corona virus disease 2019 (COVID-19) has spread worldwide and become an emerging life-threatening pandemic disease since 2019. This study aimed to evaluate the basic knowledge, awareness, personal hygiene and healthy practices regarding COVID-19 during its outbreak among the Palestinian population in the Gaza Strip. It is a cross-sectional survey carried out between July and August 2020 and included 458 participants, aged 18 years or older, belonging to the five Gaza Strip governorates, Palestine, with a variety of socio-economic status.

\*\*\*\*

**1. Introduction**

Infectious diseases cause a considerable threat to the human population. In December 2019, a novel, enveloped, non-segmented, positive-sense RNA virus causing respiratory infections in humans was reported in people from Wuhan, China. It was named severe acute respiratory syndrome Corona virus 2 (SARS-CoV-2) and the disease it causes was named Corona virus disease 2019 (COVID-19). Corona viruses belong to the Corona virus family; they can infect mammals, including humans and are called Corona viruses because of the presence of spikes on their surface, which resemble a crown. Hygiene is generally defined as a branch of science engaged in knowledge and practices relating to health promotion. The spread of this recent disease could be prevented by following hygiene practices.

**2. Hand Washing**

Most infections, especially colds and gastroenteritis, are caught when we put our unwashed hands, which have germs on them, to our mouth. Some infections are caught when other people's dirty hands touch the food we eat. Hands and wrists should be washed with clean soap and water, using a brush if your fingernails are dirty. Dry your hands with something clean, such as paper towels or hot air dryers. Always wash your hands:

- After using the toilet
- Before making or eating food
- After handling dogs or other animals
- If you have been around someone coughing or has a cold.

**2. Cleaning Around the Home**

Cleaning and disinfecting high-touch surfaces in your home regularly is an important precaution to lower the risk of infection. Follow cleaning product instructions for safe and effective use, including precautions you should take when applying the product, such as wearing gloves and making sure you have good ventilation. Some national authorities have made lists of recommended products for use against the COVID-19 virus.

**3. Cleaning Clothes**

It is unclear how long the COVID-19 virus can survive on fabric, but many items of clothing have plastic and metal elements on which it might live for a few hours to several days. Exercise caution and common sense. Good practices to consider include removing your shoes when you enter your home and changing into clean clothes when you return home after being in crowded places, and washing your hands with soap and water immediately afterwards.

**4. Handling and Preparing Food**

While there is no evidence of people catching the COVID-19 virus from food or food packaging, it may be possible that people can become infected by touching a surface or object contaminated by the virus and then touching their face. The greater risk comes from being in close contact with other people while outside food shopping or receiving a food delivery (as receiving any delivery in areas with local transmission). As always, good hygiene is important when handling food to prevent any food-borne illnesses.

**5. Travelling Hygiene**

When travelling overseas, take special care if you're not sure whether the water is safe. Suggestions include:

- Drink only bottled water.
- Don't use tap water to clean your teeth.
- When you wash your hands, make sure they are dry before you touch any food.
- Don't wash fruit or vegetables in unsafe water.
- If you have no other water source, make sure the water is boiled before you drink it by holding it at a rolling boil for one minute.
- Make sure any dishes, cups or other utensils are dry after they are washed.

*General food hygiene tips:*

- Wash your hands thoroughly with soap and water for at least 20 seconds before preparing any food.

- Use separate chopping boards to prepare uncooked meat and fish.
- Cook food to the recommended temperature.
- Where possible, keep perishable items refrigerated or frozen, and pay attention to product expiry dates.
- Aim to recycle or dispose of food waste and packaging in an appropriate and sanitary manner, avoiding build-up of refuse which could attract pests.
- Wash your hands with soap and water for at least 20 seconds before eating and make sure your children do the same.
- Always use clean utensils and plates.

## 6. Conclusion

From the current study, it can be concluded that the majority of the Palestinian adults in the Gaza Strip have very good knowledge and awareness levels regarding COVID-19, but a small proportion requires education about avoiding physical contact and maintaining social distancing from others during the outbreak. Social media was the primary source of their knowledge regarding COVID-19, followed by AV media. Additionally, most of the study participants have a high level of personal hygiene and healthy practices during the COVID-19 outbreak. Higher educational level did not affect the quality of personal hygiene and healthy practice behaviours during the COVID-19 outbreak.

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**CLOUD COMPUTING IN HEALTH CARE – A DETAILED REVIEW**

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Keywords: Cloud Computing, Healthcare

### 1. Introduction

The benefits of Cloud Computing in healthcare often work hand-in-hand for both patients and physicians. Reduced costs, enhanced privacy, and facilitating better patient care through collaboration and interoperability, are a few benefits of leveraging cloud systems for healthcare. Cloud computing is a case where the business outcomes of healthcare providers and patient outcomes are largely aligned. As per Global Markets Insights Inc., the healthcare Cloud Computing market will be worth \$55 billion by 2025. Considering scalability and storage as age-old expectations, today's healthcare organizations are increasingly drawing towards the cloud technology for its stunning features like collaboration, reachability, efficiency, and security to quote a few. The benefits of Cloud Computing in healthcare have increased manifold, as cloud is aligned with HIPAA compliances along with providing personalized & remote patient care. Keeping other business imperatives under the loop, 'Quality' has undoubtedly become the cornerstone of modern healthcare organizations. Cloud computing technology is much more than a primary choice for futuristic healthcare professionals.

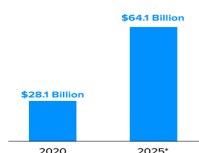
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From ever-increasing operational expenses, infrastructural costs, strict government compliances, and security concerns to real-time information sharing, hassle-free communication, 24\*7 access, and robust backup, these are the hindrances that the healthcare domain is struggling with. This blog will provide valuable insights into the advantages of Cloud Computing in the healthcare industry.

Cloud computing in healthcare: Cloud computing in healthcare describes the practice of implementing remote servers accessed via the internet to store, manage and process healthcare-related data. This contrasts with establishing an on-site data center with servers, or hosting the data on a personal computer.

Cloud storage offers a flexible solution that allows healthcare professionals and hospitals to leverage a network of remotely accessible servers where they can store large volumes of data in a secure environment maintained by IT professionals. Since the introduction of the Electronic Medical Records (EMR) Mandate, healthcare organizations across the United States have adopted cloud-based healthcare solutions to store and protecting patient records. According to BCC research, the global healthcare Cloud Computing market is expected to hit \$35 billion by 2022, with an annualized growth rate of 11.6%. Despite that, 69% of respondents in a 2018 survey indicated that the hospital they worked at did not have a plan for moving existing data centers to the cloud.

Figure: 1 Healthcare Cloud Computing market



### 2. Types of Cloud Computing in Healthcare

The typology of Cloud Computing in healthcare can come from 2 perspectives: distribution and deployment.

By Distribution Model (Hardware/Software Perspective)

- 1) Software as a Service. The provider delivers IT infrastructure, and the client deploys applications and its own operating system.
- 2) Infrastructure as a Service. The provider delivers IT infrastructure and an operating system, and the client deploys applications.
- 3) Platform as a Service. The provider delivers IT infrastructure, an operating system, applications, and other components within a ready-to-use platform.

By Deployment Model (Who Owns the Cloud)

- a) Private. Only one particular client can use the technology.
- b) Community. A particular group with the same interests and objectives can use the technology.
- c) Public. The general public can use the technology.
- d) Hybrid. The technology combines several clouds of different access options.

Five Key Benefits of Cloud Computing in Healthcare Industry.

To effectively address the needs of business and patients, most healthcare professionals are turning towards Cloud Computing for all its benefits. Cloud computing, with its on-demand availability, internet-based services, and high-data availability, has transformed the entire healthcare domain and converted it into Health-Tech.

Figure 2: Five Key Benefits of Cloud Computing



### 1) Collaboration:

Sharing facilitates collaboration. With Cloud Computing, the process of data sharing has become a lot easier and simpler. As healthcare information stays confidential, with the cloud, the data can be securely shared among all the relevant healthcare stakeholders like doctors, nurses, and care-givers that, too, in real-time. Besides sharing, they can also remotely access medical reports and records anytime, anywhere. Cloud has also facilitated remote conferencing, quick updates on healthcare developments, and patients' conditions, which altogether make it a perfect companion for healthcare professionals.

### 2) Security:

Healthcare data needs to stay confidential. The abundant data held by this domain makes it a focal point of attraction to the malicious actors, resulting in security and data breaches. The cloud network ensures safety as it has specific security tools that can inform you about suspicious attempts. As cloud acts as a repository of data, cloud service providers like AWS or Azure are extra cautious in complying with the privacy standards like HIPAA and GDPR. These service providers resort to different safeguard mechanisms like network fireball, customer-controlled encryption, etc., which makes it the safest and most reliable option for data-related needs.

### 3) Cost:

Cloud can hold an enormous amount of information at a minimal cost. Cloud computing works on the pay-as-you-go and subscription model, which indicates you only must pay for those services which you are availing. By shifting the IT budgets from Capex to Opex, cloud technology can reduce your in-house infrastructural costs and other operational costs. It ultimately makes it even possible for smaller hospitals with a tight budget to adopt a cloud-based model.

### 4) Speed:

Speed is a significant criterion before deciding on selecting any technology. Cloud-based tools can update and upgrade their features at a commendable pace with minimal intervention, and you can get real-time updates as well on all the relevant information. The benefits of Cloud Computing in healthcare include unmatched speed and faster access to information, which can overcome the stumbling blocks which the industry stakeholders and patients are encountering. This futuristic technology has also modified clinical research, and the cloud can facilitate clinical trial management and knowledge sharing.

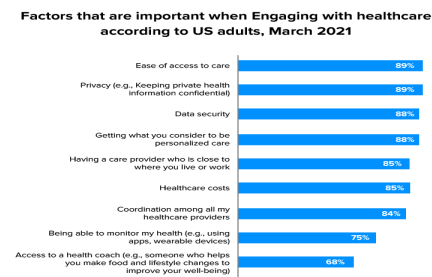
### 5) Scalability and Flexibility:

Healthcare organizations operate in a dynamic environment. Cloud facilitates technologies used in healthcare like EMR, mobile apps, patient portals, devices with IoT, Big Data analytics. It provides hassle-free scalability and flexibility, which improves the ultimate decision-making process.

Along with 24\*7 availability, healthcare providers drastically need to scale the data storage and network requirements as per the service demands. Cloud technology can increase or decrease these storage needs as per the need of healthcare

professionals. As cloud migration can disrupt your traditional methodologies of data handling, healthcare providers need to strategize the migration process well in advance. Cloud migration strategy not only reduces risks but also minimizes the chances of downtime, prevents information leaks, improves data handling, and strengthens security practices.

Figure 3: Factors engaged in healthcare (US)



## 3. Barriers to Adoption of Cloud Computing in Healthcare

### a. Security Concern:

The biggest setback to cloud adoption in healthcare is the possible security risk associated with it. Patient data is inherently sensitive and cloud-hosted healthcare data needs to be safeguarded against external threats.

### b. Compliance to Security Norms:

Healthcare data and related applications need to comply with several data regulation laws like HIPAA, HITECH, and GDPR. This extends to cloud-hosted data. Ensuring compliance of the cloud-hosted data is something that healthcare providers need to look out for when moving over to the cloud.

### c. System Downtimes:

While the cloud offers more reliability, occasional downtimes are a reality. Having contingency planning done beforehand and preparedness for a possible failure lets you overcome any downtime if it occurs. Designing for failure is advocated as a best practice while building cloud applications.

## 4. Cloud Computing in Healthcare: Examples

Cloud computing is widely used in various healthcare institutions, facilitating decision-making and communication on various levels. Here, we've picked the 2 most illustrative cases to reveal the key pros and cons of adopting Cloud Computing in healthcare.

Pfizer is a great example of managing Cloud Computing platforms for greater communication and collaboration with all the industry stakeholders. It involved the technology in Xalkori, a lung cancer drug especially developed for the special patient category with the ALK gene mutation. The very appearance of this treatment was impossible without prior analysis made by Cloud Computing. The technology accelerated

the project – the timeframe took 3 years only, including the time needed for FDA approval.

Beaumont Health has experienced one of the greatest data breaches after Cloud Computing introduction. Since this Michigan-based hospital didn't establish the system protection, the health and personal data of around 114,000 patients was hacked through a couple of corporate emails. The cyberattack reached their contact information, diagnoses, account numbers, driver licenses, and other types of sensitive data.

Reference:

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<https://www.zymr.com>

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## 5. Conclusion

Cloud computing still has a long way to go in the healthcare sector. It's combination with rapidly evolving technologies like Big Data analytics, artificial intelligence and internet of medical things improves efficiencies and opens up multiple avenues of streamlining healthcare delivery. It increases resource availability, boosts interoperability while lowering the costs. With so many benefits and planning in place to overcome the barriers, there is no reason to not go the cloud way.

**AWARENESS AND PERCEPTION OF SWACHH BHARAT MISSION IN RURAL INDIA**

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Keywords: Swachh Bharat Mission, Awareness, Perception, Rural People

Abstract

The Swachh Bharat Mission (SBM) programme has reached the beneficiary at satisfactory level. The myth of using toilets attached with house sites among the respondents is high due to their ignorance and unawareness about health and hygiene practices. Hence, it is strongly recommended before build the toilets to the people. It is deadly needed creating awareness about the necessity and use of toilets and adverse consequences of non-use of toilets which affect the individual, family, the society and the nation. Being sanitation, hygiene and health are vital components of healthy nation, it should begin with the gross root level of individual person and the household.

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**1. Introduction**

Sanitation is an integral component of public hygiene and health care. In India, 736 million people out of total population of 1027 million, lack basic sanitation facilities resulting in high mortality and morbidity. Sanitation in broad term refers to disposal and management of solid wastes, wastewater, human and cattle excreta etc. in such a way it does not affect adversely domestic personal hygiene. Sanitation is for human health. It contributes to clean and improved environment, social development and generates significant economic benefits.

**2. Sanitation**

Sanitation is not the disposal of human excreta only as being understood, it is a comprehensive concept which includes seven components like a) Safe disposal of human excreta, b) Usage and maintenance of safe drinking water, c) Personal hygiene, d) Food and home hygiene, e) Safe disposal of solid waste, f) Safe disposal of liquid waste and g) Community / environment cleanliness. So, sanitation is not just creating toilets, it is much larger an issue.

*2.1. Why Sanitation*

There is empirical evidence to prove that poor sanitation plays havoc with the lives of the people especially children below the age of 5 years. According to an estimate about 88 percentage of the diseases are caused due to poor sanitation which include diseases like Diarrhoea, Dysentery, Cholera, Malaria, hepatitis, Jaundice, Guinea worms, Hook worms, Typhoid, Trachoma, schistosomiasis and Intentional helminth, causing huge economic loss to the economy in terms loss of health, Work days, stunt physical and mental growth, tourism, school days and drop out from schools etc. It has been estimated that India losses 6.4 percent of its Gross Domestic Product (GDP) annually lacking basic sanitation facilities (WSP-2006), which comes to about Rs.2.5 lakh crores. About 25 percent of total 16 lakh deaths world caused over due to water borne diseases, 4.5 lakh happen in India and of these 90 percent are children below 5 years.

*2.2. Rural Sanitation*

Sanitation is not only an absence of garbage and waste materials strewn around but also access to toilet facility, safe drinking water and connectivity to a drainage system. In rural India, this is huge problem. Census of India collected data on access to water and sanitation shows that only 31 percent rural households were having any toilet facility in their households. The increase in toilet facility during last ten years from 2001 to 2011 was at the rate of just one per cent every year. At this rate India could achieve universal sanitation only by 2081. Thus, progress in the provision of toilet facility in rural areas is slow and open-defecation is a serious problem. Similarly, the proportion of households with tap water and drainage facilities also remains at the one – third level. It is worthwhile to mention that due to lack of drainage facility the low-lying areas of many villages and towns often get flooded during monsoon season.

**3. SBM**

To accelerate the efforts to achieve universal sanitation coverage and to put the focus on sanitation, the Prime Minister of India had launched the SBM on 2nd October 2014. Under the mission, all villages, Gram Panchayats, Districts, States and Union Territories in India declared themselves "open-defecation free" (ODF) by 2 October 2019, the 150th birth anniversary of Mahatma Gandhi, by constructing over 100 million toilets in rural India.

**4. Significance of the Study**

Of the 2.6 billion people who lack toilet facilities, nearly 650 million live in India. To address this gigantic problem of sanitation, the Government of India as launched a nationwide "Clean India Programme." The success of this programme and its sustainability is likely to depend upon its coherence with the social structural forces, which drive poor sanitary conditions. Over 7,50,000 people die each year from Diarrhoea because of unsanitary conditions created in communities without access to toilets. According to one estimate, over 37 percent of the total human excreta generated in urban areas are unsafely disposed. This costs significantly in terms



of public health and environmental hazards. The loss due to diseases caused by poor sanitation for children under 14 years alone in urban areas amounts to more than Rs. 500 crores at 2001 prices, according to the Planning Commission and UNICE.

## 5. Review of Literature

Alka Chaudhary (2017) in his present study based on descriptive analysis examined the need, objective and impact of SBM on India's overall economic development. The study discovers that this campaign has a positive impact on overall growth of India. SBM is one of the critical links towards economic success of India. This mission cannot succeed without the support of every Indian. PM also asserted that Swachh Bharat Abhiyan should be a combined effort of government and people. SBM will financially benefit every citizen of India. It is the responsibility of every citizen of India to make this mission successful till 150th birth anniversary of Mahatma Gandhi 2 October, 2019.

Anuradha R et.al (2017) "Role of Community in SBM. Their Knowledge, Attitude and Practices of Sanitary Latrine Usage in Rural Areas, Tamil Nadu" this was a cross sectional study conducted among rural population in Kuthambakkam village, Tamil Nadu. There were 1175 households in Kuthambakkam village. These households were serially numbered and of these a sample of 275 households were selected for the study using simple random sampling technique by lottery method. A structured questionnaire was used to collect information regarding the background characteristics, their knowledge, attitude and practices towards sanitary latrines usage. Descriptive statistics were calculated for background variables, the prevalence of sanitary latrines usage and open air defecation. Association between factors responsible for open air defecation was found by using chi square test. This study concludes to solve the problem of underutilization of sanitary latrines, planning and conducting Information Education Communication activities is essential. Effective political and administrative support is needed to scale up the sanitation program.

## 6. Methodology of the Study

Basically, this study depends on both primary and secondary information for its data support. Primary data have been collected from the SBM beneficiaries of the selected study area. The head of the family was interviewed with the help of a structured interview schedule. The present study consists of 75 sample respondents from the village of Somur (Karur District), who are benefitted from the Rural Sanitation Programme of SBM. The sampling technique of purposive random sampling.

**Table1: Aware of SBM Programme**

Aware of SBM Programme	No. of Respondents	%
Yes	75	75
No	0	0
<b>Total</b>	<b>75</b>	<b>100</b>

Source: Primary Data

The awareness of respondents about the Government of India's SBM Programme is given in the above table. It is heartening to note that they all are aware about the scheme.

**Table 2: Mode of Awareness about SBM Programme**

Mode of Awareness	No. of Respondents	%
Television News	44	58.7
Newspapers	9	12.0
Local bodies	22	29.3
<b>Total</b>	<b>75</b>	<b>100</b>

Source: Primary Data

Majority of the respondents above 58 percent of the respondents knew about the SBM Programme through Television News. About 30 percent of the respondents knew through the local body (Grama Sabha) and the remaining 12 percent knew through the Daily Newspapers about the SBM Programme.

**Table 3: Does the SBM Programme Helpful for Public**

Does the SBM Programme helpful?	No. of Respondents	%
Yes	75	100
No	0	0
<b>Total</b>	<b>75</b>	<b>100</b>

Source: Primary Data

All the respondents in the study area stated that the SBM Programme of Govt. of India is helpful for them and the whole public for constructing latrines in their own households.

**Table 4: Functioning of Latrines Built through SBM Programme**

Functioning Good/Bad	No. of Respondents	%
Functioning Good	35	46.7
Not Good	40	53.3
<b>Total</b>	<b>75</b>	<b>100</b>

Source: Primary Data

The above table provides the functioning of latrines built through SBM Programme. Majority of the respondents about 53 percent said that it is not functioning well and they had modified or improved the infrastructure of the latrines to use the latrine in a better manner. Only 47 percent of the respondents stated that the latrines built through SBM Programme is functioning well and are useful to them.

**Table 5: Perception of SBM Programme by the Respondents**

Perception	No. of Respondents	%
Satisfied	38	50.7
Not Satisfied	25	33.3
No Opinion	12	16.0
<b>Total</b>	<b>75</b>	<b>100</b>

Source: Primary Data

The above table clearly stated that above 50 percent of the respondents were satisfied with the functioning of SBM Programme, while 33 percent of the respondents were not satisfied with the functioning of SBM Programme, as the middle men are restricting the funds to the public as a result the latrines were not built properly. The respondents were supposed to invest their own money to rebuild the latrines to use it in a better manner. Another 16 percent of the respondents offered no opinion about the programme.

## 7. Conclusion

To conclude that as for the study area, the SBM Programme has reached the beneficiary at satisfactory level. The myth of using toilets attached with house sites among the respondents is high due to their ignorance and unawareness about health and hygiene practices. Hence, it is strongly recommended before build the toilets to the people. It is deadly

needed creating awareness about the necessity and use of toilets and adverse consequences of non-use of toilets which affect the individual, family, the society and the nation. Being sanitation, hygiene and health are vital components of healthy nation, it should begin with the gross root level of individual person and the household.

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## HEALTH IS WEALTH: PROVISIONS RELATING TO HEALTH OF TRANSPORT WORKERS - AN ANALYSIS

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Keywords: Motor Transport Workers, Workplace Conditions, Factors, Health, Women

### Abstract

Transport is facing an uneasy task to find a balance between the inevitable development, social and economic benefits on the one hand, and the protection of health and the environment. Motor Transport workers Act is exclusively enacted for the welfare of motor transport workers and to regulate the conditions of their work. Women transport workers are a proud part of workforce which is the lifeblood of the global economy linking supply chains and keeping the world moving. Regularizing cleaning and sanitation procedures in workplaces, which includes specific needs of transport workers such as disability, pregnancy, menstruation, menopause and pre-existing health conditions. Transport workers are susceptible to a range of work-related disorders, including fatigue, stress, sleep deprivation, kidney disorders, obesity and substance abuse. Health includes safety of workers. This study aims to provide the health provisions of transport workers which much include women and other related disorders/

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### 1. Introduction

The occupational safety and health (OSH) concerns in the sector include a risk of physical hazards, road accidents, dangerous operational situations violence, and exposure to harmful substances. Research found that long-haul road transport drivers might find it challenging to combine their work and family life because of the irregular and split shifts involved in transport service provision. It can have a negative impact on their work-life balance. Transport workers found themselves in a unique situation, as OSH concerns in their workplace and it can directly affect other road users and on overall traffic and public safety. In certain cases, Market pressures lead to contraventions of OSH rights and responsibilities. The need to make ends meet might also put workers under pressure to disregard prevailing working-time arrangements or to overload their commercial vehicle, with negative consequences.

### 2. Recent Developments in The Road Transport Sector

- a) Roads are an integral part of any transport network and a country's road network efficiency lies at the heart of its economic and social development. Transport investments and operations have the power to stimulate activities in other sectors. Road transport operations also promotes mobility, including commuting mobility which allows workers to access their place of work the road transport sector plays a fundamental role and, in many countries, it contributes significantly to overall employment.
- b) For achieving social justice and decent working conditions often remains a challenge in the sector for both passenger and freight services and it is highly fragmented and segmented. The enhanced prevalence of informality, self-employment and outsourcing influences job security among transport workers and high levels of competition hamper the development of social dialogue, including collective bargaining, in the sector. Besides this, the prospects for acquiring new skills and moving into better paid positions are not always present.
- c) Social dialogue should be at the heart of any programme or policy for the road transport sector, and when social dialogue and consultative involvement are considered both productivity and environmental gains

can be achieved. Reform must go hand in hand with social dialogue practices.

- d) Significant changes can be observed regarding road transport. Globalization, liberalization and supply chain management practices have provided world market access and opportunities to transport enterprises and logistics companies. Positive impacts of these developments have included employment creation in response to increased demand for road transport services. Negative impacts can also be observed in certain cases on the working conditions of road transport drivers, which also include increased stress levels, decreased wages and excessive demands being made on drivers, specifically influencing working and resting times.

### 3. Health Risks of Transport Workers

Transport workers are susceptible to a range of work-related disorders, including fatigue, stress, sleep deprivation, kidney disorders, obesity and substance abuse. As patterns of social protection vary from country to country, access to health care, pensions and sickness, occupational injury, family, maternity and invalidity benefits might not be available to all road transport workers. Informal workers in the sector might be vulnerable, as they may lack access to social protection mechanisms and work with low levels of income, productivity, skills, technology and capital.

### 4. Work-Related Disorders

Generally, disorders present for road transport workers besides the higher or heightened OSH risks. Decent work challenges would also include fewer opportunities to benefit from social safety nets. Depending on their contractual arrangements, coverage related to pensions health care, family, sickness, occupational injury, maternity and invalidity benefits may not be available to road transport workers. This will depend only on the patterns of social protection applied by each country. Informality, self-employment and non-standard forms of employment can hurt the protection of road transport workers against risks to their life. In addition, worker misclassification and the use of subcontracting practices increase worker vulnerability by depriving them of access to social protection mechanisms.

## 5. Kidney Disorders, Dehydration Urinary Tract Infections

For those who drive for a living, working conditions pose sector-specific challenges which could have a negative impact on their health. Among these challenges are those relating to bathroom use and the availability of facilities. Long-haul bus and truck drivers encounter challenges in this respect, as highway congestion, unsafe parking facilities and long waiting lines at border crossing points are not uncommon.

Public transport drivers in congested metropolitan areas encounter situations where they cannot relieve themselves when necessary. These drivers continue in route when running late, leaving them little chance to use the bathroom. Even when on schedule, they may find themselves on a repeated route circuit that affords insufficient access opportunities. This would lead to drivers relieving themselves in the street or other inadequate places with no privacy. Lack of facilities and breaks has been linked with increased susceptibility to urinary tract infections, kidney stones, episodes of gastrointestinal distress and dehydration, caused by voluntarily restricted fluid intake.

Drivers might also avoid taking necessary medication (such as blood pressure medication), if it increases the urge to use bathroom facilities. The replacement of soiled driver seats in buses and trucks has an economic impact for companies and agencies. Too few facilities and too few breaks have also caused an increase in the purchase and usage of adult diapers.

There is no universally accepted definition of fatigue. Unlike alcohol or drug-related impairment, fatigue has no known underlying mechanism or marker. It is manifested in multiple ways, including cognition and performance, physiology, subjective experience (drowsiness), and general health and wellness. Driver fatigue differs from physical fatigue from exertion. Basically, physical exertion is more likely to increase alertness than to decrease it. Drowsiness which means sleepiness is a dominant feature of fatigue.

Commercial drivers, especially long-haul drivers, face numerous challenges in terms of getting sufficient sleep and rest. Coach drivers can also face additional challenges, lack of privacy for rest, lack of sleeper berths and frequently needing to drive while others are sleeping.

## 6. Factors Which Lead to Driver Fatigue Include:

- Extended work-hours (includes long commutes for many drivers);
- Unpredictable schedules with short-notice changes;
- Limited sleep during principal sleep periods;
- Unfamiliar or uncomfortable sleep environments;
- Little physical exercise;
- Difficulty finding safe and quiet parking places to get rest;
- Delivery schedules and stress due to uncontrollable delays;
- Changing, rotating or split-sleep work schedules;

- Pay by the kilometre, which may be an incentive to overwork;
- Schedules conflicting with natural sleep or circadian rhythms;
- Poor diet;
- Environmental stressors such as cold, heat or lack of ventilation.

## 7. Stress

Occupational stress is prevalent on transport workers especially among long-haul truckers. They are away from home, friends, family and other support networks for several days or weeks at a time. For example, a survey conducted by the US Owner-Operator Urban bus drivers find themselves in a high strain occupation, in which high demand situations arise from the need for monitoring, continuous vigilance, and multitasking in complex traffic situations in which mistakes can have serious effects. Bus drivers are advised to maintain a positive service-orientation, while keeping to the timetable and driving safely. These demands present a three-way role conflict to bus drivers such as increased congestion and electronic schedules, leaving even less room for error in route timetables which led to an increase in stress levels. Independent Drivers Association found that the majority of respondents were away from home over 100 nights a year, with 41 per cent spending over at least 200 nights away from home. Drivers face many occupational stressors including social isolation, constant time pressures, driving hazards such as weather changes, heavy traffic and poor road conditions, and violence or fear of violence. Stress related to just-in-time management and to working in the premises of others leads to high work pressures. Such stressors could be a factor in the prevalence of risky behaviours, including drug use. Sedentary lifestyle and obesity.

Studies have found that drivers are at increased risk of numerous preventable diseases, including heart attacks, musculoskeletal disorders, hypertension, ulcers and cancers of the lung, prostate and bladder, as compared to people in other professions.

Poor worker health generally results in lower productivity and increased absenteeism. Among drivers, it can also affect safety. It may reduce driver performance, making drivers more vulnerable to chronic or medical conditions and shortening career. When experienced commercial drivers retire in their early 60s because of health conditions, they are often replaced by younger ones, less experienced, higher-risk drivers.

## 8. Health Risk Factors of Transport Workers

Crashes In many countries, road traffic accidents and crashes are leading causes of workplace death, injury and disability. Road transport drivers are often exposed to the dangers of the road and other road users. There are many types of risk factor affecting the probabilities of a crashes. The crash timeline includes two kinds of causal factor: predisposing risk factors and proximal causes.

Use of Seat-belt One of the effective road safety measures to prevent driver injury is wearing Seat-belt. However,

observational studies conducted in Australia revealed that, although overall wearing rates have improved in recent years, around one quarter of heavy truck drivers failed to wear seat belts. Measures to improve this practice further include the development of reading materials, campaigns and employer safety programmes and measures to improve Seat-belt comfort and design (which might encourage Seat-belt use among overweight drivers).

## 9. Multiple Exposures to Hazardous Materials

Commercial vehicle drivers might involve themselves exposed to smoke, fumes and vapours. They might also be exposed to exhaust fumes while at terminals, idling, queuing, or loading and unloading. Exposure to other harmful chemicals may also result when loading and unloading containers, from chemicals for on-board toilets on buses or for cleaning refuse disposal vehicles, when preparing the vehicle for duty and from chemicals used in refuse disposal and volatile organic chemicals. Those drivers may also be exposed to carcinogenic substances from diesel exhaust particulate matter and to carcinogenic chemicals loaded on their vehicles, for example when the loading process of tanks or when refuelling. Other particulate exposure might include ambient dust and dust from loads and goods, and from refuse. Unforeseen incidents during the transport of goods and fumigated containers may lead to highly toxic exposures and to fire and explosion. In response to more stringent licensing regulations, these workers generally undertake additional training regarding these regulations. Asbestos is always present in insulation materials, bus and truck brakes and waste. Cargo workers can be vulnerable to asbestos-related diseases.

## 10. Special Provisions for Women

- a) The Factories Act, 1948
- b) Payment of Gratuity Act, 1972
- c) The Employees Compensation Act, 1923
- d) The Employees State Insurance Act, 1948
- e) The Contract Labour (Regulation and Abolition) Act, 1970
- f) The Mines Act, 1952
- g) The Plantation Labour Act, 1951
- h) Minimum Wages Act, 1948
- i) Payment of Wages Act, 1936
- j) Motor Transport Workers Act, 1961

### *Provisions of Welfare and Health under Motor Transport Workers Act, 1961*

#### Section 8 –Canteens

- a) The State Government may make rules requiring that in every place wherein one hundred motor transport workers or more employed in a motor transport undertaking ordinarily call on duty during every day, one or more canteens shall be provided and maintained by the employer for the motor transport 20 workers.
- b) Without prejudice to the generality of the foregoing power, such rules may provide for-
  - The date by which the canteens shall be provided;
  - The number of canteens that shall be provided and the 25 standards regarding construction,

accommodation, furniture and other equipment of the canteens;

- The foodstuffs which may be served and the charges which may be made therefor;
  - The constitution of a managing committee for a can- 30 teen and the representation of the motor transport workers in the management of the canteen;
- c) The State Government may, subject to such conditions as it may Impose, delegate to the chief inspector the power to make rules referring to clause (e) of sub-section (2)

#### *Section 9- Rest rooms*

- a. In every place wherein motor transport worker employed in a motor transport undertaking must stay on duty at night, there shall be provided and maintained by the employer for the motor transport workers such number of rest rooms or such other alternative accommodation, as prescribed.
- b. The rest rooms or the alternative accommodation to be provided under sub-section (1) shall be sufficiently lighted and ventilated and shall be maintained in a cool and clean condition.
- c. The State Government may prescribe the standards regarding construction, accommodation, furniture and other equipment of rest rooms or the alternative accommodation to be provided under this section.

#### *Section 10- Uniforms*

- a) The State Government may, by notification in the Official Gazette, make rules requiring an employer of a motor transport undertaking to provide for such of the motor transport workers employed in that undertaking such number and uniforms, rain-coats or other like amenities for their protection from rain or cold as specified in the rules.
- b) There shall be paid to the motor transport workers by the employer an allowance for the washing of uniforms provided under sub-section (1) at such rates as prescribed.

#### *Section 11 Medical facilities*

There shall be provided and maintained by the employer to be readily available such medical facilities for the motor transport workers at such operating centres and halting stations as prescribed by the State Government.

#### *Section 12 First-aid facilities*

- 1) There shall be provided and maintained by the employer to readily accessible during all working hours a first-aid box equipped with the prescribed contents in every transport vehicle.
- 2) Nothing except the prescribed contents shall be, kept in a first-aid box.
- 3) The first-aid box shall be kept in the charge of the driver or the conductor of the transport vehicle who shall be trained in the use, thereof.

## 11. Conclusion and Suggestions

Without women, strategy and policy will not adequately address the health issues that women face. Income support for all women workers is essential including for migrant, informal workers, precarious and those in non- standard forms of employment such as part-time, outsourced, 'gig' work. It is our responsibility to ensure that women to be protected and their rights are strengthened and reinforced. Women are unaware of the laws ensured to them. Practical measures must be improved to enhance the women's health. When we look into

OSH risks in the transport sector, the risk of accidents with material loss, damage, and human victims will stand as outcome. However, it should not be denied that a range of other safety risks are also present when working in the transport sector and many of these risks may affect workers' health. We should raise awareness of OSH issues in policy areas which may effect on the health and safety of transport workers. Train employers and workers on how to likely protect their health and safety.

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## ROLE OF SWACHH BHARAT MISSION (GRAMEEN) ON ERADICATION OF OPEN DEFECACTION IN SOUTHERN STATES OF INDIA

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### Abstract

India continues to be the country with highest number of people practicing open defecation and majority of population struggled without proper sanitation. The Government of India implemented Swachh Bharat Mission (Grameen) to change this unhealthy practice and unhealthy situation. It's also a major step towards the protection of degrading environment. The objectives of the campaign include elimination of open defecation, conversion of insanitary toilets to pour flush toilets, eradication of manual scavenging and above all to bring about a behavioural change in people regarding health sanitation practices and to ensure public participation in achieving these objectives. Through this mission, lot of Community Sanitary Complexes and Individual Household Latrines were constructed to eradicate open defecation and to ensure women's safety. So, the present study is to analyse the role of Swachh Bharat Mission (Grameen) on eradication of open defecation in southern states of India. This study is descriptive research and mainly based on secondary data collected from annual reports of Department of drinking water and sanitation (Ministry of Jal Shakthi).

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### 1. Introduction

Open defecation is the human practice of defecating outside rather than into toilet. People may choose fields, bushes, forests, ditches, streets, canals or other open spaces for defecation. Due to traditional cultural practices and having no access to toilets encourages people to do this. In India, this practice is common where the sanitation infrastructure and services are not available. This unhealthy practice by people pollute environment, cause health problems and spread diseases like, diarrhoea, typhoid, cholera, hepatitis, polio, intestinal worm infection etc. High levels of open defecation are linked with child mortality, poor nutrition, poverty and disparities between rich and poor. Open defecation is severe in women. It results poor menstrual hygiene management, undernourishment, reproductive and bladder infections. Critically, open defecation places women in danger, as they often face harassment, assaulted by men or attacked by animals. A lack of toilet therefore leads to stigma, stress and anxiety. Therefore, Swachh Bharat Mission (Grameen) was launched on 2nd October, 2014 with the aim to achieve Open Defecation Free (ODF) status by 2nd October, 2019, as a fitting tribute to Mahatma Gandhi on his 150th birth anniversary. The main focus of the programme was bringing about a behavioural change among people towards sanitation and hygiene behaviour. Under the programme, over ten crore toilets were constructed from 2014-15 to 2019-20. All the 36 states/UTs declared themselves ODF by 2nd October, 2019. Having achieved the milestone of ODF status in rural areas of the country, now the Government of India approved Phase-II of the SBM(G) on 19th February, 2020, implemented during 2020- 21 to 2024-25, with the focus on creating ODF Plus villages which includes ODF sustainability and to cover the villages with Solid and Liquid Waste Management (SLWM).

### 2. Statement of the Problem

India is the second largest populated country in the world and it continuous to be the country with highest number of people practicing open defecation. This was done because of cultural practices or having no access to toilets. One billion people around the world that still practice open defecation

today and around 60% of people reside in India alone. This open defecation is causing various diseases like diarrhoea, intestinal worm infection, typhoid, cholera, hepatitis, polio, trachoma etc. Those countries where the open defecation is most widely practiced having the largest numbers of deaths of children under the age of 5, high levels of malnourishment, high levels of poverty and large disparities between rich and poor. It also effects on human safety and dignity. Women are facing sexual violence, assault by men and animals attack at the time of open defecation. To achieve the status of ODF and to ensure good sanitation, the Government of India had announced the Swachh Bharat Mission (Grameen) on 2nd October, 2014. Under this lot of Community Sanitary Complexes, Individual Household Latrines are constructed to eradicate open defecation. Based on this logic, present study is made to study the role of Swachh Bharat Mission (Grameen) on eradication of open defecation in southern states of India.

### 3. Objectives Of the Study

- 1) To study the contribution of Swachh Bharat Mission SBM (G) (Grameen) on constructing Community Sanitary Complexes (CSCs) in southern states of India.
- 2) To analyse the contribution of SBM (G) on constructing Individual Household Latrines (IHHLs) in southern states of India.
- 3) To assess the role of SBM(G) on the eradication of open defecation in villages of southern states of India.

### 4. Methodology and Data Analysis

The present study is based on secondary data. Secondary data were collected from the annual reports of Department of drinking water and sanitation (Ministry of Jal Shakthi). And some data were collected from books, journals, reports and other web sources. Percentage analysis is used in this study to analyse the role of SBM (G).

CSCs consists of an appropriate number of toilet seats, bathing cubicles, washing platforms, wash basins, etc. It was set up in the village at a location acceptable and accessible to all. Ordinarily, such complexes shall be constructed only when there is lack of land in the village to construct household

toilets. Such Complexes can develop where the large-scale congregation of people takes place like markets, bus stands etc.

(Table -1) The table number one discloses the number of CSCs constructed under SBM(G) during 2017 to 2021. The table shows that the state Andhra Pradesh has constructed 61.57% (Highest) of CSCs during these five years. Tamil Nadu is in the third place with 7.10% (1697 CSCs) of construction Community Sanitary Complexes. Kerala stays last in the list with 2.05% of construction of CSCs. During the first three years of the study period (2017-2019) Telangana had no number of constructions of CSCs. In 2020, 12,918 (Highest) CSCs were constructed.

*Construction of Individual Household Latrines:* The SBM (G) aims to ensure that all families have access to safe toilets and therefore safe technology options are an important component of toilet choice. The Ministry encourages the promotion of Twin-Pit technology for most parts of the country; however, States may look to develop other safe technologies. A completed household sanitary latrine should comprise of i) a sanitary substructure ii) a super structure with water facility, and iii) a hand wash unit for cleaning and hand washing.

(Table - 2) The table number two represents the number of Individual Household Latrines constructed under SBM(G) during 2017 to 2021. The data reveals that Karnataka has constructed 29.09% (Highest) of Individual Household Latrines during the whole study period. The four states, Andhra Pradesh, Karnataka, Tamil Nadu and Telangana have constructed over 97% of Individual Household Latrines from 2017 to 2021. The state Kerala stays last in the list with 2.33%. In 2018, 46, 26,668 Individual Household Latrines (Highest) were constructed.

*Construction of Individual Household Latrines in SC/ST Habitations*

(Table – 3) The table number three reveals that constructing Individual Household Latrines in SC/ST habitations under SBM(G) during 2017 to 2021. The data shows that, Karnataka has constructed 8, 03,789 Individual Household Latrines (Highest) during 2017 to 2021. Kerala stays in the last of the list with 2.21% (57,446 IHHLs). In Kerala, from the year 2018 to 2020 there is no Individual Household Latrines were constructed in SC/ST habitations. In 2018, 13,76,006 Individual Household Latrines were constructed. ODF Villages Open Defecation Free is a term used to describe communities that have shifted to using toilets instead of open defecation. Under the SBM (G) programme ten crore toilets were constructed from 2014 to 2020. All 36 states/Union Territories declared themselves ODF by 2nd October, 2019.

(Table – 4) The table number four shows the number of ODF villages declared during 2017 to 2021. The Kerala state got complete ODF status while starting of the study period in 2017. Tamil Nadu and Andhra Pradesh had reached the complete ODF status by 2019. Karnataka and Telangana reached the full ODF status during 2020. The list

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also shows that Karnataka is having highest consisting of 27,044 villages (36.23%).

#### 5. Findings

- The states, Tamil Nadu, Telangana and Kerala had no number in construction of CSCs during 2018.
- Andhra Pradesh has constructed highest number (61.57%) of Community Sanitary Complexes (14,715 CSCs) during the study period.
- The highest number of Community Sanitary Complexes (12,918 CSCs) were constructed during 2020.
- Karnataka has constructed highest number (29.09%) of Individual Household Latrines (25, 14,072 IHHLs) during the study period.
- The highest number of Individual Household Latrines (46,26,668 IHHLs) were constructed during 2018.
- Karnataka has constructed highest number (31.05%) of Individual Household Latrines (8, 03,789 IHHLs) in SC/ST habitations.
- The highest number of Individual Household Latrines in SC/ST habitations (13,76, 006 IHHLs) were constructed during 2018.
- Kerala got declared ODF status during the starting of the study period in 2017.
- All the southern states (Andhra Pradesh, Karnataka, Tamil Nadu, Telangana, and Kerala) got declared ODF status during 2020.
- Kerala has ranked lowest in construction of CSCs, Individual Household Latrines and Individual Household Latrines in SC/ST habitations.

#### 6. Suggestions

- The government should concentrate further to make the toilets available in every individual household.
- Health awareness must be given to the people those who practicing open defecation as their cultural practice.
- The government must reconfirm that CSCs and Individual Household Latrines are highly available in Kerala.
- The government should provide financial support to the SC/ST people to construct toilets in their households.

#### 7. Conclusion

From the above analysis India has declared ODF in all over the country especially in southern states by 2019. But still, we can see these activities while travelling to the rural and populated places in India. The government should concentrate further to construct toilets in every individual household and public places. Besides that, awareness should be given in the rural areas of India about health and hygiene.



**Table: 1 Number of CSCs Constructed during 2017 to 2021**

States	CSCs					Total	Rank
	2017	2018	2019	2020	2021		
Andhra Pradesh	1(1.13%)	294(88.02%)	8504(98.15%)	4679(36.22%)	1237(65.27%)	14715(61.57%)	1
Karnataka	48(54.54%)	40(11.97%)	79(0.91%)	74(0.57%)	326(17.20%)	567(2.37%)	4
Tamilnadu	28(31.81%)	0(0.00%)	22(0.25%)	1578(12.21%)	69(3.64%)	1697(7.10%)	3
Telangana	0(0.00%)	0(0.00%)	0(0.00%)	6338(49.06%)	91(4.80%)	6429(26.90%)	2
Kerala	11(12.50%)	0(0.00%)	59(0.68%)	249(1.92%)	172(9.07%)	491(2.05%)	5
<b>Total</b>	<b>88(100%)</b>	<b>334(100%)</b>	<b>8664(100%)</b>	<b>12918(100%)</b>	<b>1895(100%)</b>	<b>23899(100%)</b>	<b>-</b>

Source – Annual report of Ministry of Jal Shakti (2017-2021)

Note: 1. Percentage is given in brackets below the number of CSCs 2. Rank is given based on highest number of constructions of CSC.

**Table: 2 Number of Individual Household Latrines (IHHLs) Constructed during 2017 to 2021**

States	Individual Household Latrines (IHHLs)					Total	Rank
	2017	2018	2019	2020	2021		
Andhra Pradesh	511721 (27.60%)	1251221 (27.04%)	245452 (15.11%)	64(0.03%)	66056 (19.05%)	2074514 (24.01%)	3
Karnataka	450326 (24.29%)	1168265 (25.25%)	730444 (44.97%)	3192 (1.69%)	161845 (46.67%)	2514072 (29.09%)	1
Tamilnadu	403825 (21.78%)	1127575 (24.37%)	178510 (10.99%)	29955 (15.90%)	19577 (5.64%)	1759442 (20.36%)	4
Telangana	293654 (15.83%)	1079607 (23.33%)	469799 (28.92%)	155180 (82.37%)	91841 (26.48%)	2090081 (24.19%)	2
Kerala	194426 (10.48%)	0(0.00%)	2(0.00%)	0(0.00%)	7413 (2.13%)	201841 (2.33%)	5
<b>Total</b>	<b>1853952 (100%)</b>	<b>4626668 (100%)</b>	<b>1624207 (100%)</b>	<b>188391 (100%)</b>	<b>346732 (100%)</b>	<b>8639950 (100%)</b>	<b>-</b>

Source – Annual report of Ministry of Jal Shakti (2017-2021)

**Table: 3 Number of Individual Household Latrines constructed in SC/ST Habitations Source – Annual report of Ministry of Jal Shakti (2017-2021)**

States	Individual Household Latrines (IHHLs) in SC/ST Habitations					Total	Rank
	2017	2018	2019	2020	2021		
Andhra Pradesh	156038 (28.31%)	383113 (27.84%)	41357 (7.87%)	14 (0.02%)	20276 (18.77%)	600798 (23.21%)	3
Karnataka	101119 (18.35%)	394901 (28.69%)	254183 (48.39%)	1637 (2.45%)	51949 (48.09%)	803789 (31.05%)	1
Tamilnadu	103325 (18.75%)	244578 (17.77%)	55889 (10.64%)	7059 (10.60%)	3673 (3.40%)	414524 (16.01%)	4
Telangana	97217 (17.64%)	353414 (25.68%)	173754 (33.08%)	57851 (86.91%)	29361 (27.18)	711597 (27.49%)	2
Kerala	54687 (9.92%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	2759 (2.55%)	57446 (2.21%)	5
<b>Total</b>	<b>550996 (100%)</b>	<b>1376006 (100%)</b>	<b>525183 (100%)</b>	<b>66561 (100%)</b>	<b>108018 (100%)</b>	<b>2588154 (100%)</b>	<b>-</b>

Note: 1. Percentage is given in brackets below the number of IHHLs 2. Rank is given based on highest number of constructions of IHHLs

**Table: 4 Number of ODF Villages declared during 2017 to 2021**

States	Total Villages	ODF Villages				
		2017	2018	2019	2020	2021
Andhra Pradesh	18841 (25.24%)	2290 (16.59%)	7699 (20.74%)	18841 (28.00%)	18841 (25.24%)	18841 (25.24%)
Karnataka	27044 (36.23%)	5251 (38.05%)	17193 (46.31%)	26935 (40.03%)	27044 (36.23%)	27044 (36.23%)
TamilNadu	12524 (16.78%)	2700 (19.56%)	6516 (17.55%)	12524 (18.61%)	12524 (16.78%)	12524 (16.78%)
Telangana	14200 (19.02%)	1524 (11.04%)	3686 (9.92%)	6945 (10.32%)	14200 (19.02%)	14200 (19.02%)
Kerala	2027 (2.71%)	2035 (14.74%)	2027 (5.46%)	2027 (3.01%)	2027 (2.71%)	2027 (2.71%)
<b>Total</b>	<b>74636 (100%)</b>	<b>13800 (100%)</b>	<b>37121 (100%)</b>	<b>67272 (100%)</b>	<b>74636 (100%)</b>	<b>74636 (100%)</b>

Source – Annual report of Ministry of Jal Shakti (2017-2021)

Note: Percentage is given in brackets below the number of villages declared as ODF

**SWACHH BHARAT MISSION AND RURAL WOMEN HEALTH**

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Keywords: Entrepreneurship, Students, Economic Growth

**1. Introduction**

Adequate sanitation, with good hygiene and safe water, are unique to good health and to social and economic development. According to the Prime Minister of India quoted Mahatma Gandhi who said in 1923, “sanitation is more important than independence”. rectification in one or more of these three components of good health can considerably reduce the rates of morbidity and the severity of various diseases and improve the quality of life of many people, particularly children, in developing countries. While linked, and often mutually supporting, these three components have different public health characteristics. to analyse why more progress has not been made, and to suggest strategies to improve the impact of sanitation, accent the role of the health sector. Rural women are the most marginalized communities in Indian society.

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They continue to be beset by various issues such as unemployment, poverty, poor health and so on. Rural women have poor health status, even though its links to their productivity and human capital. In this aspect, World Health Organisation (WHO) defines that “better health is central to human happiness and well-being. It also makes an important contribution to economic progress, as the healthy population lives longer, is more productive, and save more”. Rural women have limited access and opportunities to make use of health care policies. Rural women face various kinds of problems such as maternity, lactating, reproduction, malnutrition and very big issues on sanitation.

The Prime Minister of India launched the Swachh Bharat Mission on 2<sup>nd</sup> October 2014. Swachh Bharat Mission (SBM) aims to achieve Swachh Bharat by 2019, as an apt tribute to the 150<sup>th</sup> Birth Anniversary of Mahatma Gandhi, which in rural areas shall mean improving the levels of cleanliness in rural areas through Solid and Liquid Waste Management activities and making Gram Panchayats Open Defecation Free, clean and sanitized. This paper aims to rural women health increases to using the safe and hygienic toilets through SBM.

**2. Objectives**

- a) To Study the Rural Women Health Through SBM.
- b) To study the improvement of cleanliness in rural areas through Solid and Liquid Waste Management.

**3. National Annual Rural Sanitation Survey**

Accelerate the efforts to achieve universal sanitation coverage and to put focus on safe sanitation, the Prime Minister of India launched the SBM on 2<sup>nd</sup> October 2014. SBM aims to achieve Swachh Bharat by 2019, as a fitting tribute to the 150<sup>th</sup> Birth Anniversary of Mahatma Gandhi, which in rural areas shall mean improving the levels of cleanliness in rural areas through Solid and Liquid Waste Management activities and making Gram Panchayats Open Defecation Free (ODF), clean and sanitized. ODF would mean the termination of faeco-oral transmission, defined by,

- No visible faeces found in the environment/village and

- Every household and public/community institution(s) using safe technology option for disposal of faeces.

Table 1 shows that rural population using safe, functional and hygienic toilets. Majority of Kerala achieved 100 percent of rural population using safe and hygienic toilets, and followed that Tamilnadu has been achieved in 96.2 per cent of rural population using safe and hygienic toilets. Andhra Pradesh achieved 91.7 percent of rural population using safe and hygienic toilets. Karnataka achieved 85 percent of rural population using safe and hygienic toilets. Telangana achieved in 79.5 percent of rural population using safe and hygienic toilets, and Puducherry achieved 76.2 percent of rural population using safe and hygienic toilets.

Table 2 illustrate that rural population using safe, functional and hygienic toilets. Majority of Andhra Pradesh, Karnataka and Telangana achieved 100 percent of rural population using safe and hygienic toilets, and followed that Kerala has been achieved in 99.1 percent of rural population using safe and hygienic toilets. Tamil Nadu achieved 94.8 percent of rural population using safe and hygienic toilets, and Puducherry achieved 63.6 percent of rural population using safe and hygienic toilets.

Table 3 explain that rural population using safe, functional and hygienic toilets. Majority of Kerala achieved in above 90 percent of rural population using safe and hygienic toilets, improving the levels of cleanliness in rural areas through Solid and Liquid Waste Management activities and making Gram Panchayats ODF, clean and sanitized. and followed that Tamil Nadu has been achieved above in 70 per cent of rural population using safe and hygienic toilets. Andhra Pradesh, Telangana, Puducherry and Karnataka achieved above 50 percent of rural population using safe and hygienic toilets.

**4. Conclusion**

This present study highlights the intact potential of initiatives that seek to address of rural women health through safe and hygienic toilet usages. SBM to improving the levels of cleanliness in rural areas through Solid and Liquid Waste Management activities and making Gram Panchayats ODF, clean and sanitized. Southern states good for rural population using safe and hygienic toilets, it leads to give a good health for rural population in particularly rural women.

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**Table 1: DLIs 1 Scores India and states**

Southern states	N1	PERCENT	N2	PERCENT	N3	PERCENT
Andhra Pradesh	24871405	68.6	713673	88.6	35696678	91.7
Karnataka	24517550	63.9	31237063	81.3	32770152	85.0
Kerela	26883783	100	26912694	99.5	2706-907	99.5
Puducherry	289553	55.4	499133	78.1	420602	76.2
Tamil Nadu	14933905	54.6	21959798	82.5	25032370	96.2
Telangana	15994491	69	21172815	90.6	17211546	79.5

Source: National Annual Rural Sanitation Survey (NARSS), 2019-20

**Table 2: DLIs2 Scores India and states**

Southern states	N1	PERCENT	N2	PERCENT	N3	PERCENT
Andhra Pradesh	155002809	100	23060424	92.4	32896786	90.2
Karnataka	3940279	100	222552271	95	29950424	86.4
Kerela	19036553	99.1	266995957	98.7	26881429	93.9
Puducherry	-	-	-	-	351262	63.6
Tamil Nadu	1423383	83.8	3705449	94.8	24677583	94.8
Telangana	3775110	100	8208972	84.3	11812797	89.3

Source: National Annual Rural Sanitation Survey (NARSS), 2019-20

**Table 3: DLIs3 Scores India and states**

Southern states	N1	PERCENT	N2	PERCENT	N3	PERCENT
Andhra Pradesh	950447	26.2	19998231	54.8	21515151	55.3
Karnataka	8296703	21.6	16464194	42.8	20073884	52.1
Kerela	24684134	91.8	24040915	88.9	17003771	62.5
Puducherry	9980	1.9	121769	22.7	307386	55.7
Tamil Nadu	4565382	16.7	20695059	77.7	17857857	68.6
Telangana	8891676	38.3	13118205	56.2	12081829	55.8

Source: National Annual Rural Sanitation Survey (NARSS), 2019-20

## SANITATION FACILITIES IN RURAL INDIA: DEFICIENCY, GOVERNMENT INITIATIVES AND ITS OUTCOMES

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Keywords: Rural Sanitation, Latrine, Open Defecation, Swachh Bharat Mission-Gramine

### Abstract

The present study attempts to understand the sanitation facilities in Rural India, deficiency of sanitation facilities, government initiatives and its outcome. The objectives of the study are (i) Households' availability of latrine facility (ii) physical progress of Individual House Hold Latrine (IHHL), Community Managed Sanitary Complex (CMSC) and (iii) Open Defecation Free (ODF) achievement of Rural India. The data have been collected from various annual reports of Department of Drinking Water & Sanitation, Ministry of Jal Shakti and Ministry of Rural Development, Government of India. Bar diagram and tables used to present data. Percentage analysis is used in this study. This study discovers that unimproved latrine facilities and open defecation is high in rural area. Improved Latrine facilities and usage of public latrine are high in urban area. With the period of 13 financial year (2001-2002 to 2013-2014) 97.54 million IHHL constructed and after the implementation of SBM-G within seven years 109.24 million IHHL constructed in Rural India. During 2001-2002 to 2013-2014 27987 CMSC constructed under various sanitation schemes, since 2014-15, after the implementation of Swachh Bharat Mission-Gramine (SBM-G) 152519 CMSC constructed under SBM-G. Altogether 603175 villages, 262734 grama panchayaths, 6975 blocks and 706 districts declared as the ODF.

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### 1. Introduction

The sanitation refers to provision of facilities and services for the safe disposal of human urine and faeces. The sanitation also refers to the maintenance of hygienic conditions, through services such as garbage collection and waste water disposal (World Health Organization). Accessibility of latrine facility within premises is the necessity of human. Many Rural Households did not have proper latrine facility within their premises and they used to step out of their premises to relieve themselves. Defecating in open places was another major problem in Rural India. To provide latrine facilities to Households and to eliminate open defecation both states and central government have been taking many initiatives like Total Sanitation Scheme (TSC), Nirmal Bharat Abiyan (NBA), Swachh Bharat Mission-Gramine (SBM-G). The census 2001 indicated that only 21.92 per cent of Households in Rural India had sanitation (toilet) facilities. The census 2011 reported that sanitation coverages in Rural India has reached 32.70 per cent taking consideration the increased population. The NSSO 2012 report has estimated that 40.6 per cent of rural Households have sanitation facilities (Annual Report 2014-2015, Ministry of sanitation and drinking water).

A baseline survey was conducted in 2012-13 by the states, as per which the rural sanitation coverage was 38.81 per cent at the time of SBM-G on 2nd October 2014, the sanitation coverage was 42.05 percent (Ministry of sanitation and drinking water, Government of India, 2016). As per the data reported by the states and union territories on the online integrated management information system of SBM (G), the sanitation coverage has been increased to 100 percent as on 31-12-2018 (Annual Report 2019-2020, Ministry of sanitation and drinking water)

### 2. Swachh Bharat Mission-Gramine (SBM-G)

The Swachh Bharat Mission-Gramine (SBM-G) is a rural sanitation programme implemented by Ministry of Drinking Water and Sanitation, Government of India. SBM-G launched on 2nd October 2014 by modifying the erstwhile NBA. The

major aim of this programme is to achieve universal sanitation coverage, improve cleanliness and eliminate open defecation in India by 2nd October 2019. The unit cost of the IHHL enhanced from Rs.10000 to Rs. 12000. The financial assistance is 60% by central and 40% by the state government. For North Eastern states, Jammu and Kashmir and special category states the central and state government share is 90 % and 10% respectively. The main activities of SBM-G are Individual Construction of IHHL Construction of Community Sanitary Complexes (CSCs). Solid Liquid Waste Management (SLWM) activities. Information, Education and Communication (IEC) and Human Resource Development (HRD) activities. It focuses on behavioural change of people to adopt safe and hygiene sanitation.

The phase II of SBN-G is Implementing from 2020-21 to 2024-25. This phase focus on sustainability of ODF status and SLWM in Rural India. The main objectives of SBM(G) Phase-II related to latrine are Maintaining the ODF status of the villages, Gram Panchayats, Blocks, Districts and States over a continued period, ensuring that people continuously use the toilets built and practice safe and hygienic behaviours. In this phase the financial assistance will be given only eligible Households and ineligible Households will be motivated to construct the toilet. The financial assistance for CMSC has been enhanced from Rs.200000 to Rs.300000. The 70 % of the fund by SBM-G and 30 % from 15th finance commission grant to rural local bodies.

UNICEF in 2017 has estimated that a household in an ODF villages in India save Rs.50,000 every year. Bill and Melinda Gates Foundation (BMGF) in 2017 has estimated that Households in an ODF villages in India have significantly better health indicators (Annual Report ,2019-2020 Ministry of sanitation and drinking water) As per WHO study released in 2018, it is estimated that SBM-G will result in averting over 3,00,000 deaths (diarrhoea and protein-energy malnutrition) between 2014 and October 2019 (Annual Report ,2020-2021 Ministry of sanitation and drinking water)

### 3. Objectives of the Study

- 1) To compare the availability of latrine facilities in Rural and Urban Households of India
- 2) To analyse the physical progress of IHHL and CMSC under different sanitation schemes in Rural India
- 3) To understand the ODF status of Rural India

### 4. Data and Methodology

The present study is based on the secondary data. The data pertaining to physical progress of latrine facility under different sanitation schemes have been collected from various annual reports of Department of Drinking Water & Sanitation, Ministry of Jal Shakti and Ministry of Rural Development, Government of India. The data regarding physical progress of IHHL and CSC during 2001-2002 to 2020-21 have been collected from the above-mentioned sources. The states/Union Territory wise ODF Declared villages, grama panchayaths, Blocks and Districts have been obtained from annual report 2019-2020, Department of Drinking Water & Sanitation, Ministry of Jal Shakti Government of India. Tables and Bar diagrams have been used to present data. Percentage analysis is used in this study.

### 5. Data Analysis and Interpretation

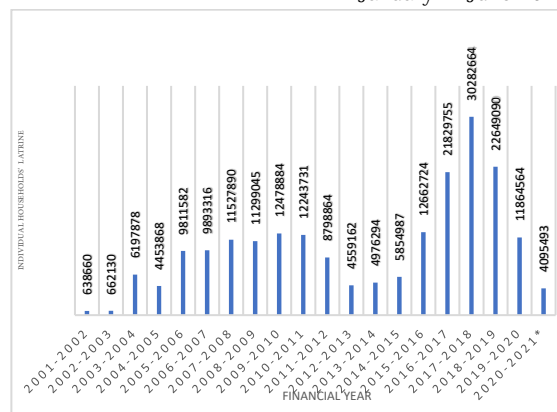
Table-1: Households' Availability of Latrine Facility in Rural and Urban area

The definition of 'improved' and 'unimproved' latrine facilities has been given: improved latrine facilities are flush/pour flush latrine connected to piped sewer system or septic tank and pit latrine with slab/ventilated improved pit. The unimproved latrine facilities are flush/pour flush latrine connected to other system, pit latrine without slab/open pit, night soil disposed into open drain, service latrine night soil removed by human and animal (Kumar & Das, 2014)

The table number one shows the Households' availability of latrine facility in rural and urban areas. Majority of Households have latrine facility within premises is in urban area (55.44 %) than rural area (44.56%). Households have latrine facilities within the premises, the availability of unimproved latrine facilities more in urban area (59.13%) than rural area (40.87%). As for improved latrine facilities majority are in rural area (74.53%) than urban area (25.47%). The household do not have latrine facilities is more in rural area (88.7 7%) than urban area (11.23%). The Households' usage of public latrine, majority are in urban areas (59.31 %) than rural area (40.96%). Among the total population open defecation is high in rural area (91.90%) than urban area (8.10%). This table shows unimproved latrine facilities and open defecation is high in rural area. Improved Latin facilities and usage of public latrine is high in urban area.

The IHHL are constructed within the premises of households for their requirement. It should have water connection and proper waste management system.

Figure 1: Individual House Hold Latrines Constructed under different sanitation schemes during 2001-2002 to 2020-2021

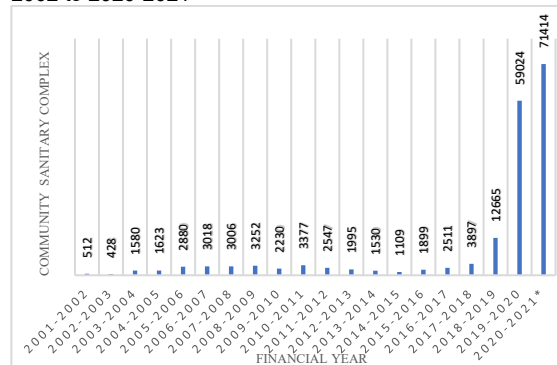


\*For the financial year 2020-2021 the data available only up to December 2020

Source: Authors compilation from various annual reports of Department of Drinking Water & Sanitation, Ministry of Jal Shakti and Ministry of Rural Development, Government of India

The figure number one shows IHHL Constructed under different sanitation schemes. During 2001-2002 to 2020-2021 206.78 million individual Households' latrine constructed under different sanitation scheme in Rural India. During 2001-2002 to 2013-2014 97.54 million IHHL were constructed under various sanitation schemes, since 2014-15, after the implementation of Swachh Bharat Mission-Gramine (SBM-G) 109.24 million IHHL were constructed under SBM-G. Here with the period of 13 financial year (2001-2002 to 2013-2014) 97.54 million IHHL were constructed and after the implementation of SBM-G within seven years 109.24 million IHHL constructed. It was a significant achievement. The highest number of IHHL constructed in 2017-2018 (30.28 million) followed by 22.65 million in 2018-2019 and 21.83. million in 2016-2017.

Figure 2: Community Managed Sanitary Complexes Constructed under different sanitation schemes during 2001-2002 to 2020-2021



\*For the financial year 2020-2021 the data available only up to December 2020

A per SBM-G having a CMSC in a village is essential to cater to the need of Households without adequate place for construction of IHHL, as also migrant labourers, large congregations in melas/ tourist places/ religious places, etc., to ensure that sustainability of ODF status is continued and no one is left behind without access to sanitation facilities. Such CMSC shall consist of an appropriate number of toilet seats, bathing cubicles, washing platforms, wash basins, etc. A community toilet is a facility built when there is no required

space or funds for constructing IHHLs. It is used, owned and maintained by community members or local governments.

The figure number two shows CMSC constructed under different sanitation schemes. During 2001-2002 to 2020-2021 180497 CMSC constructed under different sanitation scheme in Rural India. During 2001-2002 to 2013-2014 27987 CMSC constructed under various sanitation schemes, since 2014-15, after the implementation of Swachh Bharat Mission-Gramine (SBM-G) 152519 CMSC constructed under SBM-G. Here with the period of 13 financial year (2001-2002 to 2013-2014) 27978 CSC constructed and after the implementation of SBM-G within seven years 152519 constructed. The highest number of CMSC constructed during 2020-2021 (7144) though the data up to December 2020 followed by 59024 in 2019-2020 and 12665 in 2018-2019.

for disposal of faeces. All the rural areas of the country have declared themselves ODF as on 2nd October, 2019. No. of villages, Gram Panchayats, Blocks and Districts declared ODF as on 31st December, 2019 is as under

The table number two shows the ODF status of Rural India. In the Rural India 603175 villages declared as the ODF. Among that 520399 in normal states, 74637 in special category states and 8139 in union territories. A maximum of 262734 grama panchayaths declared as the ODF. Among that 231385 in normal states, 26959 in special category states and 4390 in union territories. 6975 blocks were declared as the ODF. Among them 5838 in normal states, 738 in special category states and 339 in union territories. A maximum of 706 districts have been declared as the ODF. Out of them 533 in normal states, 141 in special category states and 32 in union territories.

**Table 2: Open Defecation Free Status of Rural India**

	Number of ODF Declared			
	Villages	Grama Panchayat	Blocks	Districts
Union Territories	8139	4390	339	32
Special Category States	74637	26959	798	141
Normal States	520399	231385	5838	533
<b>Total</b>	<b>603175</b>	<b>262734</b>	<b>6975</b>	<b>706</b>

Source: Annual report 2019-20, Department of Drinking Water & Sanitation, Ministry of Jal Shakti, Government of India

As per Swachh Bharat Mission the ODF is the termination of faecal-oral transmission, defined by no visible faeces found in the environment/village; and every household as well as public/community institutions using safe technology option

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**Table-1: Households' Availability of Latrine Facility in Rural and Urban area**

Households' Availability of Latrine Facility	Rural		Urban		Total		
	Number	%	Number	%	Number	%	
Within Premises	Improved	42114291	40.87	60929007	59.13	<b>103043298</b>	<b>100</b>
	Unimproved	9461048	74.53	3233112	25.47	<b>12694160</b>	<b>100</b>
	<b>Total</b>	<b>51575339</b>	<b>44.56</b>	<b>64162119</b>	<b>55.44</b>	<b>115737458</b>	<b>100</b>
No Facility	Public Latrine	3253892	40.69	4743807	59.31	<b>7997699</b>	<b>100</b>
	Open	112997499	91.90	9960011	8.10	<b>122957510</b>	<b>100</b>
	<b>Total</b>	<b>116251391</b>	<b>88.77</b>	<b>14703818</b>	<b>11.23</b>	<b>130955209</b>	<b>100</b>

Source: Authors compilation from Census-2011

**A STUDY ON CAPITAL STRUCTURE ANALYSIS OF PONNI SUGARS AND CHEMICALS LTD**

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Keywords: Capital Structure, Debt Instruments, Debt Ratio, Cost

Abstract

This paper analyses the explanatory power of some of the recent theories of optimal Capital Structure of Ponni Sugars & Chemicals LTD. The study extends empirical work on Capital Structure theory in three ways. First, it examines a much broader set of Capital Structure theories and techniques. Second, since the theories have different empirical implications regarding different types of debt instruments, the authors analyse measures of short-term, long term, and convertible debt rather than an aggregate measure of total debt. Third, the study uses many analytic techniques that mitigate the measurement problems encountered when working with proxy variables. Several theories have been proposed to explain the variation in debt ratios across firms. The study suggest that firms select capital structures depending on attributes that determine the costs and benefits associated with debt and equity financing. Empirical work has lagged behind the theoretical research, perhaps because the relevant firm attributes are expressed in terms of abstract concepts not directly observable.

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**1. Introduction**

Business decisions may be based upon "intuition" or upon an intelligent analysis of factual data. There is no easy formula for analysis. Much depends on the purpose of analysis, the nature of analysis and exclusiveness of significant conclusions. There are three basic steps in the analysis of business problem:

- 1) Breakdown the figure into classification so that one can compare the parts of the whole to each other
- 2) Compare with significant outside factors and thus determine their relationship.
- 3) This permits one to determine the reason for relationship thus making possible understanding of essential nature of the situation and possibility, the findings of solution to the problems involved in the situation.

From the above view point the researcher of this project makes an attempt in analysing the Capital Structure planning by breaking down the figures into classifications to compare the parts of the whole to each other. This project is taken up to strengthen the academic interest of the subject.

**2. Capital Structure**

Given the objectives of the firm to maximise the value of its equity shares, the firm should select the best mix of the equity and debt Capital Structure refers to the composition of long-term sources of funds such as debentures, long term debt, preference share capital and equity capital including reserves and surplus. Optimum or balanced Capital Structure means a ideal combination of borrowed and owned capital that may attain the marginal goal (ie) maximising the value of the shareholders. The choice of amount of debt and equity is made after comparison of certain characteristic of each kind of security of internal factors related to the firms' operations and external factors that can affect the firm. Thus, the Capital Structure of the company may be combination of debt and equity leads to the maximum value of the firm.

*2.1. Objectives of Capital Structure*

In context of optimum capital structures, the firm may face the problem of mixing the equity securities and debt securities. Thus, a firm operates with the two danger points.

- 1) Payments of high interest
- 2) Higher control of equity shareholders.

Thus, optimum Capital Structure is decided based on two danger points.

*2.2. Tools and Techniques of Capital Structure*

Companies do not plan their Capital Structure may prospect in short run but ultimately, they will face serious problem in raising funds to meet their additional financial requirements in future.

Whenever the financial manager considers the question of Capital Structure, it is always the question of balanced Capital Structure (i.e) to decide the proportion of ownership funds and borrowed funds. So, the study was made to analyse of company using various tools.

*2.3. Ration Analysis*

One approach to analyse the Capital Structure of the firm is to make the comparison of the ratios of the firm comparison is helpful as it acts as red signal to the management that there may be something wrong with the Capital Structure of the company. Ratio shows the significant relationship between figure in the Balance Sheet, in Profit & Loss account or in any other part of accounting organisation. Rations are the best guide for execution of basic managerial function like planning, forecasting and control. Thus, to analyse the Capital Structure of Ponni to know more about the financial leverage of the firm, ration analyse was studied.

**3. Cost of Capital Analysis**

The impact of changes in the Capital Structure on the cost of capital analysis and on the profitability are analysed as Capital Structure decision are not taken in isolation. They are largely influenced by their twin factors of minimizing the

cost of capital and maximising the returns. Thus, the cost of capital combines various specific costs discussed below.

### 3.1. Cost of Equity

Equity capital like other sources of funds does not involve a cost of the firm. It may be recalled that the objectives of the financial management are to maximise the shareholders wealth and maximisation of market price of shares in the operational substitute for wealth maximisation. When equity shareholders invest their funds, they also expect returns in dividends. The market value of shares is a function of the returns that the shareholders expect and get. Thus, to evaluate the Capital Structure of firm it is necessary to know the cost of capital of company.

### 3.2. Cost of Debt

Cost of debt describes about the cost of raising finance from long term funds or outsider's funds. Thus, an optimum amount of debt in the Capital Structure of firm may reduce its costs. However, over debt may increase the interest payments of the company.

Debt of a firm is predominant figure in the Capital Structure and so there lies the essentiality to calculate the cost of debt to derive at optimum Capital Structure.

### 3.3. Weighted Average Cost of Capital

Weighted average cost of capital is the composition of specific cost of capital lies cost of equity and cost of debt. The overall cost of capital helps the company to analyse the overall efficiency of the company. It describes the overall cost of capital of the company. Thus, it is a technique to measure the Capital Structure of the company.

## 4. Review of Literature

Taub (1975) tried to ascertain the factors influencing a firm's choice of a Debt-Equity ratio. For this study 89 firms from Unites States were chosen randomly over a period of ten year from 1960 to 1969 and the likelihood-ratio statistics and t-test were used to test the hypothesis described. The empirical results of the study in terms of the expected sign of the co-efficient were mixed.

The return to the firm, long term rate of interest, Bhat (1980) tried to analyse the determinants of financial leverage and to investigate the relationship between the leverage ratio and institutional characteristics viz. firm size, variation in income, growth, profitability, debt service and dividend pay-out through correlation and regression analysis. The cross-section data for this study were collected for six years from 1973 to 1978 from only one industry i.e., Engineering Industry to alleviate the effect of industry type on the financial leverage ratio. The study reveals that firm size, growth rate and the degree of operating leverage has no significant relationship with financial leverage whereas earnings rate, business risk, dividend pay-out ratio and debt service ratio are negatively related. Only the relation of operating leverage with leverage has been found positive but insignificant relationship. The study observed that the institutional characteristics are important determinants of financial leverage ratio.

Venkatesan (1983) tried to explore the relationship of certain exogenous variables with the financial leverage. He used the data of 66 firms from four industries for a time span of four year from 1977 to 1980. He attempted to analyse the impact of seven variables on financial structure of firms by using the multiple regression model, correlation and t-test. The study reveals that null hypothesis proposed in the study that size has no relationship with financial leverage could not be rejected for the industries. Coverage ratios revealed the significant relationship to the financial structure in all the industries except for steel industry in intra industry model during study period. Business risk and growth was not found significantly related to financial structure in the industries examined. In the inter-industry model, low-levered firms revealed significant relationship between selected variables except growth ratio and financial leverage. But medium and high levered firms were not having any significant common determinant of their financial structure.

Titman and Wessels (1988) introduced a factor analysis technique for estimating the impact of unobservable attributes on the choice of corporate debt ratio using the data from the 469 UK firms for the period of nine years from 1974-82. The study found that debt levels are negatively related to uniqueness of a firm's line of business. The results also indicate that transaction costs may be an important determinant of Capital Structure choice and short-term debt ratios were negatively related to firm size. Non-debt tax shield, volatility, collateral value and growth have not any significant impact on debt ratios.

Kennedy and Muller (1999), has explained that "The analysis and interpretation of financial statements are an attempt to determine the significance and meaning of financial statements data so that the forecast may be made of the prospects for future earnings, ability to pay interest and debt matureness (both current and long term) and profitability and sound dividend policy."

Susan Ward (2008), emphasis that financial analysis using ratios between key values help investors cope with the many numbers in company financial statements. For example, they can compute the percentage of net profit a company is generating on the funds it has deployed. All other things remaining the same, a company that earns a higher percentage of profit compared to other companies is a better investment option.

A study on the Indian public sector looked at how strategic industries with the government as major player performs financially (Bhunia et al., 2011). The case study looked at the ratios for India's pharmaceutical industry financial reports. Using several statistical methods including standard deviation, mean and regression analysis, they established the relationship between profit measure and other performance measures.

According to Buse et al. (2010) economic rate of return (ERR) is an important ratio in financial statement analysis because they considered it as an indicator of the economic performance of a company. In their study, they took ERR as a comprehensive ratio that looks at the organisation return and contribution with consideration of both internal and external factors affecting the business.



Kofi-Akrofi (2013) carried out a similar study but he, however, used multiple regression to look at the profitability of Telecommunications in Ghana for four years. In his research, the main objective was to establish the relationship between the two main statements; hence, he treated them as independent from each other. A study by Oloko et al. (2014) looked at the telecoms industry but they focused on how management style, cost of labour and competition impacts performance and profitability of Kenya's Telkom.

## 5. Objectives Of the Study

The main objective of this project is to study the financing decision and Capital Structure planning with emphasis on:

- 1) Using debt-financing and its effect on earnings per share (EPS) for the period of 5 years.
- 2) To analyse the Capital Structure planning in Ponni Sugar and Chemicals Limited., helped by ratio analysis, cost of capital analysis.
- 3) To give suggestions based on the above analysis, for an effective financial decision making.

## 6. Methodology

### 6.1. Research Designing

This study aims to analyse the Capital Structure of company. The methodology adopted for the study was descriptive.

### 6.2. Period of Study

The present study covers five years from 2016-2021.

### 6.3. Nature of Source of Data

To accomplish the objective of the study both primary of secondary data were collected from the financial statement of the company. Primary data was collected through discussion with the financial controller of Ponni Sugars and Chemicals Limited., Erode.

### 6.4. Tools of Techniques

Cost of capital analysis and ratio analysis were the tools and techniques used. In additions simple percentage and average analysis have been adequately used to arrive at meaningful conclusions.

### 6.5. Leverage Analysis

The term "leverage" is used to describe firm's ability to use fixed cost assets or funds to magnify the return to its owners. Leverage occurs in varying degree's higher leverage, the higher will be the risk, but the higher the expected return. The term "risk" refers to the degree of uncertainty associated with a firm's ability to cover its fixed payment obligations.

Leverage may be defined as "meeting a fixed cost or paying a fixed return for employing assets or funds". The fixed cost or return is regarded as the fulcrum of leverage.

#### 6.5.1. Types of Leverage

There are two types of leverage in most business firms: 'operating leverage' and 'financial leverage'.

*Financial Leverage:* Financial leverage is defined as the firm's ability to use fixed financial charges to magnify the effects of changes in EBIT on the firm's EPS. The fixed charges do not vary with the firm's earnings before interest and taxes. Financial leverage indicates the effect on earnings created by fixed charges of securities in the capitalization plan. It results from funds with the fixed rate of return, i.e., Degree of Financial leverage at any level of operating profit.

A company can finance its investment by Debt-Equity. The company may also use preference capital. The rate of interest on debt is fixed despite the company's rate of return on assets. The company has a legal binding to pay interest on debt. The rate of preference dividend is also fixed. But preference dividend is paid when the company earns profit. The common shareholders may have the residual income. That is earnings after interest and taxes belong to them. The rate of equity dividend is not fixed and depends on the dividend policy of the company.

Using fixed charges sources of funds, such as debt along with the owner's equity in the Capital Structure is described as financial leverage or trading on equity.

The primary objective of Financial Leverage is to magnify the return of the shareholders, is based on the assumption that the fixed charges funds such as the loan from financial institutions and other sources or debentures can be obtained at a cost lower than the firms rate of return on its total assets. Thus, when the difference between the earnings generated are distributed to the shareholders, the EPS and Return on Earnings (ROE) increases.

The primary motive of the company in using the financial leverage is to magnify the shareholders return under favourable conditions. EPS and ROE are the important figures for analysing the impact of financial leverage.

### 6.6. Degree of Financial Leverage

Financial Leverage affects the EPS. When the economic conditions are good and the firm's EBIT is increasing, its EPS increases faster with more debt in the Capital Structure. EPS is greater under more debt for two reasons:

- The firm can borrow half of its funds required at a cost lower than its rate of return on total investments.
- Under Debt-Equity plan the firm will have a smaller number of shares than against equity plan.

The degree of financial leverage (DFL) is defined as the percentage change in EPS due to a percentage in EBIT.

$$DEL = \frac{\% \text{ Change in EPS}}{\% \text{ Change in EBIT}}$$

But in practice it is calculated by the formula:

$$DFL = \frac{EBIT}{PBT}$$

## 7. Data Analysis and Interpretation

The following table shows combined leverage for five years (2016 – 2021) combined leverage was higher in the year 2019 - 2020 amounts to 1.05 percent which

explain that 1 percent change in sales would lead to one percentage change in earning per share. The combined leverage was 0.75 percentages on an average. This leverage was due to the existence of financial leverage of the company

**Table 1: Combined Leverage**

Year	DFL %	DOL %	Combined Leverage
2016-2017	1.51	0.27	0.40
2017-2018	1.84	0.35	0.64
2018-2019	1.64	0.61	1.00
2019-2020	1.71	0.59	1.05
2020-2021	1.67	0.41	0.68

#### Analysis of Capital Structure

**Table 2: DEBT – Equity ratio**

Year	DEBT	Equity	Ratio
2016-2017	5174.94	1144.14	4.52
2017-2018	6711.96	1086.97	6.10
2018-2019	7643.90	1841.26	4.15
2019-2020	9722.88	1589.83	6.11
2020-2021	11091.17	1589.83	6.97

Table shows the balance between debt and equity funds in the company. On an average of 5 years (2016 – 2017 to 2020– 2021), the company maintains 5.57 times of debt capital when compared to owner's capital. It was maximum in the year 2020-2021 (i.e) 6.97 and least in the year 2018-2019, 4.15 when the company used more of its owner's funds.

**Table 3: Capital gearing ratio**

Year	Equity + Reserves & Surplus	Long Term Debt. + Fixed Interest	Ratio
2016-2017	3415.40	5420.04	0.63
2017-2018	3993.09	7073.75	0.56
2018-2019	4369.14	8156.20	0.53
2019-2020	4033.78	10646.26	0.37
2020-2021	3763.29	12597.18	0.29

The ratio varies from 0.29 to 0.63 in 5 years. It was minimum in 2020-2021 i.e., 0.29 and it was maximum in 2016-2017 i.e., 0.63. The ratio is less than one in all years which shows that the company is highly geared.

The following table shows that on an average the fixed assets turnover ratio was 0.98 times. There has been an increase in ratio in the year 2018, 2019 and marginal decline in ratio in the year 2020 due to decline in sales. The ratio again increases in the year 2021 i.e., 1.61.

**Table 4: Fixed assets turnover ratio**

Year	Sales	Fixed Asset	Ratio
2016-2017	3730.31	5961.13	0.62
2017-2018	4768.94	6333.66	0.75
2018-2019	6055.82	6294.33	0.96
2019-2020	5688.93	6043.29	0.94
2020-2021	9138.71	5642.42	1.61

**Table 5: Return of shareholders' funds**

Year	Net profit	Shareholders' Funds	Ratio
2016-2017	386.14	1144.14	0.33
2017-2018	283.37	1086.97	0.26
2018-2019	47.38	1841.26	0.02
2019-2020	22.02	1589.83	0.01
2020-2021	300.90	1589.83	0.18

Table shows that the return on shareholders' funds is fluctuating. In the year 2020 – 2021, the ratio was 18 times. However, on an average the company maintains a return 16% its equity holders. The returns were the highest in year 2016 – 2017 amount to 33% of the net profits. The decline in the net profit of the company reduced the return to the equity shareholders in the year 2019 to 2020.

**Table 6: Price earnings ratio**

Year	Earnings per share (Rs.)	Average market price (Rs.)	Price earnings ratio
2016-2017	4.73	11.88	2.58
2017-2018	4.26	12.65	3.00
2018-2019	7.02	26.00	3.70
2019-2020	10.03	66.00	6.58
2020-2021	9.50	29.50	3.10

This table reveals that price earnings ratio was at its peak during the year 2019-2020. i.e., 6.58. Price earnings ratio is at an increasing trend throughout the year, except in 2020-2021. Increasing trend implies an increase in investors' confidence towards the company. But during the year 2020-2021 it has decreased from 6.58 to 3.10. This is an indication of the investors' reduced confidence towards the company i.e. they want to recover their investment at the current market price over a reduced span of years.

**Table 7: Weighted average cost of capital analysis**

Year	Cost of Equity	Cost of Debt	Weighted cost
2016-2017	14.25	0.04	7.14
2017-2018	11.92	0.05	5.83
2018-2019	9.97	0.06	5.01
2019-2020	12.95	0.10	6.52
2020-2021	7.61	0.13	3.87

## 8. Findings, Recommendations

- The Debt-Equity ratio analysis reveals that the debt capital when compared to owner's capital was 5.57 times on an average. This ratio implies that 5.57 times on an average. This ratio implies that for every one percent of shareholders' fund, the company uses 5.57% of debt fund.
- The interest covered by the earning of the company was at 1.76 times on an average of 5 years. In the years 2016 – 2017, the ratio was highest (i.e.) out of 2.9.
- The capital employed by the company was on an average 1.56 times of that of sales. It was least in year 2016 – 2017 amounting to 1.09 of times. It specifies that the company converted its investment to sales only on an average of 1.56 times in a year.
- Capital gearing ratio was decreasing steadily throughout the period of 5 years amounting to 47% on an average. This shows that the company was highly geared, depending more on its debt capital.
- Fixed asset turnover ratio was 0.98 times. There has been an increase in the fixed assets turnover ratio throughout the period of study. This means that an increase in the investment in fixed assets has brought about commensurate gain.
- The return on shareholders' funds was 16% on an average. The shareholder's highest return of 33% in the year 2016 – 2017 and reduced for the consequent

- years. This reduction of return to shareholder is due to decline of earning of the company.
- g. The proprietary ratio reveals that the proprietor funds contributed to total assets was 11.74% on an average of 5 years. It was least in the year 2017 – 2018 amounting to 9.4%. This means that a major part of outsider's funds was used for procuring assets of the company.
  - h. The financial leverage was 1.67 times which implies that 1% change in earnings will lead to 1.76% change in EPS. Financial leverage was 1.51 in 2016 – 2017 and 1.84 in 2014 – 2015, lowest and highest respectively. Financial leverage exists because of the holdings of fixed interest-bearing securities.
  - i. The operating leverage was 0.46 times on an average which describes that 1% change in sales would lead to 1.11% change in earning before interested. Thus, operating leverage describes that change in sales has brought no change in Earning Before Income & Tax.
  - j. Combined leverage was highest in the year 2020 amounting to 1.05% which expance that 1% change in would lead to 1% change in EPS. The leverage was due to existence of financial leverage, which cautions the company that 1% decline in sales will read to 1.67% decline in earnings to the shareholders.

## 9. Conclusion

Financial performance is redefining the way of how to manage the funds supply and financial position as well as liquidity position. Indian auto-mobile company is also accepting financial performance analysis as tools for effective funds management. However, financial management embraced by the Indian auto-mobile industry with same vigor as their counterpart's analysis in US and Europe. The academia should concentrate on the area of auto-mobile company financial and liquidity management to come out with ways to benefits the auto-mobile company.

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## A STUDY ON CONSUMER PREFERENCE AND SATISFACTION TOWARDS ARUN ICE CREAM WITH SPECIAL REFERENCE TO KARUR

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Keywords: Consumer Preference, Consumer Satisfaction, Ice cream

### Abstract

Consumer preference research is the scientific investigation of the processes that customers employ to select, secure, utilise, and discard items and services that meet their requirements. This article investigates consumer preferences and happiness with Arun Ice creams and to comprehend the numerous aspects that determine customer pleasure. According to the findings of the study, there is a substantial association between characteristics such as age, monthly income, frequency of purchase, and the amount spent by the consumer on their purchase. In addition, the study demonstrated the association between characteristics such as the Quality of Arun Ice cream, the number of varieties, and the accessibility/reach of Ice cream parlors in terms of consumer pleasure.

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### 1. Introduction

Mr. R.G Chandramogan, one of the Promoters of the Company established a Partnership Firm in the year 1970 under the name M/s. Chandramohan & Co., for the manufacture and sale of Ice Creams and Milk and Dairy based Products. The facilities were set up at Madras. The business grew rapidly and the Firm's turnover increased from ₹ 1.00 lakh in 1970 to Rs.29.52lakhs in the year 1986. Hatsun Foods Private Limited was incorporated on 4<sup>th</sup> March 1986. On 01.04.86 the Company was admitted as a Partner in M/s. Chandramohan & Co. In terms of Deed of Dissolution dt.30.04.1986 M/s. Chandramohan & co. was dissolved and all the assets and liabilities of the Firm except the Brand Name Arun vested with the Company. The Brand Name Arun vested with Mr. R.G. Chandramogan. In 1987, Mr. R.G. Chandramogan allowed the Company to register the Brand Name Arun, in the name of the Company subject to a payment of 1% Royalty on the Company's Gross Ice Cream Sales Turnover. The major players in India are Arun, Mother Dairy, Kwality Walls, Vadilal, and Havmor. Arun held number one spot in branded Ice cream market in July 2011 with a market share of 32%, followed by Kwality Walls at 18%, Vadilal at 13% and Mother Dairy at 9% and others 28%. (Source: www.dairyfarm.com).

In consumer behaviour, perception refers to much more than just biological use of sense organs. It includes the way stimuli are interacted and integrated by consumers. Consumer characteristics vary from place to place. Therefore, it has become challenging task for marketers to understand need, buying behaviour of consumers before developing product and marketing program.

*Consumer Preferences:* Consumer preferences is used primarily to mean to select an option with the greatest anticipated value among several options by the consumer to satisfy his/her needs or desires. Preferences indicate choices among neutral or more valued options available. The preference of the consumer results from their behaviour they show during searching, purchasing and disposing the Products.

*Consumer Satisfaction:* Every human is a consumer of different produces. If there is no consumer, there is no business. Therefore, consumer satisfaction is important to every business person. The consumer satisfaction after purchase depends on the product performance in relation to his/her expectations. Philip Kotler (2008) observed that satisfaction

is a person's feelings of pressure or disappointment resulting from product's perceived performance (outcome) in relation to his or her expectations. Consumer satisfaction is the level of a person's felt state resulting from comparing a product's perceived performance (outcome) in relation to the person's expectations. This satisfaction level is a function of difference between perceived performance and expectations. If the product's performance exceeds expectation, the customer is highly satisfied or delighted. If the performance matches the expectations, the customer is satisfied. If the Products performance falls short of expectations, the customer is dissatisfied. Consumer satisfaction or dissatisfaction is the feeling derived by the consumer when he compares the product's actual performance with the performance, he expects out of it. Consumers expect from the service Quality, service, delivery, communications, past experiences and references. These all are to be judged correctly by the management so their perceptions match with consumer expectations. If these factors are wrongly interpreted then the expected level of consumer satisfaction cannot be reached.

### 2. Review of Literature

Anna Koutroulou and Lambros Tsourgiannis in their article titled, "Factors Affecting Consumers" Purchasing Behaviour towards Local Foods in Greece: The Case of the Prefecture of Xanthi" (2011) has done field interviews in a randomly selected sample consisted of 100 consumers. Multivariate statistical analysis performed to identify consumers' behaviour toward local Products. Principal components analysis (PCA) was conducted to identify the factors that affect people in preferring locally produced food. The factors that influence people in the Prefecture of Xanthi to buy local food Products are: (a) the topicality of the Products, (b) Quality and health issues, (c) appearance, (d) freshness and taste issues (e) curiosity and prestige. Cluster analysis was employed to classify consumers with similar buying behaviour, and identified two groups of consumers: (a) those are influenced by curiosity, prestige and freshness of the product and (b) those are interested in the topicality of the product. Discriminate analysis was performed to assess how the identified factors derived from PCA could predict cluster membership. Non-parametric statistical bi-variant techniques were performed to profile the identified group of consumers regarding their personal characteristics and some other factors affecting their consuming behaviour. The study indicated there was a significant association between the adoption of buying behaviour and the factors that influence them to choose local Products. The

authors also say that the two identified consumers" groups which prefer to buy local Products have similar attitudes and opinion about them. These two consumer groups have similar profiles regarding their personal characteristics with the consumers that prefer to buy local Products. The main difference between the consumers that prefer the local Products and those that buy local Products from curiosity and because of the attractiveness of the packing of the product is that the latter is private employees while the first groups is parted from retirees. The existence of the family may be a factor that influences the consumers in the Prefecture of Xanthi interested in local Products.

Sandeep Singh in his report titled, "Study of consumer behaviour and attitude towards the cellular services with reference to Aircel" (2011)<sup>9</sup> says that the consumer decision making process is helpful to understand the consumer behaviour. It shows how the external and internal factors influence the consumer attitude formation and attitude change. He also says that the research on consumer behaviour can be done to understand the behaviours like segmentation, target market selection, positioning, and product/service decision, pricing decision, distribution and promotion decision.

Shalabh Srivastava in his study titled, "Market Share of Amul Milk and Impact of New Milk Brand on the Sale of Amul Milk" (2011)<sup>10</sup> has tried to study the behaviour of the milk market in Kanpur and to understand the buying behaviour of customers. For this, the researcher has framed a questionnaire and data were collected from 81 retailers and 309 customers across Kanpur city. The retailers were asked about their opinion on which Brand is preferred more now and why they think customer demand is more for that Brand. The customers were asked about their choice of Brand and why they like that Brand. They were also asked about their opinion on the promotion of any Brand and whether promotional ads affect their buying behaviour or not. The customers were also asked about their opinion on the recent price rise of Amul milk and whether it has affected their buying behaviour. The result shows that, the customers choose a Brand of milk mainly for Quality, taste, availability and Brand value. Further the study also reveals that the majority of the customers admitted that they are influenced by the promotional ads of any Brand and will try a new Brand if the Brand belongs to a trusted group and it is noted that most the customers who buy packet milk are not willing to pay extra to get home delivery of milk.

Akhilesh Pratap Singh, in his study, "Strategies to be adopted by Parag to counter Amul milk sales in Lucknow" (2010)<sup>11</sup> studies the market potential of Parag milk and to know the consumer's perception about Parag milk. In this exploratory research, questionnaire has been utilised to understand the dealers and the consumers. The researcher observed that many customers use milk available at their nearest shop despite Brand. It is also understood from the study that customers prefer more of home delivery of milk.

Chirag Y. Gandhi in his study titled, "A Consumer Research Study on Amul Milk (Marketed & Distributed by Baroda Dairy) V/s Non-Branded Milk in Vadodara city" (2010)<sup>12</sup>, followed descriptive research design aiming at measuring consumers" satisfaction and factors that had influenced the choice of milk. The researcher has selected a sample of 180 with the convenience sampling method. A questionnaire was

framed to collect the details from the respondents. The primary data was collected and suitably edited and tabulated using the simple percentage method. The statistical tool like the chi - square test was adapted to test the association between certain preference and the dominant factors that influence consumer choice of particular milk in Vadodara city. The paper reveals that majority of the people in society preferred the branded milk of Amul for various reasons like best in Quality, economical price, availability, standard Quality on regular basis, ISO standard followed by Amul Dairy, Pasteurised Standardised Milk with notification of fat and SNF as of standard Nutritional food information with content of energy, Saturated Fat, cholesterol, Total Carbohydrate, Added Sugar, Protein, Calcium, Phosphorus, Sodium, Thiamine, Riboflavin, Niacin, Folic Acid, Vitamin A. The researcher says a major guiding factor over and above the price, Taste, Availability, Quality, Packaging etc. now a day the customers" are highly educated to understand the difference between branded product & non-branded product.

Dayang Nailul Munna Abang Abdullah and Francine Rozario (2010)<sup>13</sup>, in their article titled, "Influence of Service and Product Quality towards Customer Satisfaction: A Case Study at the Staff Cafeteria in the Hotel Industry" tried to identify attributes that influence customer satisfaction and determine their relationships with customer satisfaction. The variables the authors selected for the study is placed/ambience, food Quality and service Quality as independent variables and customer satisfaction as the dependent variable. A survey questionnaire which consisted of the authors with three parts to measure demographic factors, independent variables, and dependent variables was constructed based on items determined by past research studies. 149 respondents from a well-known hotel in Kuala Lumpur, Malaysia were selected as a sample. From the analysis conducted to test relationships, it is understood that all three attributes had a significant relationship to customer satisfaction. However, only service Quality and place or ambience had a positive relationship. Finally, the author concludes with the note of conducting future research on the same area to strengthen the result.

Iliriana Miftari in a study titled, "Kosovo consumer buying behaviour preferences and demand for milk and Dairy Products" (2009)<sup>14</sup> has analysed consumer buying behaviour, preferences, attitudes, needs and wants toward Dairy Products. The study was carried out in five Kosovo regions (Prishtina, Prizren, Mitrovica, Peja, and Gjilan). The data used in this study were obtained through direct interviews with Kosovo consumers aged 18 years and older. Two associated statistical techniques, multiple linear function and binary logistic function have been used to explain the relationships between the quantity and expenditures on milk and other Dairy Products with demographic and socioeconomic household characteristics. The results show that milk, yoghurt, cream, curd, and cheese were the main Dairy Products consumed by majority of Kosovo consumers. Supermarkets and grocery stores were the most preferred market-places by the consumers when buying milk and other Dairy Products. The consumer's preference towards market place depended significantly on demographic and socioeconomic household characteristics Dairy Products with shorter shelf life were bought more frequently by the consumers compared to those with longer shelf life.

Besides product life, other demographic and socioeconomic factors had significantly affected on the frequencies of buying milk and other Dairy Products. The consumers' demand for milk and other Dairy Products was stable throughout the year. The consumers' attitudes toward product features such as nutritive content, taste, product safety, price, Brand, wrapping, package size, and the origin of the product depended significantly on demographic and socioeconomic factors. The researcher also says that the men had much more buying power compared to women. Men's role in the decision process for milk and other Dairy Products was mainly as buyers. Women's role in the decision process was mainly as influencers and decides on the product choice. Also, the author says that new entrants to the market could not use the established distribution channels because they were owned and operated by the local Dairy Company. Entering firms channelled their Products to consumers through other food retail outlets: street vendors, small grocery stores, and the newly emerging supermarkets and convenience stores.

Abhishek Kumar Sankrit in his study titled, "Dealer Perception about Kansai Nerolac Paints Limited" (2008)<sup>22</sup>, says that companies, by conducting various market researchers can try to improve their Products and can provide customers better and more services. Author also says that without putting customers on the top no Company can get success. For achieving success every Company should target customers because the market is market oriented.

In a study titled "Potential and Prospects of Dairy Business in Uttarakhand: A Case Study of Uttaranchal Cooperative Dairy Federation Limited", M.L. Sharma, Raka Saxena, Tirthankar Mahato and Dipan Das (2007)<sup>23</sup> analysed the inefficiencies existing in improving milk production, procurement pattern, marketing channels, and price spread of a Dairy cooperative, Uttaranchal Cooperative Dairy Federation Ltd (UCDFL), also known as „Anchal" in the Kumaun region of Uttarakhand and has proposed a model for eliminating these inefficiencies. They also found that UCDFL is focused mainly on liquid milk marketing and has not adopted product diversification, which is the need of the day. The authors say that due to insufficient margins, the number of agents working for other private dairies has increased. Further the authors suggested that Anchal should evolve a definite policy regarding procurement of milk in both lean and regular periods and to sustain its members, incentive package should be provided. Local sale of milk at the society level should be encouraged to increase the popularity of Anchal Brand. The authors also suggested that Focus should be on institutional sales. Active participation during farmers' fairs, festivals and exhibitions must increase the popularity. There should be monthly meetings at the village level where the people should be provided proper guidelines to increase milk production. Anchal can go for sponsorship of events related to animal husbandry and pet shows.

Prasad and M. V. Rama "Dairy Products: Consumer Preferences - A Limited Survey of Vishakhapatnam" (2006)<sup>28</sup> found in their study that 91.33% of the consumers knew the availability of more than one variety of milk in the market. They also established that a large majority of respondents 62.33% said that the Quality influences the choice of the Brand, whereas a meagre 5.67% expressed the view it is the factor of easy availability responsible for the preference of a Brand. They found that a majority (about 82.67%) of the

respondents were satisfied with the present Brand they were using and only 17.33% though otherwise. It is further suggested that prompt and regulate supply, providing value by way of service rendered by agents and avoidance of adulteration are factors that will count in the success or failure of the milk producers.

### 3. Objectives Of the Study

- 1) To know about the factors influencing the consumer in buying the branded Arun Ice cream.
- 2) To analyse the awareness and the level of satisfactions of the consumer Towards Arun Ice cream.
- 3) To give necessary suggestion based on findings of the study.
- 4) To study the reason for selecting the particular Brand.

### 4. Methodology

The study entitled "A study on Consumer Preference and satisfaction towards Arun Ice-cream with special reference to Karur. The topic was provided by Arun, with specific objectives. The objectives of the study are, to know the factor influencing the consumer buying branded Ice cream, to find out the awareness and the level of satisfaction of the consumers in Arun Ice cream, to find out the most preferred brands of Ice cream among consumer.

#### 4.1. Sources of Data

The two sources of data were used for the study are as follows:

**Primary Data:** Primary data was collected from the consumers with the help of semi-structured questionnaire.

**Secondary Data:** Secondary data was collected from magazines, books and from websites.

**Research Design:** This part describes the methods and procedures used for collection and analysis of data in the study. The specific methodology adopted for the selection of different units and other details are given below.

**Sampling Method:** Sampling method is non-probability sampling under which convenience sampling technique was used.

**Sampling Unit:** To study the objectives, 100 consumers (age above 18 year) were selected as the sample unit and data was collected from them.

**Sample size and Area of Research:** In this survey 100 consumers were selected 100 from Karur city Research Instrument: Considering the nature of study and the obtaining correct information from the respondents, through semi-structured questionnaire prepared with the help of subject literature and research reports.

**Analytical Tools:** The data collected during the period of inquiry were compiled and analysed systematically through tabulation and graphical methods.

### 5. Data Analysis and Interpretation

**Table. 1: Age of The Respondent**

Age	Frequency	Percentage
Below 20	45	45
21-30	25	25
31-40	20	20
Above 41	10	10
<b>Total</b>	100	100

Interpretation: According to this table out of the 100 respondents in the sample, only 10% of the respondents were above 40 years of age and 20 % were aged between 31 - 40 years. 25% were between 21-30 years and 45% were aged less than or below 20 years. Majority of the respondents were between below 20 years implying that most customers in the study area were youths below 30 years and above 20 years of age.

**Table. 2: Flavour Respondents**

Flavour	No. Of Respondents	Percentage
Vanilla	25	25
Chocolate	30	30
Strawberry	23	23
Others	22	22
Total	100	100

Interpretation: From the above table we can conclude that, the majority of the respondents prefer 30% of Chocolate flavour, 25% of Vanilla, 23% of strawberry and 23% of other Ice cream.

**Table. 3: Fruits and Without Fruits in Ice Cream of The Respondent**

Choice	No. Of Respondents	%
With	50	50
without	28	28
Sometimes one or two	22	22
Total	100	100

Interpretation: From the above table we conclude that the 50% respondents like with fruits in Ice cream, 28% respondents like without fruits in Ice cream and 22% of some times – one out of two in Ice creams.

**Table. 4: Respondents to Aware the Brand in Channels**

Channels	No. Of Respondents	%
Advertisement	20	20
Friends & Relatives	70	70
Internet	10	10
Total	100	100

Interpretation: From the above table we conclude that the majority of the respondent's awareness through 70% of friends and relatives 20 % of advertisements and 10% of Internet.

5.1. Rank Analysis

It could be observed from the table 1.8 about analyses mostly used Products and their rankings by the respondents.

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- According to 100 respondents, cup Ice- cream is placed as FIRST RANK.
- According to 100 respondents, colour ball is placed as SECOND RANK.
- According to 100 respondents, stick Ice- cream is placed as THIRD RANK.
- According to 100 respondents, cone Ice- cream is placed as FOURTH RANK.
- According to 100 respondents, family ball is placed as FIFTH RANK.

**Table. 5: Analysis of mostly used Products and their rankings by the respondents**

Factors	1(5)	2(4)	3(3)	4(2)	5(1)	Total	Rank
Cup	28	11	17	27	16	100	I
	210	68	78	82	24	462	
Cone	9	19	22	23	27	100	IV
	65	112	99	70	41	387	
Stick	19	15	25	21	20	100	III
	112	92	114	62	30	410	
Colour Ball	16	23	23	23	15	100	II
	120	136	102	70	23	451	
Family ball	12	16	18	24	30	100	V
	90	96	81	72	45	384	

6. Findings

- 1) Majority (45%) of the respondents are aged less than or below 20 years.
- 2) Majority (30%) of the respondents prefer Chocolate flavour.
- 3) Majority (50%) of the respondents prefer fruits in Ice cream.
- 4) Majority (70%) of the respondent's awareness the Brand through friends and relatives.
- 5) Majority (42%) of the respondents prefer having Ice cream with Friends compare other choice.
- 6) It is concluded that the cup Ice creams are preferred and ranked higher by the respondents.

7. Conclusion

People in the modern society demanded appealing and high-Quality brands. They require high Quality and flavour at a reasonable price. The core of marketing a marketing strategy is to comprehend the consumer's changing requirements and preferences and to seize the chance to shape and satisfy them. Arun Ice creams properly grasped those demands and developed certain methods that would aid them in the long term to boost the Company's position.

## FEMALE WORK PARTICIPATION RATE IN TAMIL NADU, 1981-2011

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Keywords: Feminisation of Work, Empowerment, Work Participation

### Abstract

A flexible market and the myth of feminization of work have been created by the global economy. This has led to unemployment and underemployment of women in India. Women constitute about 49% of the total population of Tamil Nadu. Increase in female work participation rate indicates the economic empowerment of women in the society. The status of women's welfare in a community can be known from the sex ratio index. It also depends on opportunities for participation in economic activities. This article seeks to increase the female work force in Tamil Nadu.

\*\*\*\*

## 1. Introduction

A flexible market and the myth of feminization of work have been created by the global economy. This has led to unemployment and underemployment of women in India. Women constitute about 49% of the total population in Tamil Nadu. The status of women's welfare in a community can be known from the sex ratio index. This index has been steadily declining in India from 1961 to 1991, except for a small rise in 1981, whereas there were increases in 2001 and 2011. The same is observed in Tamil Nadu also.

## 2. The Declining Sex Ratio of Women in India

Declining in the sex ratio index would make economic development more favourable for women in the international scene, whereas it would be unfavourable for women in India. FWPR indicates, the economic empowerment of women in society. The status of women is intimately connected with their economic position. It also depends on opportunities for participation in economic activities. Education, along with the participation of women in the workforce, has been universally recognised as an important element in the adoption of small family norms. This is essential for family planning.

**Table. 1: Work Participation Rate and Number of Workers in Tamil Nadu, 1981-2011**

Year	WPR (%)		No. Of Workers (Lacks)		
	Male	Female	Male	Female	Total
1981	56.58	26.52	138.5	63.8	201.90
1991	56.39	29.89	159.6	82.4	242.00
2001	58.96	31.32	181.6	96.6	278.80
2011	59.30	31.80	214.8	114.0	328.80

The above table shows the work participation rate and the number of workers in Tamil Nadu. From 26.52% in 1981 to 31.32% in 2001, the FWPR increased from 26.52% to 31.32%. This rate of growth is faster than males. Even then, the number of female workers accounted for 34.72% of the total workforce of 278 workers in 2001. The corresponding figure for the 1991 census was 34.06 percent. In the total population, nearly half were females, but they accounted for only 34% of the total workers. This proportion must be improved to ensure better and all-around empowerment. The working population in Tamil Nadu increased from 278.80 to 328.80 in 2011, accounting for an annual compound growth rate of 1.18%.

According to the National Statistical Survey in 1993-1994, the work force of women in Tamil Nadu (rural 47.8%, urban 22.8%) was higher than the national average (rural 32.8%,

urban 15.4%). The female work participation rate in Tamil Nadu has been increasing in the subsequent years. As on March 31st, 1997, 7.2 lacked women were employed in the organised sector, of which 4.0 lacked in the public sector and 3.2 lacked in the private sector. The following are some sectors where women are mostly employed:

- 1) Agriculture and related
- 2) Live stock
- 3) Textile and textile products: cotton mills, cotton spinning mills
- 4) Manufacturing of Tobacco-Bidi
- 5) Food products: preservation of fishes
- 6) Construction
- 7) Petty Traders-Match Factory
- 8) Personal services-Household work
- 9) Education and hospitals

About 90% of Indian women are working in the abovementioned sectors. The number of working women in agriculture in the year 1999-2000 was 7,91,000, which accounted for 64.3% of the work force, whereas in livestock it was 9.0%. Domestic services, 3.2%, and textiles, 2.8%. Women are the main workforce in textiles. The female WPR has increased overall from 19.2 in 1991 to 25.6% in 2001 (Table 1). There has been a significant increase in women employed in petty trades, hotels, and restaurants in the last decades as part of the survival strategy of poor urban households. Privatization of education and healthcare is increasing year by year. The education and healthcare sectors have employed many women for poor wages. In rural areas, the work participation of women has increased from 33.55% in 1981 to 38.50% in 1991. A similar situation was found in the urban areas also. However, the rural female population has seen a sharp increase when compared to the urban female work force.

While the share of women in work participation in Tamil Nadu has increased and the works undertaken by women bring out clearly the subservient position of women at work in Tamil Nadu. According to 1998 statistical data of Tamil Nadu indicated that women's work participation was in Bindi manufacturing (60%), Cotton mills (59%), Cotton spinning (79%), manufacturing of matches (70%), cashew nut processing (84%) and canning, preserving & processing fish (52%).

The industrial environment has created health hazards for women. The subservient nature of women's work participation levels becomes clear when you compare their participation rates with those of men in terms of different rural household income groups, as in the following table.



**Table.2: Household Income Groups**

Group	Up to ₹ 20,000(%)	₹ 20000 to 40000	₹40000 to 60000	Above ₹ 60000(%)
<b>Men</b>	84.4	82.8	80.2	85.5
<b>Women</b>	41.5	42.2	38.7	37.7

The above data indicates that the employment opportunities for women in rural areas are discouraging. This is evidence of gender bias in employment. Women's access to many important areas of industry is constrained by their low levels of literacy, education, and technical skills. The unemployment rate among women has been a matter of concern. The government needs to ensure that an Employment Guarantee Scheme is introduced. Further, a greater stress will be placed on village and cottage industries, which may be protected and nurtured through the employment of women in rural Tamil Nadu.

**Table. 3: Percentage of female in the Total Population and Workforce in Tamil Nadu, 1981-2011**

Details	1981	1991	2001	2011
Population	48.3	48.1	48.3	48.5
Total workers	26.0	28.6	31.6	31.1
Main workers	20.2	22.5	23.2	24.6
Marginal workers	84.0	90.4	60.3	50.8
<b>Main and Marginal</b>				
Cultivators	23.1	28.1	32.4	30.3
Agricultural labour	44.2	45.3	46.6	42.7
HHI	32.9	38.7	49.3	46.7
Others	12.3	13.4	18.3	21.8
Agricultural	31.3	35.1	38.9	37.1
Non- agricultural	14.5	15.2	21.3	23.9
<b>Main Workers</b>				
Cultivators	16.1	20.1	24.4	23.8
Agricultural labour	37.4	38.1	35.2	35.9
HHI	26.8	33.1	38.5	38.9
Others	10.8	12.1	15.2	18.3
Agricultural	24.2	27.3	28.5	29.5
Non- agricultural	12.4	13.5	17.2	19.7
Cultivators	85.8	91.7	65.9	57.6
Agriculture labour	86.7	92.4	63.0	52.7
HHI	88.1	89.9	80.7	62.8
Others	61.1	70.5	41.0	40.2
Agricultural	86.2	92.0	64.0	54.1
Non- agricultural	69.2	75.7	48.6	43.7

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The female shares of traditional occupations such as cultivators, agricultural labourers, and household industries (HHI) increased between 1981 and 2001 and then decreased between 2001 and 2011. Table 3 depicts the workforce in other occupations; the proportion of females has risen between 1981 and 2011. The female workers engaged in industries and other service sectors are a little, i.e., one fifth or less than one fifth of the total work force. The IT industry is considered to open up avenues in favour of women. However, there is data to show that women professionals are still the minority in this sector. In the year 2000, it was found that 21% of women out of 5,22,500 people were employed in IT industries.

## 3. Conclusion

There has been a significant development in the economic status of women in Tamil Nadu due to the movement initiated by the Feminist Organisations. The Central and State governments have initiated several empowerment processes aimed at enhancing the economic status of women. The Central Government has implemented welfare measurements through the Social Welfare Board. This Board has many programmes and schemes for the economic development of women. The state government has established the Tamil Nadu Corporation for Development of Women (TNCDW), which aims at the socio-economic empowerment of women. Further, the government of Tamil Nadu has framed various policies, designed specific inventions and implemented many programmes to eradicate the poverty of women. Several organisations in Tamil Nadu have started a women's movement with different programmes with the view of enhancing the economic status of women. But government sectors have implemented many schemes for the upliftment of the economic status of women to eradicate poverty. Women are found more in the fields of industries including software, agriculture and allied sectors, non-agriculture sectors, entrepreneurship and SHJGs. The FWPR in India has gradually increased from 1961 to 2011. However, in Tamil Nadu, FWPR is always higher than the national average. An increase in the female work force is an indication of an increase in the income of women, which increases the economic empowerment of women in Tamil Nadu.

## A STUDY ON ISSUES AND CHALLENGES OF WOMEN EMPOWERMENT IN INDIA

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Keywords: Empowerment, Issues, Challenges, Violence & Health issues, Socio-Economic Status, Crimes against women

### Abstract

This paper attempts to analyse the status of Women Empowerment in India and highlights the Issues and Challenges of Women Empowerment. Today the empowerment of women has become one of the most important concerns of 21st century. But practically women empowerment is still an illusion of reality. We observe in our day-to-day life how women become victimized by various social evils. Women Empowerment is the vital instrument to expand women's ability to have resources and to make strategic life choices. Empowerment of women is essentially the process of upliftment of economic, social and political status of women, the traditionally underprivileged ones, in the society. It is guarding them against all forms of violence. The study is based on purely from secondary sources. The study reveals that women of India are relatively disempowered and they enjoy somewhat lower status than that of men despite many efforts undertaken by Government. It is found that acceptance of unequal gender norms by women are still prevailing in the society. The study concludes by an observation that access to Education, Employment and Change in Social Structure are only the enabling factors to Women Empowerment.

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## 1. Introduction

Women empowerment refers to increasing the spiritual, political, social, educational, gender or economic strength of individuals and communities of women. Women's empowerment in India depends heavily on many variables that include geographical location (urban / rural) educational status social status (caste and class) and age. Policies on Women's empowerment exist at the national, state and local (Panchayat) levels in many sectors, including health, education, economic opportunities, gender-based violence and political participation. However, there are significant gap between policy advancements and actual practice at the community level. Empowerment of women is essentially the process of upliftment of economic, social and political status of women, the traditionally underprivileged ones, in the society. It is guarding them against all forms of violence. Women empowerment involves the building up of a society, a political environment, wherein women can breathe without the fear of oppression, exploitation, apprehension, discrimination and the general feeling of persecution which goes with being a woman in a traditionally male dominated structure. Women constitute almost 50% of the world's population but India has shown disproportionate sex ratio whereby female's population has been comparatively lower than males. As for their social status, they are not treated as equal to men in all the places. In the Western societies, the women have equal right and status with men in all walks of life. But gender disabilities and discriminations are found in India even today. The paradoxical situation has such that she was sometimes concerned as Goddess and at other times merely as slave.

Women's empowerment is the liberation of women from the ill effects of social, economic, political, caste and gender discrimination. It means giving women the freedom to make life choices. Women's empowerment does not mean 'empowering women', but equality instead of masculinity. There are various aspects of women empowerment such as Human rights or personal rights: - A woman exists with senses, imagination and thoughts; She should be able to express them freely. Personal empowerment means having confidence in speaking and asserting the power to negotiate.

*Social Women Empowerment:* An important aspect of women's social empowerment is the promotion of gender

equality. Gender equality refers to a society in which women and men enjoy equal opportunities, outcomes, rights and obligations in all walks of life.

*Educational Women Empowerment:* It means empowering women with the knowledge, skills and confidence to participate fully in the development process. It means making women aware of their rights and developing the confidence to claim them.

*Economic and Business Empowerment:* It implies better quality of material life through sustainable livelihood owned and managed by women. This means reducing their financial dependence on their male counterparts by making them a significant part of the human resource.

*Legal Women Empowerment:* It proposes a provision to create an effective legal framework supporting women's empowerment.

## 2. Objectives of the Study

- 1) To know the concepts of women empowerment.
- 2) To study the violence against women in India.
- 3) To analyse the factors that affect women's empowerment.
- 4) To identify the challenges in the path of women empowerment.
- 5) To make useful suggestions in the light of the findings.

## 3. Research Methodology

Aims of this study to analyse the different types of Women Empowerments. The study is descriptive and analytical. The data used in this has been taken from purely secondary sources as per the requirement of this study. Secondary data collected from various reports of national and international agencies, various authentic websites, magazines and e-content related to Women Empowerment.

*Violence against Women in India:* Violence against women in India is physical or sexual violence against women, especially by men. Common forms of violence against women in India include domestic violence, sexual assault and murder. This act must be done purely to consider violence against women because the victim is a woman. Men with gender disparity roles often commit these acts. According to India's National Crime Records Bureau, incidents of crime

against women have increased, and a crime is committed against a woman every three minutes.

**Murders:** Dowry killing is the killing or suicide of a married woman due to a dowry dispute. Sometimes, the husband and father-in-law constantly try to collect more dowries by harassing and harassing, sometimes the wife has committed suicide or there will be an exchange of gifts, money or property at the daughter's wedding in the family. Most of these suicides have been committed by hanging, poisoning or self-immolation. If the dowry is killed the woman is set on fire, it is called burning the bride. The murder of the bride is often called suicide or accident, sometimes the woman is set on fire in such a way it looks like she set fire to the kerosene stove while cooking. Dowry is illegal in India, but it is still common to give expensive gifts to the bride and her relatives at weddings organized by the bride's family. Honour killing is the murder of a family member, which is a matter of disgrace and shame for the family. Honour killings include refusing to enter a planned marriage, committing adultery, choosing a rejected partner from the family, and being a victim of rape. In some villages in India, caste councils regularly execute people who ignore the rules on their caste or tribe. The killing of women accused of witchcraft in India continues to this day. Poor women, widows. And lower caste women are most at risk. Sexual feticide is the selective killing of a new born child or the termination of a female fetus by a sex-selective abortion. Protecting the family in old age in India and performing rituals for deceased parents and ancestors inspired them to have children. Girls are considered a social and economic burden. Dowry ban is an example of this. Fear of not giving dowry and social exclusion can lead to female feticide in poor families. Modern medical technology has determined the sex of the baby given that the baby is still pregnant. Once this modern prenatal diagnostic technology determines the sex of the fetus, families can determine whether they want to have an abortion based on gender. One study found that 7,997 out of 8,000 abortions were performed on female fetuses. Fetal sex determination and prenatal abortion by medical professionals is now a Rs 1000 crore industry.

**Sexual crimes:** India is considered the most dangerous country in the world in terms of sexual violence against women. Rape is one of the most common crimes in India. In the Criminal Law (Amendment) Act, 2013, rape is defined as the intrusion of a man into a woman's physical beauty without the consent of a man or a woman and not being punished. According to the National Crime Records Bureau, one woman is raped every 20 minutes in India. Marital rape is not a criminal offense in India. India is one of fifty countries that have not yet banned marital rape. 20% of Indian men admit to forcing their wives or partners to have sex. Human trafficking in India, although illegal under Indian law, is a major problem. People are often smuggled through India for commercial sexual exploitation and forced / enslaved labour.

**Domestic Violence:** Domestic violence is when one partner abuses another in an intimate relationship such as dating, marriage, intimacy or family ties. Domestic violence is also known as domestic violence, marital abuse, assault, domestic violence, dating abuse, and intimate partner violence. Domestic violence can be physical, emotional, verbal, financial and sexual abuse. Domestic violence can be subtle, coercive or violent. According to politician Renuka Chaudhary, 70% of women in India are victims of domestic violence

**Forced and Child Marriage:** Girls at risk of being forced into marriage at an early age face a double risk: a child and a

woman. Boys and girls rarely understand the meaning and responsibilities of marriage. Because of such marriages, girls are burdened by their parents and fear losing their sanctity before marriage.

**Acid Throwing:** Acid throwing, also known as acid attack, vitriol attack or vitriol age, is a form of violent attack on women in India. Throwing acid means throwing "acid seeds or alternative corrosive substances" on a person's body to deform, maiming, torturing or killing. Inside attacks are usually directed at the victim's face causing skin damage and often exposing or breaking the bone. Acid attacks can cause permanent scarring, blindness and social, psychological and economic problems. The Indian legislature has controlled the sale of acid seeds. Women in India have a higher risk of acid attacks than women around the world. At least 72% of reported acid attacks in India involve women. Acid attacks have been on the rise in India for the past decade.

#### 4. Need of Women Empowerment

This is important for the self-esteem of women and for the society. To empower women is to empower women. Women can have equal rights to participate in education, society, economy and politics. Women can join the society as they are happy by choosing their religious, language, work and other activities. Women empowerment is the most effective means of development in India these days; Women all over the world are working as a leader and surpassing others in all walks of life. As the whole world is holding its breath and praying every single day for an unbelievable escape from the COVID-19 pandemic, it is the women governors and the nation driven by these amazing personalities taking the responsibility and fighting alone. Women empowerment in India depends largely on many variables including geographical setting, social status, and educational status and age factors. Action on women empowerment exists at the state, local and national level. However, women face discrimination in most areas such as education, economic opportunity, health and medical aid, and political participation, indicating there is a substantial gap between strategy progress and actual practice at the community level.

##### 4.1. Challenges of Women Empowerment

Many challenges face women's rights issues in India. Targeting these issues will directly benefit women's empowerment in India

**Education:** The country has taken a leap since independence and is concerned about education. The gap between women and men is wide. 82.14% of adult males are well educated, while in India only 65.46% of adult females are considered literate. Gender bias is in higher education; specialized vocational training that strongly influences women in employment and achieves top leadership in any field.

**Poverty:** Poverty is considered the biggest threat to world peace and eradication of poverty should be as important a national goal as eradication of illiteracy. This leads to the exploitation of women as domestic helpers.

**Health and Safety:** Women's health and safety issues are paramount in the interest of the country and are important factors in the assessment of women's empowerment in the country. However, there are worrying concerns where mothers are concerned.

*Professional Inequality:* This inequality is prevalent in employment and promotion. In government offices and private industries, women face a myriad of barriers in a male-dominated and dominated environment.

*Household Inequality:* Family relationships around the world, especially in India, are showing gender differences in small but important ways. Sharing homework, childcare, and trivial workloads from the division of labour.

*Unemployment:* It is becoming more and more difficult for women to find the right job for themselves. They become more vulnerable to exploitation and harassment in the workplace.

*Unbearable Conditions:* Uneducated women are more likely to divorce and leave their husbands at any stage of life. They must live their whole lives fearing divorce. Sometimes, they must end their lives due to unbearable circumstances.

## 5. Findings of the Study

- 1) Many laws have been made in India but crimes against women have not reduced.
- 2) There are many barriers to women empowerment in India.
- 3) Poverty and lack of education are major obstacles to women empowerment.
- 4) Empowerment is possible only when the economic and social status of women improves. This is possible only by relying on certain social and economic policies for the holistic development of women and realizing that they have the potential to become capable men.
- 5) Empowerment requires building confidence in the minds of women.
- 6) We must start by empowering women to create a sustainable world.

## 6. Suggestions

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- 1) The priority should be given to the education of women, which is the grassroots problem. Hence, education for women must be paid special attention.
- 2) Awareness programmes need to be organized for creating awareness among women especially belonging to weaker sections about their rights.
- 3) Women should be allowed to work and should be provided enough safety and support to work. They should be provided with proper wages and work at par with men so their status can be elevated in the society.
- 4) Strict implementation of Programmes and Acts should be there to curb the mal-practices prevalent in the society.

## 7. Conclusion

When women lead the family, the village progresses and the nation moves forward. This is necessary because their ideas and their value system develop a good family, a good society and ultimately a good nation. The best way to empower women is to include them in the mainstream of development. Women empowerment will be real and effective only when they have income and wealth so they can stand on their own feet and build their identity in the society. Women's empowerment has become one of the most important concerns of the 21st century, not only nationally but also internationally. Government initiatives alone are not enough to achieve these goals. There should be no gender discrimination and society should take initiative to create such an environment and women should have full opportunity to self-determination to participate in the social, political and economic life of the country with a sense of equality.

## AN OUTLOOK ON SOVEREIGN GOLD BOND AMONG WOMEN

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Keywords: Investment, Gold bond, Women Awareness

### Abstract

In the 21<sup>st</sup> century, certain skills are mandatory for the individual to survive in the world. The most needed skill is investing skill. Women are the special flowers in the world and controls over the 32% of world wealth. From 2016 to 2019, women accumulated wealth at a compound annual growth rate of 6.1%. Likewise, the many Indian women were interested in investing on gold and their main source of wealth is gold. As the world goes digitally the purchasing option of gold in digitalized form namely "Sovereign Gold Bond" (SGB) has been emerged. This research paper examines the SGB's view among women in Tamilnadu. SGB was first introduced by the Government of India in 2015 under the Gold Monetization Scheme. It was initiated to reduce the demand on physical gold and shift a part of domestic saving used for purchase of physical gold into a financial savings. SGB is issued by the Reserve Bank of India on behalf of Government of India. Women are the most liker of the gold ornaments compared to men and attracts towards gold than men. In the sense, the women must focus on the SGB for making a better investment decision and creation of wealth. This study examines the woman's view & awareness on SGB and their preferences of investment option in comparison with Sovereign Gold Bond and physical gold in a statistical method to adopt the accuracy. With this study, an individual takes away the SGB's significances and the willingness options are determined by certain factors also analysed in this study.

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## 1. Introduction

SGBs are Government securities denominated in grams of gold. They are substitutes for holding physical gold. Investors must pay the issue price in cash and the bonds will be redeemed in cash on maturity. The bond is issued by Reserve Bank on behalf of Government of India. The quantity of gold for which the investor pays is protected, since he receives the ongoing market price at the time of redemption/ premature redemption. The SGB offers a superior alternative to holding gold in physical form. The risks and costs of storage are eliminated. Investors are assured of the market value of gold at the time of maturity and periodical interest. SGB is free from issues like making charges and purity in the case of gold in jeweller form. The bonds are held in the books of the RBI or in Demat form eliminating risk of loss of scrip, etc. There may be a risk of capital loss if the market price of gold declines. However, the investor does not lose in terms of the units of gold which he has paid for. The application on behalf of the minor can be done by his/her guardian. The joint holding can also be made in SGB.

*Eligible category to invest in SGB:* Person's resident in India as defined under Foreign Exchange Management Act, 1999 are eligible to invest in SGB. Eligible investors include individuals, HUFs, trusts, universities and charitable institutions. Individual investors with subsequent change in residential status from resident to non-resident may continue to hold SGB till early redemption/ maturity.

## 2. Review of Literature

Sudindra V R and Dr. J Gajendra Naidu studied "Is SGB is Better Than Other Gold Investment?" In this study, SGBs are superior to other forms of Gold Investment. SGB are better in terms of purchase price has been analysed.

Hem Shweta Rathore studied "Investor's Attitude Towards physical gold and SGBs." From this study, investment in SGB is the more efficient form rather than investment in physical gold because of various reasons such as high liquidity, security assurance from the regulator, purity of the gold, etc. The awareness level about investment in SGBs is still

very moderate. Hence, investment in SGBs is not at par with physical gold.

## 3. Scope Of the Study

The main focus of this research is done on women with the age categories of 18 years and above and the education levels are categorized under Higher education, Under graduate, Post Graduate and PhD. The study will pave way to understand the reach of SGB and helps to understand particularly in Tamil Nadu with a sample size of 100 women respondent. Helped by the study, the Government and the financial bodies can have a eye on the investment option of women to help them in getting a desired growth.

## 4. Objective of the Study

- 1) To identify the outlook and to ensure the awareness of Sovereign Gold Bond among women and to analyse the preference of investment in women on SGB or in physical goal.
- 2) To identify the reason for their preferences of investment and their willingness option to invest.

## 5. Methodology

The current research paper is empirical research study. This study is based on primary data collection in which it has been collected through a structured Close ended five-point Likert scale, Multiple choice questions, and checklist type multiple choice question through Google form, direct and telephonic interview. The primary data required for the study has been collected from women all from different areas in Tamilnadu, with the sample size of 100 women respondents. The data are analysed using the Statistical Package for The Social Sciences (SPSS) version 22.

5.1. *Hypothesis Formulation:* The Hypotheses are formulated for the test of one-way ANOVA.

*H01:* There are no significances of preferences of SGB and the education of respondent.

*H02:* There are no significances of preferences of Physical Gold and the education of respondent.

The hypothesis is formulated for the test of Crosstabs (Chi square test).

*H03:* There are no significances of willingness to invest in SGB or physical gold and the profession of respondent.

**6. Data Analysis**

Here, the descriptive statistics, one-way ANOVA, crosstab (Chi square test), chart and graphical representations are done to analyse the data.

- 1) *The Awareness on SGB among women:* The main objective of the study is to identify the awareness of SGB among women. On this basis, the questions are framed to identify the general awareness of SGB with five-point Likert scale. The Descriptive statistics is undergone to analyse the result.

**Table 1. Descriptive Statistics**

Particulars	N	$\bar{X}$	$\sigma$
SGB is good rather than physical gold.	100	3.600	1.12815
Risk in SGBs.	100	3.000	1.31041
Joint holding is allowed in SGB.	100	3.400	1.17207
The Bonds bears interest at 2.50 per cent (fixed rate) per annum.	100	3.540	1.10481
The encashment and redemption in the bond is allowed.	100	3.390	1.18828
The SGB can be gifted to a relative or friend on some occasion.	100	3.500	1.22680
SGBs are tradable.	100	3.610	1.17116
The Tax Deducted at Source (TDS) is not applicable on the SGB.	100	3.390	1.17975
We can get the bonds in Demat form.	100	3.470	1.12326
Valid N (list wise)	100		

$\bar{X}$  = Mean;  $\sigma$  = Standard division

*Interpretation:* From the table 1, it is observed that the question “a, d, f, g and i” has a standard deviation which is less than the 1/3<sup>rd</sup> of its mean value which denotes that the women are partially aware and have a partial basic knowledge in the SGB. On the other hand, the question “b, c, e and h” has a standard deviation which is greater than the 1/3<sup>rd</sup> of its mean value. It denotes that the women are not aware and don’t have the bond. Finally, from the table-1, the women are not aware and know of the SGB. Their view is insufficient on SGB.

- 2) *The opinion on SGB among women:*

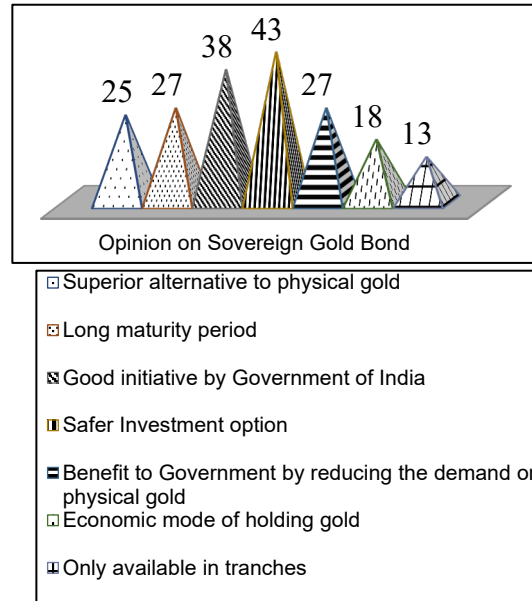
From following the Figure - 1, we can understand the opinion on SGB

- 3) *Preferences on Physical Bond:* The “one-way ANOVA” for these questions based on preferences of physical gold and education of the respondent are Table.3.

*Interpretation:* From the table-3, it is observed that the p value of variable namely preferences of physical gold based on the cherishment of physical gold in hands and determining factor of the social status is <0.01, at the 1% level of significances. Hence null hypothesis (H02) is rejected for these variables. It states there is a significance between these

variable and education of the respondents. It is observed that the p value of variable namely preferences of physical gold based on the variable mandatory for many families of Indian culture is <0.05, at the 5% level of significances. Hence null hypothesis (H02) is rejected for these variables. It states there is a significance between these variable and education of the respondents. It concludes that, there is a strong significance between the preferences of choosing Physical Gold and the education of the respondent.

**Figure-1: The opinion on Sovereign Gold bond**



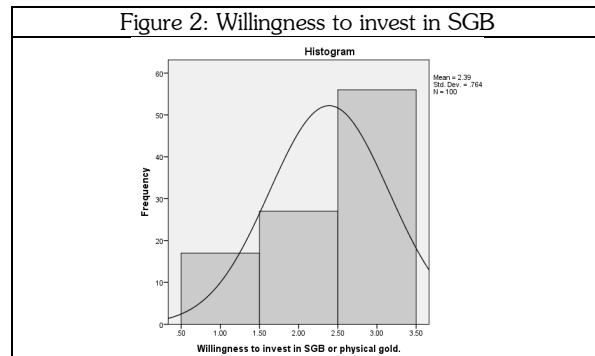
- 4) *Willingness to Invest in SGB or physical gold:*

The percentage of willingness to invest in SGB or physical gold is described as follows

**Table 4: Willingness to invest in SGB or physical gold**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sovereign Gold Bond	17	9.7	17.0	17.0
	Physical Gold	27	15.4	27.0	44.0
	Both SGB and physical gold	56	32.0	56.0	100.0
	Total	100	57.1	100.0	
Missing	System	75	42.9		
Total		175	100.0		

**Figure 2: Willingness to invest in SGB**



From the table- 4 and the Figure- 2, it is observed that the 56 percentage of willingness to invest in both SGB and physical gold and 27 percentage willingness to invest is physical gold and 17 percentage were in SGB.

- 5) *Profession determines the willingness of women to Invest in SGB or physical gold:* The willingness of investment by women in Sovereign Gold Bond or physical gold is analysed using Chi square test. (Table. 5)

From the table 6, the Pearson Chi square value is 14.047 at 5% level of significance. The p value is <0.010, hence null hypothesis (H03) is rejected. It concludes that the willingness of investment on SGB and physical gold is depending on the profession of the respondent

**Table 5: Chi Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi Square	14.047 <sup>a</sup>	4	.007
Likelihood ratio	15.534	4	.004
Linear-by-linear association	2.701	1	.100
N of Valid Cases	100		
df - Degree of freedom			

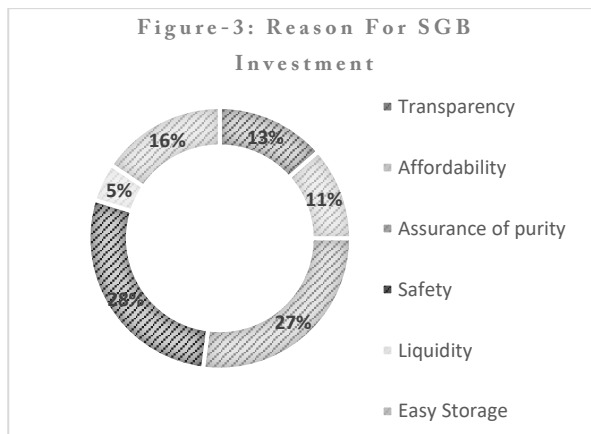
**Table 6: Symmetric Measures**

		Value	Approx. Sig.
Nominal by Nominal	Phi	.375	.007
	Cramer's V	.265	.007
	Contingency Coefficient	.351	.007
N of Valid Cases		100	

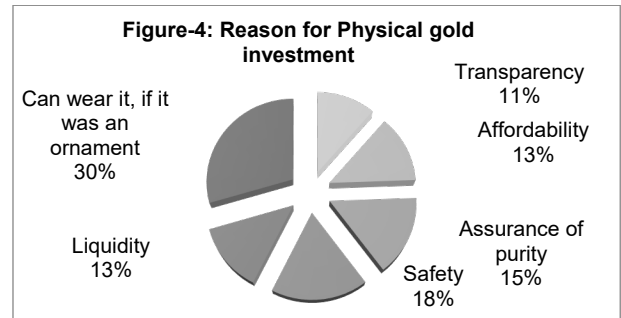
*Determining level of relationship:* The further interpretation is needed to determine the level of relationship between the willingness to invest and the profession. Here Contingency Coefficient is would be appropriate because the number of rows and columns are equal. Contingency Coefficient has been used where there is row is equal to column. The upper limit of C ( $C = (r-1/r) = (2/3) = 0.471$ ). Now the computed value of Contingency Coefficient is 0.351 approximately 75% ( $0.351/0.471 = 74.5\%$ ) of the upper limit. This states there is a strong relationship between the profession and the willingness to invest in SGB or physical gold among women.

- 6) *Reason for SGB investment:*

The following Figure 3, describes the reason for investing in SGB by the respondent.



- 7) *Reason for physical gold investment:* The following Figure-4, describes the reason for investing in physical gold by the respondent.



**7. Findings of the Study**

- a) The first and the foremost finding is done using descriptive statistics with mean and standard deviation. The women are not aware on the SGB. Their view is limited and thus they have an incomplete outlook on SGB.
- b) The women have an opinion on SGB as the safer investment option and the good initiative taken by the Government, which is represented through graph.
- c) The education of the respondent plays a moderate role in the preferences of choosing SGB has been analysed through one-way ANOVA.
- d) The education of the respondent plays a strong role in the preferences of choosing physical gold has been analysed through one-way ANOVA.
- e) The women with over 50% would invest in both SGB and physical gold and next to it the women are focused to invest in physical gold.
- f) There is a strong relationship between the profession of the respond to invest in SGB or physical gold.
- g) The Safety and the assurances of purity in SGB play a role of reasons for the preferences of SGB.
- h) The reason for the preferences for physical gold is that it can be utilized in case of ornaments and utensils and the factor of being safe in the hands of respondent.

**8. Conclusion**

The SGB is good to be a best investment option for everyone. Even though the world is hitting a digital transformation, the peoples are not too fast to capture the transformation. The women respondents are likely seeming in approach of physical gold even though the little knowledge is handed out about SGB. Thus, an outlook of Sovereign Gold Bond among women is secondary purchasing option even though it is filled with sufficient benefits and the objectives of the study are analysed successfully.

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**Table 2: One-way ANOVA**

		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Assurance of purity on gold is clear and accurate in SGB than in physical bond. Do you prefer to buy SGB?	Between Groups	17.182	3	5.727	5.522	.002
	Within Groups	99.568	96	1.037		
	Total	116.750	99			
Whether you prefer SGB, as there is "no cost of storage is attained but there is a need to store the physical gold safely".	Between Groups	13.664	3	4.555	4.177	.008
	Within Groups	104.696	96	1.091		
	Total	118.360	99			
The gold bonds can be availed either in paper or in Demat form as per the convenience of an individual but physical gold can't be did like this. Will you prefer SGB?	Between Groups	9.099	3	3.033	2.646	.053
	Within Groups	110.061	96	1.146		
	Total	119.160	99			
Do you prefer SGB as there is "no GST and no making charges for SGB unlike in physical gold?"	Between Groups	12.517	3	4.172	2.716	.049
	Within Groups	147.483	96	1.536		
	Total	160.000	99			
The SGB is transferable. Will you prefer SGB?	Between Groups	11.369	3	3.790	2.700	.050
	Within Groups	134.741	96	1.404		
	Total	146.110	99			

**Table 3: One-Way ANOVA**

		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
a) The physical gold is good enough to have in hands to cherish it but SGB can't be enjoyed like it. Whether this would make you to buy physical gold?	Between Groups	13.429	3	4.476	5.300	.002
	Within Groups	81.081	96	.845		
	Total	94.510	99			
b) It is mandatory in many families of Indian culture to use physical gold (ornaments, utensil, etc.). Here SGB don't play a role. Here will you choose physical gold?	Between Groups	12.111	3	4.037	2.881	.040
	Within Groups	134.529	96	1.401		
	Total	146.640	99			
c) SGB is one investment besides investment physical gold (Ornaments, Utensils, etc.) is seems to be an essential element which determines the social status of the family in India.	Between Groups	14.245	3	4.748	4.153	.008
	Within Groups	109.755	96	1.143		
	Total	124.000	99			



Keywords: Consumer, Electronic commerce, Internet, Market strategy, Growth, Profit

### Abstract

Information Technology has been playing a vital role development of financial sectors and the way of doing business in an emerging economy like Bangladesh. Increased use of smart mobile services and internet as a new distribution channel for business transactions and international trading requires more attention towards e-commerce security for reducing the fraudulent activities. The advancement of Information and Communication technology has brought a lot of changes in all spheres of daily life of human. E-commerce has a lot of benefits which add value to customer's satisfaction in terms of customer convenience in any place and enables the company to gain more competitive advantage over the other competitors. This study predicts challenges in an emerging economy.

\*\*\*\*

## 1. Introduction

Globalization and information technology (IT) change the method of the business doing by the organizations. In most companies that have invested largely in the IT infrastructure for the ultimate growth of their company, the IT system is implemented and integrated. The utilization of e-commerce (EC) to execute transactions related to business is increasing concern. It has been a priority for many companies.

With EC, businesses will link "Just in Time production" and "Just in Time" to their trading partners, who boost their strategic abilities worldwide. EC's description is not widely agreed upon. From the communications viewpoint, EC may represent information, services as well products or online payments through telephone lines, computer networking, or other means from a communication viewpoint. EC implements technology for automating corporate transactions and workflows from a business process perspective.

From a service viewpoint, EC is a way of lowering services costs while enhancing product efficiency and speeding up the delivery of services, which addresses industry, customers and management's desire. EC offers online shopping and distributing goods and information for the Internet and other online resources from an online viewpoint.

Because of Internet and network technology's popularity and accelerated expansion, the electronic industry has become a significant field for contemporary enterprises. Large company operations are being carried out online today. People sell and purchase products and services online, and without internet infrastructure, certain purchases cannot be done

## 2. E-Commerce Business Types

- a) Business-to-Business (B2B): Electronic commerce B2B includes all electronic products or services transfers between firms. In general producers and traditional industrial wholesale companies use this approach for electronic trading.
- b) Business-to-Consumer (B2C): Company and final client electronic company partnerships E-commerce business to consumer. It is the e-commerce shopping section, where conventional retail business typically takes place. These partnership styles can be simpler, more complex and intermittent and can be discontinued. This business type has expanded considerably because of the advent of the Internet with several

online shops and centers that offer customers' products of any kind such as computers, electronics, books, accessories, cars, food, financial materials and digital publications. In contrast to retail sales in conventional trade, the buyer typically knows of insightful content available and it is generally accepted that you can buy cheaper, without jeopardizing a similarly individual customer experience and promising easy processing and distribution.

- c) Consumer-to-consumer (C2C): Type C2C electronic e-commerce encompasses all trade in goods or services electronically between customers. Typically, this exchange is done by a third party that offers an online transaction forum.
- d) Consumer-to-business (C2B): In C2B is reversed the usual context of exchange in goods. This method of e-commerce is widely used in crowdsourcing-based companies. For companies that aim precisely at some services or items, individuals also sell their services or products. These events include locations at which artists ask for several suggestions for a logo and only one is successfully selected and purchased. Another popular medium in this business segment is the markets which sell photos, photos, media and design elements free of royalty.
- e) Business-to-administration (B2A): This portion comprises all internet transactions between companies and the government. This covers a wide variety of diverse programs, notably in areas such as taxation, social care, healthcare, legal documentation and records, etc. These modes of services have been significantly extended in recent years by spending in e-government.
- f) Consumer-to-administration (C2A): The C2A model includes all electronic purchases between governments and individuals. Application highlights include:
  - Education – disseminating information, distance learning, etc.
  - Social Security – via information distribution, making payments, etc.
  - Taxes – filing tax returns, payments, etc.
  - Health – appointments, information about illnesses, payment of health services, etc

E-Commerce Trends -A New Business Revolution in India: E-commerce is a boom in the modern business. It is a paradigm shift influencing both marketers and the customers. Rather e-commerce is more than just another way to boost

the existing business practices. It is leading a complete change in traditional way of doing business. This significant change in business model is witnessing a tremendous growth around the globe and India is not an exception. E-Commerce has every potential to curb the pollution and thus producing significant influences on the environment. Buying goods and services via E-Commerce allows consumers the freedom to choose when and where to shop and the opportunity to research the product, the seller, and any other options. Shopping has been revolutionized through the availability of online information. About anything that can be bought in a merchandise store can be bought via E-commerce, even perishables like groceries. And consumers have embraced these possibilities around the globe.

### 3. Underlying Factors in E-Commerce

ASSOCHAM Study (2015) found the highest growth rate in the apparel segment, almost 69.5 per cent over 2014, followed by electronic items, up 62 per cent, baby care products, up 53 per cent, beauty and personal care products at 52 per cent and home furnishings at 49 per cent. Rapid growth of digital commerce in India is mainly due to increased use of smartphones. Mobiles and mobile accessories have taken up the maximum share of the digital commerce market in India, noted the study. Almost 45 per cent online shoppers reportedly preferred cash on delivery over credit cards (16 per cent) and debit cards (21 per cent). Only 10 per cent chose internet banking and a scanty 7 per cent preferred cash cards, mobile wallets, and other such modes of payment. The 18-25 years of age group has been the fastest growing age segment online with user growth being contributed by both male and female segments. The survey highlights that 38 per cent of regular shoppers are in 18-25 age group, 52 per cent in 26-35, 8 per cent in 36-45 and 2 per cent in the age group of 45-60. Nearly 65 per cent online shoppers are male and 35 per cent female.

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Mitra Abhijit (2013) suggests E-Commerce has unleashed yet another revolution, which is changing the way businesses buy and sell products and services. New methodologies have evolved. The role of geographic distances in forming business relationships is reduced. E-Commerce is the future of shopping. With the deployment of 3G and 4G wireless communication technologies, the internet economy will continue to grow robustly. In the next 3 to 5 years, India will have 30 to 70 million internet users which will equal, if not surpass, many of the developed countries. Internet economy will then become more meaningful in India.

### 4. Conclusion

In the years to come, the industry of electronic commerce will be a one of the leading sectors in electronic business. The revolution in electronic commerce has huge positive impact on the transaction industry by fast offering new markets and crossing edges. It greatly affected the conventional market system in the world and made it possible to improve the lives of people. Although it provides customers and sellers rewards, e-commerce poses conventional businesses with obstacles to a sustainable place. Developing countries pose a range of challenges to the effective conduct of e-commerce when contrasting it with developing countries. When Internet prices are minimal, e-commerce flourishes quickly and many companies are typically drained. Convenience is one of the major advantages of electronic commerce for consumers and thus increasing customer loyalty. This is because consumers can put orders via internet access from anywhere, they are. Company e-commerce offering a seamless operation and multiple payment choices should be essential to any customer and provide more functions accessible online. Other advantages include expanded products and enhanced regional coverage. However, e-commerce companies face many challenges in their expansion.

**A STUDY ON THE AWARENESS ABOUT ATAL PENSION YOJAN (APY) SCHEME***VIDHYA S – Student Management Studies, A.V.C College of Engineering, Mayiladuthurai, Tamilnadu, India*

Keywords: Pension Fund Regulatory and Development Authority (PFRDA), National Pension System (NPS), Atal Pension Yojan (APY), Unorganised sector

Abstract

This study examines the awareness about APY scheme. This scheme was provided by Government of India, primarily targeted at unorganised sector. It is administered by the PFRDA through NPS. Contributions made by an individual under this scheme are eligible for the deductions under section 80CCD of the Income Tax Act, 1961. This study examines to discover the awareness level of individuals about APY scheme.

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**1. Introduction**

APY scheme, a pension scheme for all then citizens of India are focused on the unorganised sector workers. This scheme was announced by Government of India during 2015 budget speech by Finance Minister Arun Jaitley. It was launched by Prime Minister Narendra Modi on 9th May in Kolkata. Ever since, APY has enabled many Indians to secure their future post retirement. Under APY, guaranteed minimum pension of ₹1000 or 2000 or 3000 or 4000 or 5000 per month will be given at 60 years depending on the contributions by the subscribers.

1.1. *Eligibility Criteria:* (a) This scheme available only to Indian citizens; (b) The age of the person should be between 18-40 years; (c) He / She should have a savings bank account/post office savings bank account; (d) The prospective Applicant may provide Aadhar and mobile number to bank during registration to facilitate receipt of periodic updates on APY account.

1.2. *Benefits of APY:* (a) Tax benefit: Tax benefit under Sec.80 CCD for the contributions made. Guaranteed pension: Guaranteed minimum pension of ₹ 1000/- to ₹ 5000/- per month; (b) Pension to the spouse: In case of death of the subscriber, pension would be available to the spouse; (c) Corpus to the Nominee: In case of death of the subscriber & the spouse both, then the pension corpus would be returned to the nominee.

1.3. *Limitations:* (a) This Atal Pension Scheme is for an Indian whose Age is between 18 and 40. If a person whose age is above 40 or below 18, he/she cannot get this facility of Guaranteed pension; (b) In APY, it is also not declared that the interest we will get after the age of 60 is Taxable or Tax free. (c) Every Year we must renew this scheme in our respective bank; (d) The premium would be auto debited from your bank account. If you are not having sufficient fund in our account the exact treatment is not clarified as of now; (e) APY is only for those who are not enrolled in any pension scheme like EPF, EPS.

**2. Review of Literature**

Sudindra. V. R (2016) concluded that APY scheme is introduced to protect the unorganised sector workers will not serve the purpose of income security and retirement benefit.

To cater the need of unorganised sector workforce government must contribute more amount in the scheme.

**3. Scope of the Study**

This study on awareness about APY scheme among the individuals on both rural and urban areas. It is one the important scheme directly offered by the Central Government to unorganised sector workers. So, this study helps to know that how much awareness among the people.

**4. Objectives**

- 1) To study about the awareness of the individuals in relation to APY scheme.
- 2) To discover the benefits and limitations about APY scheme.

**5. Methodology of the Study**

For this study, I have used "Questionnaire survey Method". This study is based on the primary data collection in which it has been collected through a structured Close ended Five Point Likert Scale, Multiple choice questions and Checklist type multiple choice questions through google form. The primary data required for the study has been collected from the people all in both rural and urban areas with the sample size of 100 respondents. The data are analysed using the Statistical Package for the Social Sciences (SPSS). And used secondary data to understand about this scheme.

**6. Data Analysis**

Data analysis is based on the data collection by way of questionnaire for gathering required data through contacting personally. The response from the individuals in both rural and urban areas has been collected by sending the through google form. These responses were used for identifying the awareness level of APY scheme among the people on the scale ranging from Fully Not Aware to Fully Aware. Further to know their view about this scheme were given with the options on the scale ranging from Strongly disagree to Strongly agree. To analyse the response the descriptive statistics has been carried out to describe the feature of the large number of collected samples in a simplified summary. Helped by this, we can provide an end-note of the awareness level and the viewpoint about this scheme.

6.1. *Awareness Level of This scheme Among Individuals:* The objective of this study is that identifying the awareness level. In this questionnaire, the scale

option ranging from Fully Not Aware to Fully Aware. Table1 reveals the awareness level in which the mean and standard deviation are considered for providing final result.

**Table 1: Awareness Level - Descriptive Statistics**

	N	$\bar{X}$	$\sigma$
Do u aware about APY scheme	100	3.0300	1.06794
Do u know how to apply APY Scheme	100	2.9500	1.06719
Do u know about age limit for this scheme	100	2.9400	1.07139
Does 5000 rupees maximum amount in this scheme	100	2.9400	1.07139
Do u aware about government employees also eligible for this scheme	100	2.9200	1.06059
Valid N (listwise)	100		

- The mean value of the awareness about APY scheme is 3.0300 with standard deviation of 1.06794. The standard deviation is greater than 1/3rd of the mean.) So, the awareness level of the APY scheme is not aware.
- The mean value of the awareness about how to apply APY scheme is 2.9500 with standard deviation of 1.06719. The standard deviation is greater than 1/3rd of the mean). So, the awareness level of how to apply APY scheme is not aware.
- The mean value of the awareness about age limit for APY scheme is 2.9400 with standard deviation of 1.07139. The standard deviation is greater than 1/3rd of the mean). So, the awareness level of age limit for the APY scheme is not aware.
- The mean value of the awareness about maximum pension amount for APY scheme is 2.9400 with standard deviation of 1.07139. The standard deviation is greater than 1/3rd of the mean). So, the awareness level of maximum pension amount for the APY scheme is not aware.
- The mean value of the awareness about eligibility for APY scheme is 2.9200 with standard deviation of 1.06059. The standard deviation is greater than 1/3rd of the mean). So, the awareness level of eligibility for the APY scheme is not aware.

From the above analysis, we can conclude that the awareness level among the individual is not aware. Some were partially aware and some were not partially aware too. The awareness about APY scheme among individuals in both rural and urban areas is not aware has been analysed with the mean and standard deviation using descriptive statistics.

6.2. People’s View on APY scheme: The following table analyses the viewpoint on APY scheme among individuals in both rural and urban areas. The scale option ranges from Strongly disagree to Strongly agree.

**Table 2: View point - Descriptive Statistics**

	N	$\bar{X}$	$\sigma$
Can 1 person have only 1 account in this scheme	100	3.5600	1.13991
Do you agree to withdraw APY amount before age of 60	100	3.3100	1.09816
Is this scheme have tax benefits	100	3.5400	1.15837
This scheme needs savings bank account	100	3.6400	1.16792
Do you think this scheme is beneficial	100	3.7300	1.05270
Valid N (list wise)	100		

- The mean value of their view about the account is 3.5600 and the standard deviation is 1.13991 in which the standard deviation is over 1/3rd of the mean value. So, their view about the account is disagree.
- The mean value of their view about the withdraw amount in APY is 3.3100 and the standard deviation is 1.09816 in which the standard deviation is less than 1/3rd of the mean value. So, their view about the withdraw amount in this scheme is partially agree.
- The mean value of their view about the account is 3.5400 and the standard deviation is 1.15837 in which the standard deviation is over 1/3rd of the mean value. So, their view about the tax benefits is disagree.
- The mean value of their view about the account is 3.6400 and the standard deviation is 1.16792 in which the standard deviation is over 1/3rd of the mean value. So, their view about the need of savings account is disagree.
- The mean value of their view about the account is 3.7300 and the standard deviation is 1.05270 in which the standard deviation is over 1/3rd of the mean value. So, their view about the beneficial is partially agree.

From above analysis, we conclude that people’s view about the APY scheme is that some are partially agree and some are partially disagreed. So, people’s view about APY scheme among individuals in both rural and urban areas is partially agreed has been analysed with the mean and standard deviation using descriptive statistics

**7. Suggestions and Conclusions**

From above study banks must give more awareness about APY scheme among their customers. Government must conduct public campaigns at schools, colleges, public places etc. for making this scheme more transparent.

The Government of India is concerned about the old age people’s income security for employees depending on unorganised sector. Thus, Modi Government introduced APY for satisfying those purpose. This scheme provides various benefits like Guaranteed pension, taxable benefit, pension to spouse and corpus to the nominee etc., but the problem is that majority of individuals are not aware about APY scheme. So, Government and banks jointly try to reach poor people and make the scheme more transparent among them.

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## A STUDY ON ANALYSIS OF FINANCIAL PERFORMANCE AMMACHATRAM PRIMARY AGRICULTURAL CO-OPERATIVE CREDIT SOCIETY LTD

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Keywords: Financial Analysis, Financial Performance, Co-Operative Society

### Abstract

The title of the project is “a study of on financial performance analysis with reference to Ammachatram Primary Agricultural Co-Operative Credit Society Ltd., (PACCS)”. The study consists of secondary data from the organization that is the balance sheet from 2012-2017 for five years. The importance is based on the objectives of financial performance. The study on analysis is on financial performance of “Ammachatram PACCS” was undertaken of the based on the last five-year annual reports. The accounting tools used for this study such as ratio analysis, Comparative Statement, TREND ANALYSIS. Through this study, the company should aim at minimizing cost by implementing cost control and maintain cost record for each department to identify the risk in controllable cost. It is also advised to the co-operative society to make review of all fixed asset to identify and surplus capital that higher to other used. Through the analysis of the study, it is finding increased and decreased position in particular of the departments.

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### 1. Introduction

The term "finance" in our simple understanding it is perceived as equivalent to 'Money'. The word "system", in the term "financial system", implies a set of complex and closely connected or interlined institutions, agents, practices, markets, transactions, claims and liabilities in the economy. The financial system is concerned about money, credit, finance- the three terms are intimately related yet differ somewhat from each other. Indian financial system consists of financial market, financial instruments, and financial intermediation.

The finance function is a part of financial management. Financial Management is the activity concerned with control and planning of financial resources. In a business, the finance function involves the acquiring and utilization of funds necessary for efficient operations. Finance is the lifeblood of the business without its things wouldn't run smoothly. It is the source to run any organization, it provides the money, it's acquiring the money. Financial performance of a bank indicates the strength and weakness of that bank by properly establishing the association between the items of the balance sheet and profit and loss account. Banks were a backbone to the financial system and play an important role in economic development of a nation. They Act as intermediaries in channelizing funds from surplus units to deficit units to the fully utilization of the funds.

### 2. Co-Operative

“A PACCS is to be treated as an organization of the villagers for mutual help and co-operation to meet their common economic requirements and to increase agricultural production. The idea is to relate the short-term credit which the society gives to the production plan of the farmer and to the yields he is likely to get from the loan.”

### 3. Banking Is the Life Blood of Indian Economy.

The PACCS normally belong to a village. The value of each share is generally nominal even the poorest farmer to become a member. PACCS are the grass root level institutions of the short-term co-operative credit structure. PACCS deal

directly with the farmer borrowers, grant short- and medium-term loans, and undertake marketing and distribution functions. PACCS are the foundation of the co-operative credit system in which the superstructure of the short-term co-operative credit system rests. It is the PACCS, which directly interface with individual farmers, provide short-term and medium-term credit, supply agricultural inputs, distribute consumer articles and arrange for marketing of produce of its members through a co-operative marketing society.

The Primary Societies are owned by farmers, rural artisans etc., and planned to promote prudence and reciprocated help among the members, fulfil their credit needs and provide credit-linked services like supply of input, storage and marketing of agricultural produce of members, etc., These co-operative credit societies have extensive out-reach in the rural areas and accessible to the small and marginal farmers and the other marginalized people in the rural areas have been playing an important role in providing necessary agricultural credit. The origin of co-operative credit movement in India dates to 1904, when the co-operative credit societies Act was passed. The loaning system adopted by government had several defects, such as a high rate of interest, rigidity of collection, onerous terms regarding periods of repayment, delays in distribution, conditions relating to securities required etc, and all these contributed to the failure of government loaning system. Indian economy continues to be predominantly rural.

Co-operatives perform commercial and other functions related to rural development in general agricultural development. They are organized and operated based on co-operative principles which provide objectives methods of operation the distinguish them from other organizations the evolution of co-operatives therefore requires approaches from what different from those applied to other types of enterprises. Mobilization of more deposits, improving in granting loans, speedy recovery of over dues maintenance of adequate and limited resources keeping of adequate margin between borrowing and ending at rates to build a strong reserve fund making of proper scrutiny and provision for bad and doubtful reserves are some the reforms already announced and implemented by the co-operative bank. Financial inclusion as ensuring access to financial services and timely and

adequate credit where needed by vulnerable groups such as weaker sections and low-income groups at an affordable cost. Co-operative banks play an important role to fulfil this gap. Co-operative banks perform commercial and other functions related to rural development and agricultural development in particular mobilization of more deposits improvement granting loans, speedy recovery of over dues, maintained of adequate and limited resources keeping of adequate margin between borrowing and lending rates to build a strong reserve fund and making of proper scrutiny and provision for bad and doubtful reserves are some reforms that were already announced and implemented by the co-operative banks the light of above this present study is carried out to “Evaluate the financial performance of co-operative bank in “AMMACHATRAM”.

The co-operative banking sector is one of the main partners of Indian banking structure, the co-operative banks have more reach to the rural India, through their huge network of credit societies in the institution credit structure. The co-operative sector has played a key role in the economy of the country and always recognized as an integral part of our nation economy. Co-operatives have ideological base, economic objectives with social outlook and approach. The co-operatives cover's most cent percent villages in India. The co-operatives form of organization is the ideal organization for economically weaker sections in the country. According to recent study by World Bank and National council for Applied Economic Research, The PACCS amount for about 30 percent of micro credit in India. This paper attempts to analyse the role of co-operative bank in agricultural credit.

#### 4. Functions Of PACCS

To arrange the supply of farm requirements, such as improved seeds, fertilizers and insecticides. Societies should also stock for sale small implements such as sickles, grass-reapers, pickaxes, ploughs, chaff-cutters and other small improved implements generally required by every farmer. For procuring these implements societies they may establish a link with some industrial society. To provide short-term credit required for the purchase of farm requirements and medium-term loans for agricultural purpose such as reclamation of land, sinking of ordinary wells, purchase of bullocks and carts, etc.

To maintain the supply on hire light agricultural machinery. The range of this machinery will depend upon local requirements subject to which the society may possess such things as plant protection equipment like sprayers and dusters, incubators threshers, winnowers etc. To provide household requirements. It is not intended that the societies should open full-fledged general stores. Only essential commodities in short supply such as sugar, kerosene oil, food grains, etc, may be stocked for distribution. To raise a funds for meeting the above-mentioned requirements mainly by catering to the saving of members. The functions of including the habits of thrift and saving among members are important to make the people as much self-sufficient as possible. The functions entrusted to PACCS were, to a certain extent, being performed by the earlier credit for short and medium terms; they were at places, supplying credit for short and medium terms; they were at places, supplying farm and household requirements also and the encouragement of deposits from members had been one of their important objectives.

#### 5. Objectives of the Study

- 1) To analysis the financial performance of co-operative credit society.
- 2) To know the liquidity and profitability position of the society.
- 3) To identify the financial strength and weakness of the society.
- 4) To suggest improving the performance of PACCS.

##### 5.1. Objectives Of Co-operative Bank

The major objectives of the primary agricultural credit service societies are to supply agricultural credit to meet the requirements of funds for agricultural production, the distribution of essential consumer commodities, the provision of storage and marketing facilities and for light agricultural implements and machinery. Owing to an increasing emphasis on the development of land and agriculture, long-term co-operative credit has assumed great importance.

Raising the capital of the bank to provide loans and support for farmers. Motivating the habit of savings amongst farmers and collecting deposits. To provide services and inputs to people for their welfare and development.

Engage in rural financing and micro financing. Provide financial support for the needy people and farmer in the rural areas. Provide personal financial services for those engaged in small scale industries and self-employment driven activities for people in both rural and urban areas.

#### 6. Review Of Literature

- 1) Domar & Timbergen (1946): He measured the profitability of banks for economic development purpose.
- 2) Kurulkar (1983): Reported glaring defects in the set-up of co-operative credit system. He pointed that out of the ten sample owners who obtained long-term credit from the co-operative banks.
- 3) Sinivas K (1988): The researcher main objectives are to critically examiner and highlight the financial performance of the bank for the period of 1981-1982 and 1985-1986 to study the liquidity and profitability of the bank and to study.
- 4) Vasudevan P V (1990): In the research main objective to analysis the financial performance of bank, to study the fund the flow patter to judge the solvency of the company. And to study the bank trend of financial performance. The research adopted financial statement analysis, ratio analysis and comparative balance sheet.
- 5) Turk et.al (1995): The financial performance models for analysis and measurement of the financial and operational control.
- 6) The Verma Committee (1999): He identified bank based on the study of seven financial performance parameters. These parameters include capital adequacy ratio, coverage ratio, return to assets, net interest margin, operating profits to average working funds, cost to income, and staff cost to net interest income plus other income.

- 7) Medhat Tarawneh (2006): The financial performance is a dependent variable and measured by Return on Assets (ROA) and the intent income size.
- 8) Boppana & Nagarjuna (2006): He suggested that performance of banking in terms of profitability, productivity, asset quality and financial management has become important to stable the economy.
- 9) Chalam & Prasad (2007): He attempted to analyse the financial performance of PACCS.
- 10) Dangwal & Kapoor (2010): The study on financial performance of banks in India and assessed the growth index value of various parameters through overall profitability indices.
- 11) Jha Dk & Sarangi D S (2011): The financial performance of seven banks during the period 2009-10. They used three sets of ratios are operating performance ratio, financial ratio and Efficiency ratio.
- 12) Fernando Ferrereng (2012): It is generally agreed that recent economic crisis intensified worldwide competition among financial institution. This competition directly affects how bank deal with their customer and achieve its objectives performance evaluation of banks is the key function for improving banks performance.
- 13) Dr. Dhanabhakyaam & Kavitha M (2012): In their research used some important ratio to analyses the financial performance of banks such as ratio of advances to assets, ratio of capital to deposit, ratio of capital to working fund, ratio of demand deposit to total deposit, credit deposit ratio, return on average net worth ratio, ratio of liquid assets to working fund etc.
- 14) Alpehgajera (2015): In his research article a financial performance evaluation of banks found there in significance difference in the financial performance of the banks are performed regarding capital adequacy ratio and financial performance.
- 15) Dr Richa Jain, Prof. Mitali Amit Shelankar & Prof Bharti Sumit Mirchandani (2015): Financial statement analysis are (a) Trend Percentage Analysis; (b) Comparative Statement; (c) Common Size Statements; (d) Ratio Analysis; (e) Funds Flow Statements; (f) Cash Flow Statements.

## 7. Origin And History of PACCS

The first efforts to discover a suitable organization for providing institutional creditor farmers were made towards the turn of the 19th century when Mr. Nicholson was deputed by the then provincial government of Madras to study the land bank system in Europe and recommend introducing a suitable system to provide institutional credit to the poor peasants and save them from the clutches of the usurious private moneylenders. Mr. Nicholson summed up his report by stating "Find Raiffeisen." That signified the organization of PACCS at the village level based on unlimited liabilities and area of operation limited to a single village based on principle "one village to one society" and "one society to one village". That organizational model as a suitable for private moneylender was accepted and introduced to country with co-operative societies Act 1904. Thus, a co-operative form of organization at the village level was born out of the above piece of legislation intended to gradually cover all the village in the country to relieve the poor peasant from the stranglehold of the moneylenders by providing institutional credit to them which would not only help them in reducing their private

indebtedness but also provide them cheap and facial credit for increasing their agricultural production and through that the standards of their living.

### 7.1. Organizational Structure/ General Body

The management of the PACCS in Junnar, Ambegaon and Khed taluka is same as the managements of other societies in Tamilnadu on the principles of democracy. It is based on the principles, 'one member, one vote.' The management is entrusted to two bodies - The general body and managing committee. The general structure of organization and management of PACCS in Junnar, Ambegaon and Khed taluka is as follows

**General Body:** Subject to the co-operative societies Act and rules framed there under, general body of members is the supreme authority in any society The general body can exercise its control over the board and management in two ways (i) By attending the general body meeting and by-passing resolutions; (ii) By electing the managing committee by voting.

They can take any decisions with in the limit of co-operative societies Act, the rules formed under it and bye- laws of the society for effective control, it is necessary for members to sufficiently know of the working of the co-operative society and its policies to form a rational judgment upon them.

They can participate in the meetings and discuss things freely but generally members of the society are found uninterested about the working and performance of the Society. The bye laws of the co-operative society provide that the General Meeting of the societies should be held before 14th November every year. But generally, the meetings of the societies are not held in stipulated time.

**Meetings:** Besides the general working there are other rules regarding the General Meeting; (a) A member can make suggestions about the work or a problem, if the problem is not noted on the agenda and if it is permitted by the 2/3 majority of the present members; (b) No change can be made in the sanctioned resolution of the previous General Meeting; (c) The quorum of the meeting is adequate only when minimum 1/3 or 25 members are present. If the minimum presence of the members is not satisfactory the meeting is adjourned up to half an hour. The meeting can be postponed further, if the members are still not in required number; (d) It is the rule that a member present for the meeting is given one day's allowance; (e) The members should be informed about the meeting by a written notice 14 days in advance if it is the General Meeting and 7 days in advance if it is the special General Meeting.

**Power And Duties of The General Body.** Besides exercising the powers and performing the duties as laid down in the co-operative law, the General Meeting of a service co-operative exercises and performs these powers and duties respectively, viz.; (a) Subject to the specific provisions in the byelaws elsewhere, to decide the policy and limit up to which fund may be raised from outside (outside borrowing limit) for the ensuring year; (b) Subject to the provisions in sec. 44 of the M.C.S. Art and rules No. 42 and 43 of the M.C.S. Rules, to fix-up credit limit of each member's also the limit for grant of loans against the security of goods; (c) To decide the

agricultural requisites, house – hold articles and articles for other use which may be supplied and the commission and incidental charges to be fixed for the purpose; (d) To grant permission for purchase of machinery, agricultural implements etc. For being supplied to the members on hire system and to fix the rates for hire, incidental expenses etc; (e) To decide the rates commission and incidental expenses to be charged for marketing of a grill. The chairperson of the society shall preside over the General Meeting. In his absence the vice chairperson shall occupy the chair. Absent both, the members present at the meeting shall elect a president for that meeting and under his president ship the business of the meeting shall be transacted.

## 8. Plan of Analysis

The data collected tabulated and classified under the objectives of the study. These data are then subject to statistical tests which include among others ratio analysis including comparative statement and trend analysis. Many calculations are carried out helped by Statistical Package for Social Sciences (SPSS) and MS excel package. Tables, charts, and graphs etc., are used wherever necessary to visualize the observations and inferences. Finally, conclusions are drawn based on the analysis and findings.

## 9. Findings

- 1) The society provides loans only relate to agricultural credit to farmers.
- 2) Deposit mobilization in society is less. Because of lack of awareness among the people about the different schemes of the society.
- 3) The members deposit money for compulsion made by banker to open account.
- 4) The loan distributed to the members are in inadequate time.
- 5) Use of computer is less in these societies.
- 6) The society provides only short-term, medium-term and long-term loan.

## 10. Suggestions

- a) As society provide loans only related to agricultural credit to farmers it is suggested that it should also provide other types of loans so it can help the farmers and maintain good standard of living.

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- b) To improve the deposit mobilization, the society should conduct awareness programs occasionally. This will popularize the different schemes of the society and there by attract new customers and educating the farmers relating to different services provided by society.
- c) To help farmers the society should adopt easy procedures for distributing and recovering the loan from farmers.
- d) The adequate loan should be distributed to farmers at adequate time.
- e) For early retrieval of information use of computer should also be introduced for maintaining the accounting system safely.
- f) The society should provide quality necessary agricultural items at reasonable price to the farmers.
- g) The staff member of society should maintain good co-operative relationship with members by informing farmers.
- h) The society should improve the customer services of the bank to a better extent.

## 11. Limitations

- a. The data for study mainly based on a single bank.
- b. The period of the research was limited.
- c. It is only study of interim reports of the concern.

## 12. Conclusion

Though co-operative banks have made significant progress in catering to the needs of the large section of the population especially the poor in rural and semi-urban areas, most of these institutions lack professionalism, sound management system and autonomy in decision making. This has caused low volume of business, stagnation in borrower membership and the high incidence of over dues and thus collectively causing financial ill health among this co-operative credit Institution. Various factors such as increasing competition, tightening prudential standards, supervision and regulatory standards, multiple controls etc have only complicated the situation for these banks. Given the size of the situation and critical role of co-operative banks in nation building there was a felt need to analyse and present the reasons for the success or failure of co-operative banks and to assist them in retaining their position in a fiercely competitive market place.



**A STUDY ON AWARENESS ON WOMEN HEALTH - BREAST CANCER***RAJASUNDARI S, GAYATHRI K & VIJI C - A.V.C College of Engineering, Mayiladuthurai, Tamilnadu, India*

Keywords: Women Health, Cancer, Awareness, Breast Cancer

Abstract

In public health domain, one of the well-known heterogeneous illness problems is Breast Cancer (BC). These days Breast Cancer incident rate has seen a sharp level of increase. Every year, many females are diagnosed with Breast Cancer among which half of them died because of this fatal illness. If it is noticed early at the associated stage, it can be healed before it spreads to other parts of the body components. However, it is observed that usually it hasn't been detected at the early stage due to lack of carelessness. In the same way, it is seen that due to a lack of awareness among the females about the advanced automatic monitoring and medical check-up of the breast, in many cases still it is found undetected till the very end. In this paper, we've mentioned basic but relevant information regarding Breast Cancer. The paper mainly focuses on the awareness of this severe disease among women. It tries to spread the relevant information of different sections associated with it. We have also mentioned the controllable and out-of-control risks associated of it.

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**1. Introduction**

Breast cancer arises in the lining cells (epithelium) of the ducts or lobules in the glandular tissue of the breast. Initially, the cancerous growth is confined to the duct or lobule where it generally causes no symptoms and has minimal potential for spread (metastasis). Over time, these in situ (stage 0) cancers may progress and invade the surrounding breast tissue (invasive BC) then spread to the nearby lymph nodes (regional metastasis) or to other organs in the body (distant metastasis). If a woman dies from BC, it is because of wide-spread metastasis. BC treatment can be highly effective, especially when the disease is identified early. Treatment of BC often consists of surgical removal, radiation therapy and medication (hormonal therapy, chemotherapy and/or targeted biological therapy) to treat the microscopic cancer that has spread from the breast tumour through the blood. Such treatment, which can prevent cancer growth and spread, saves lives.

**2. Who Is at Risk?**

Breast cancer is not a transmissible or infectious disease. Unlike some cancers with infection-related causes, such as human papillomavirus (HPV) infection and cervical cancer, there are no known viral or bacterial infections linked to the development of Breast Cancer. Approximately half of breast cancers develop in women who have no identifiable Breast Cancer risk factor other than gender (female) and age (over 40 years). Certain factors increase the risk of Breast Cancer including increasing age, obesity, harmful use of alcohol, family history of Breast Cancer, history of radiation exposure, reproductive history (such as age that menstrual periods began and age at first pregnancy), tobacco use and postmenopausal hormone therapy. Behavioural choices and related interventions that reduce the risk of Breast Cancer include: (a) Prolonged breastfeeding; (b) Regular physical activity; (c) Weight control; (d) Avoidance of harmful use of alcohol; (e) Avoidance of exposure to tobacco smoke; (f) Avoidance of prolonged use of hormones; and Avoidance of excessive radiation exposure. Unfortunately, even if the potentially modifiable risk factors could be controlled, this would only reduce the risk of developing BC by 30%. Female gender is the strongest BC risk factor. Approximately 0.5-1% of breast cancers occur in men. The treatment of Breast Cancer in men follows the same principles of management as for women. Family history of Breast Cancer increases the risk of Breast Cancer, but the majority of women diagnosed with

BC do not have a known family history of the disease. Lack of a known family history does not necessarily mean that a woman is at reduced risk. Certain inherited "high penetrance" gene mutations greatly increase Breast Cancer risk, the most dominant being mutations in the genes BRCA1, BRCA2 and PALB-2. Women found to have mutations in these major genes could consider risk reduction strategies such as surgical removal of both breasts. Consideration of such a highly invasive approach only concerns a few women, should be carefully evaluated considering all alternatives and should not be rushed.

**3. Signs and Symptoms**

Breast cancer most commonly presents as a painless lump or thickening in the breast. It is important that women finding an abnormal lump in the breast consult a health practitioner without a delay of more than 1-2 months even when there is no pain associated with it. Seeking medical attention at the first sign of a potential symptom allows for more successful treatment. Generally, symptoms of Breast Cancer include: (a) A breast lump or thickening; (b) Alteration in size, shape or appearance of a breast; (c) Dimpling, redness, pitting or other alteration in the skin; (d) Change in nipple appearance or alteration in the skin surrounding the nipple (areola); and Abnormal nipple discharge. There are many reasons for lumps to develop in the breast, most of which are not cancer. 90% of breast masses are not cancerous. Non-cancerous breast abnormalities include benign masses like fibroadenomas and cysts as well as infections. Breast cancer can present in a wide variety of ways, which is why a complete medical examination is important. Women with persistent abnormalities (generally lasting more than one month) should undergo tests including imaging of the breast and sometimes tissue sampling (biopsy) to determine if a mass is malignant (cancerous) or benign. Advanced cancers can erode through the skin to cause open sores (ulceration) but are not necessarily painful. Women with breast wounds that do not heal should have a biopsy performed. Breast cancers may spread to other areas of the body and trigger other symptoms. Often, the most common first detectable site of spread is to the lymph nodes under the arm although it is possible to have cancer-bearing lymph nodes that cannot be felt. Over time, cancerous cells may spread to other organs including the lungs, liver, brain and bones. Once they reach these sites, new cancer-related symptoms such as bone pain or headaches may appear.

#### 4. Treatment

Breast cancer treatment can be highly effective, achieving survival probabilities of 90% or higher, particularly when the disease is identified early. Treatment generally consists of surgery and radiation therapy for control of the disease in the breast, lymph nodes and surrounding areas (locoregional control) and systemic therapy (anti-cancer medicines given by mouth or intravenously) to treat and/or reduce the risk of the cancer spreading (metastasis). Anti-cancer medicines include endocrine (hormone) therapy, chemotherapy and sometimes targeted biologic therapy (antibodies). All breast cancers were treated surgically by mastectomy (complete removal of the breast). When cancers are large, mastectomy may still be required. Today, the majority of breast cancers can be treated with a smaller procedure called a “lumpectomy” or partial mastectomy, in which only the tumour is removed from the breast. In these cases, radiation therapy to the breast generally must minimize the chances of recurrence in the breast. Breast cancers may independently over-express a molecule called the HER-2/neu oncogene. These “HER-2 positive” cancers are amenable to treatment with targeted biological agents such as trastuzumab. These biological agents are effective but also very expensive, because they are antibodies rather than chemicals. When targeted biological therapies are given, they are combined with chemotherapy to make them effective at killing cancer cells. Radiotherapy also plays an important role in treating Breast Cancer. With early-stage breast cancers, radiation can prevent a woman having to undergo a mastectomy. With later stage cancers, radiotherapy can reduce cancer recurrence risk even when a mastectomy has been performed. For advanced stage of Breast Cancer, sometimes, radiation therapy may reduce the likelihood of dying of the disease. The effectiveness of Breast Cancer therapies depends on the full course of treatment. Partial treatment is less likely to lead to a positive outcome.

#### 5. Global Impact

The strategies for improving Breast Cancer outcomes depend on fundamental health system strengthening to deliver

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the treatments already known to work. These are also important for the management of other cancers and other non-malignant noncommunicable diseases (NCDs). For example, having reliable referral pathways from primary care facilities to district hospitals to dedicated cancer centres. The establishment of reliable referral pathways from primary care facilities to district hospitals to dedicated cancer centres is the same approach as required for the management of cervical cancer, lung cancer, colorectal cancer and prostate cancer. Breast cancer is an “index” disease whereby pathways are created that can be followed for the management of other diseases.

#### 6. WHO Response

The objective of the WHO Global Breast Cancer Initiative (GBCI) is to reduce global Breast Cancer mortality by 2.5% per year, averting 2.5 million Breast Cancer deaths globally between 2020 and 2040. Reducing global Breast Cancer mortality by 2.5% per year would avert 25% of Breast Cancer deaths by 2030 and 40% by 2040 among women under 70. The three pillars toward achieving these objectives are: health promotion for early detection; timely diagnosis; and comprehensive Breast Cancer management. By providing public health education to improve awareness among women of the signs and symptoms of Breast Cancer and, with their families, understand the importance of early detection and treatment, more women would consult medical practitioners when Breast Cancer is first suspected, and before any cancer present is advanced. This is possible even absent mammographic screening impractical in many countries. Public education needs to be combined with health worker education about the signs and symptoms of early Breast Cancer so women are referred to diagnostic services when appropriate. Rapid diagnosis needs to be linked to effective cancer treatment that in many settings requires some level of specialized cancer care. By establishing centralized services in a cancer facility or hospital, using Breast Cancer as a model, treatment for Breast Cancer may be optimized while improving management of other cancer.

## UNDERSTANDING MENTAL HEALTH OF RURAL WOMEN IN INDIA DURING COVID-19: THE WAY FORWARD

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Keywords: India- Rural women- Mental Health-COVID-19- Depression- Anxiety- Suggestions

### Abstract

Swami Vivekananda recognizes the rights of women to achieve social justice in our country. Rural women and their lives are interwoven with their social, economic and educational backgrounds. During the COVID19 crisis, not only the physical health but also the mental health of women rendered it perilous to keep living their lives and hinders progress in meeting the SDGs and WHO Triple Billion Targets. In India, it is a settled law that 'right to health is a facet of right to life'. To be precise, because of the vulnerability group women belong to, the author of this research paper will focus on the mental health of rural women in India. Hence, acknowledgement to women is a first step that will then lead to changes in policy. The study outlines the negative impacts of women's mental health and the way forward.

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### 1. Introduction

"Fairness of treatment of men and women in terms of rights, benefits, opportunities and obligations" -UNESCO

The lives of people during Covid-19 were a struggle and brought a devastating outcome in society for many years to come. The Covid-19 crisis has so far affected 423,814,213 people in the world affecting every single life across the universe. Adapting to a pandemic emotionally is hard, yet more problems are to arise from the stress, Anxiety and Depression. Generally, women are to survive through various mental emotions of themselves and their families. Women in rural areas perform various domestic tasks with a significant time on child care. For poor rural women, the economy needs her to perform some employment to earn money to stabilize the needs of her home. As indicated by the Lancet report (2020), there was no gender analysis of the pandemic by any organization or research body on the mental health of women. The 17 goals of Sustainable Development suggest and provide strategies to improve health and education, reduce inequality, and spur economic growth. Goal No.10 emphasizes on 'reduce inequality within and among countries' inequality is an obstruction to progress when it deprives people of opportunity. Gender Equity is always considered the means to achieve the end target of equality. The risk of violence at home and gender inequality will additionally worsen the source of depression and affect the physical and emotional well-being of women.

Pandemic times have brought various difficulties to life and it has also introduced various forms of mental disorders or negative impacts on the mental health of women. Monetary difficulties suppress poor people to a greater extent and they try to resolve the issues by committing suicide or ending up in performing criminal activities. Plan International survey suggested that Covid-19 is unravelling the decades of progress for girls' equality. On occasions at the point when social disconnection and separations are being applied, there are expanded dangers of viciousness against women, their maltreatment, abuse and disregard. Besides gender inequality, in rural women, intimate partner violence (IPV) is considered one of the main factors for Common Mental Disorders (CMOs). The disorders faced by rural women are suicide, depression, anxiety, perinatal disorders, somatization, and substance abuse. Hence, acknowledgement is a first step that will then lead to changes in policy. So let us discuss every

factor of mental health and emotional trauma faced by rural women of all ages in further topics.

### 2. Mental Health an Understanding

"Women in abusive relationships are more likely to be exposed to violence, as are their children, as family members spend more time in close contact, and families cope with additional stress and potential economic or job losses."

- WHO Director-General Tedros Adhanom Ghebreyesus,  
April 2020

As per the World Health Organization, the basic definition of mental health means 'emotional, psychological and social well-being'. WHO also recognizes "mental health and well-being are fundamental to quality of life, enabling people to experience life as meaningful, become creative and active citizens." Mental health against women remains a major caution to the universe. Understanding that is mental health and emotional level. So, what's the significance here it is of a rural woman and mental health issues during the pandemic. So how are they adequately able to keep up with their anxieties and how are they sufficiently able to keep up with their pandemic pressure. The above-said things are to be examined in our study.

According to Mrs Phumzile Mlambo-Ngcuka, Executive director of United Nations (UN) Women: "Covid-19 pandemic is not just a health issue, it is a profound shock to our societies exposing the deficiencies of public and private arrangements that currently function only if women play multiple and underpaid roles. This is a moment for governments to recognize both the enormity of the contribution women make and the precarity of so many".

NCRB 2020 report states abetment of suicide of women (Section 305/306, Indian Penal Code [IPC]), Cruelty by husband and his relatives (Sec.498A, IPC), rape (Section 375, IPC) attempt to commit rape (Sec.376/511 IPC), Assault on Women with Intent to Outrage her Modesty (Sec. 354 IPC), Insult to the Modesty of Women (Sec. 509 IPC), Protection of Children from Sexual Offences Act (Girl Child Victims only) have considerable shown rise in 2020. Due to the social, economic and educational background of rural women, the above-mentioned recorded NCRB crimes have significant impacts on all age groups of rural women in COVID-19 India. They develop mental health issues and the ways to overcome the issues will be in this research paper.

### 3. Children and Adolescence: Mental Health During Covid-19

Coronavirus has achieved a perplexing bunch of variables (stress, depression, social detachment, and parental tension) that affect the psychology of children and teenagers. Parental care and attention are required for kids and youths, yet it has been disturbed since the Covid-19 episode.

Youngsters have numerous concerns identified with the results of Covid-19, for example, even if they will see their friends and family members, go to class or become ill. It is normally hard for guardians to quiet their youngsters' nerves due to their age factors. Parents are normally proficient at arranging for their youngsters, however tentative arrangements are as of now on hold. The difficulties confronting guardians may meddle with their typical capacity to address the feelings of the children.

In research carried out for children in rural and suburban areas of Eastern Uttar Pradesh shows anxiety and depression disorders in children. There are many mental health disorders are present in adolescents which are diagnosable amount to 20%. Impulse control disorders (hyperactivity disorder or attention-deficit disorders) and anxiety disorders affect 50-75% of adolescents. The research also concludes that 14.5% of children of 11-18 years of age group suffer from depression and 15% of children suffer from anxiety disorders. If the mental disorders are not medically treated, various consequences like school dropout, poor academic performance, broken family relationships, substance abuse and engaging in unwanted sexual behaviours.

In developing nations, like India, with the forced lockdown, the oppressed/underprivileged children face intense hardship of sustenance and physical development. The prolonged time of stress and depression could contrarily affect their life for a long time. For example, in India, which has the biggest child population in the world with 472 million kids, the lockdown has altogether affected 40 million kids from helpless families. These include poor, migrant and street children. An expanding number of poor and road kids have no type of revenue, making them a high-hazard populace to confront misuse and emotional well-being issues with more noteworthy weakness and openness to horrible monetary, social and natural conditions.

Duration of loneliness was more strongly associated with mental health symptoms. The findings on loneliness and social isolation have potential implications for the current Covid-19 pandemic. To suggest is that loneliness for youth during the disease containment measures for Covid-19 may affect the future mental health of youth. They recommend preventive support and early intervention to address the mental health needs of children and adolescents during the Covid-19 pandemic.

### 4. Suggestions To Cope with The Mental Health Issues of Childhood and Adolescence

Thus, the overall understanding from the above-mentioned research shows that depression and stress are widespread during Covid 19 amongst children and adolescents. It affects

their mental health. There is a certain way to overcome mental problems. The ways include parental care and guidance, post-traumatic disorder and double bubble strategy. Responding supportively to the children will encourage them to do productive things. Spending valuable time with children yields a pleasurable and delightful life. The double bubble strategy is a welcoming gesture all over the world. In the strategy, two families together create a happy and trustworthy social life. New Zealand actually followed the same and they were successful enough in announcing that they were corona free during the initial months of the pandemic. In rural India, still, the joint family system is followed with certain families if not all. If the barriers of double bubble strategy in rural India is reduced to a certain level, then the said measure can succeed even in rural India.

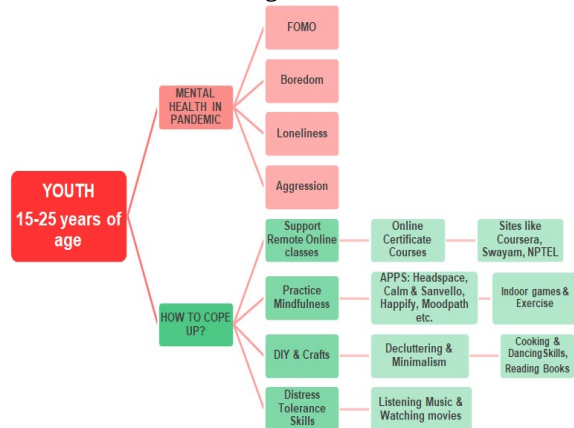
Figure: 1



### 5. Youths: Mental Health During Covid19

The most significant part of the age category is YOUTH i.e., 15 to 24 years. The main psychological well-being issue is boredom because their socializing factor is limited or stopped to a greater extent. A stale life is made. No student or youth prefers a stale life. The other psychological issue or emotional disorder is 'loneliness'. The study of 'Oxford Achieving Resilience (ARC)' during Covid 19 reports 13 to 18 years of young girls are identified with an undeniable degree of depression. The symptom of getting aggressive over certain emotional issues is caused due to the psychological issues they face during Covid 19.

Figure 2



The other psychological issue is the Fear of Missing Out (FOMO). Practically all youths face FOMO via online media. These days, physical/social movement is limited, so young girls invest the majority of their energy via web-based media. The bustling life via web-based media may prompt FOMO. If a young lady of 18 years is posting a profile picture on Facebook, quickly she requires a 'n' number of likes and comments yet sadly not true to form. She may check her timeline

frequently and thus, it makes addiction. Ultimately prompting posting another image or an overall post. It is better not to foster FOMO.

Rural government school going children faced internet issues in attending online classes and to facilitate the same, Governments of few states introduced television channels consisting educational classes programmes. As the students of this age spend their time in online schools/colleges/universities during the pandemic, parents are encouraged to help and guide online classes by giving a protected and quiet ambience. They can likewise urge their youngsters to go through intriguing certification courses umpteen in number on the web. The alternate method of adapting up is developing 'Mindfulness' through yoga and meditation. The internet has various applications for mindfulness and exercise. The third method of adapting up is Do It Yourself (DIY) at home. Cleaning up and Minimalism helps a ton. Skills like dancing, singing music, cooking, watching movies can be followed to adapt up the psychological illness.

### 6. Pregnant Women and New Moms: Mental Health During Covid-19

The pandemic emotional well-being of pregnant women and new mothers are pivotal as of now. The mental disorders incorporate more anxiety and stress. Traumatic births have become common during the pandemic. Perinatal, Postpartum Psychosis (PP) and Postpartum depression have expanded.

For example, a survey from Brigham and Women's Hospital in Boston reviewed over 1,100 pregnant and post-pregnancy ladies between May 21 and August 17, 2020. They tracked down that 36%, or over one out of 3, had critical degrees of depression. Preceding the pandemic, paces of perinatal depression were about 15% to 20%. Over one of every five ladies announced huge degrees of generalized anxiety. Around one out of ten had post-horrendous pressure problems over the clinical threshold. There are various answers for adapt to the issues, providing family care and clinical consideration, psychotherapy, interpersonal therapy and medications. Guidance for Management of Pregnant Women in Covid-19 Pandemic has been published by Indian Council for Medical Research (ICMR) - National Institute for Research in Reproductive Health in India.

### 7. Women (30 To 50 Years): Mental Health of Women During Covid19

"Women are pure and selfless, strong with the strength that comes of touching the feet of God"

- Swami Vivekananda

The most important part of life would be from 30 years to 50 years. Particularly, for working women, it feels like both work from home and works at home. So twofold the weight a colossal assignment. Job goes as well as homemakers who are been pressed because of the work, they perform staying home. Rural women of these ages have been stopped from going to rural employments provided by Mahatma Gandhi National Rural Employment Guarantee Scheme and other schemes. The psychological issues include Psychological Distress, given the absence of sleep. Thus, it gives nervousness and anxiety to be restoratively treated. The approach to

adapt to the mentioned circumstance is to share family errands to decrease the weight. Introspection about oneself and some ways for self-improvement yield a productive way of life. Using time effectively assumes an imperative part. The entire range of the internet is loaded up with so numerous methods of using time productively. For women above 50 years of age, precautions to avoid the potential risk and stay calm will reduce the burden.

### 8. Mental Health of Rural Women in India: Regulatory Frameworks in India

Article 21 of the Indian Constitution guarantees the 'right to life' and it is well established that the right to life under Article 21 of the Constitution includes the right to lead a dignified and meaningful life and the right to health is an integral facet of this right. Article 38, Article 39(e), Article 41 and Article 47 direct the State to take effective measures to promote the welfare of the people and improve the standard of living of people, it also secures the right to old age, sickness and disability. In the recent judgement of *Sushil Kumar v. Union of India*, the Supreme Court had issued directions to the State of Government to protect people during the Covid pandemic.

Besides it, the Mental Health Act, 2017 has provided various rights including the right to access mental healthcare and the right to make an Advance Directive, where patients have choices on how to be medically treated. Further, the Act decriminalized suicide attempts and directs the Appropriate Government shall have a duty to provide care, treatment and rehabilitation to a person, having severe stress and who attempted to commit suicide, to reduce the risk of recurrence of an attempt to commit suicide. The right of health is understood to be indispensable to a life of dignity and well-being, and includes, for instance, the right of emergency medical care and the right to the maintenance and improvement of public health and the Indian Medical agencies are striving hard to achieve the same.

### 9. The Way Forward & Conclusion

Though the new normalcy seems far ahead of the current period, equipping every woman physically and mentally become indispensable during this pandemic. The mental stability of women is adequately evident that it cannot be considered in segregation from social, political, and economical elements. The well-being of a woman should consolidate mental and actual well-being across the existing life cycle and should reach past the restricted path of reproductive and maternal well-being, which is frequently the focal point of our policies and legislations.

The following are the author's recommendations for the way forward. They are,

- 1) Formulation of strong mental health legislation and policies to protect women from childhood to old age;
- 2) Community-based health services in rural and suburban areas are to be encouraged and practiced efficiently;
- 3) Development of new skills to develop the physical and mental strength of oneself;
- 4) Introspection- to discover the right passion;

- 5) Stay active: Positive energy and the way to achieve the same would enable oneself to have a pleasing life-style;
- 6) Prioritize own health- eating right, physically active and healthy relationships would yield us productive results to set our pace high;
- 7) Build prioritized healthy habits and mindfulness;
- 8) Learn technology to cope up with the online pandemic world;
- 9) Governments to create awareness on the mental health consequences of women especially of chronic and acute stress in women of all ages;
- 10) Reach out for help to the members of family and doctors in case of mental illness;
- 11) Create a healthy family and eventually, it results in a healthy society.

Women are already equipped inherently with so much will-power to lead a successful life. All over the world, in run-down, purposeful efforts must be laid at social, political, economic, and policy levels that can acquire change the existences of Indian ladies and add to the improvement of women's mental stability.

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## CALCULATING SANITATION COSTS AND SERVICES IN RURAL TAMILNADU, INDIA

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Keywords: Sanitation, Service delivery, service ladder, Total Sanitation Campaign, TSC, life-cycle costs, open defecation, rural, Andhra Pradesh, Nirmal Gram Puraskar (NGP), unit costs, methodology

### Abstract

The TSC is the flagship sanitation programme of efforts by the Government of India to reach the Millennium Development Goals, but it has not yet met its expectations. This paper described the methodologies and analysis of data from 20 villages across two agro-climatic zones in Andhra Pradesh on the costs of sanitation. It concludes that capital costs take a lion share of the funding, followed by operation and maintenance costs while planning and budgeting for indirect and direct support costs and capital maintenance costs are negligible or missing. The sanitation service ladder parameters reveal that open defecation is rampant and access to sanitation facilities is far from within reach for many households. Use of toilets is much higher in NGP1 (award winning villages) than in non-NGP villages but even in NGP villages is almost always below 100%. In non-NGP villages open defecation is rampant. An intensive approach is needed to prevent villages that achieve open defecation free status from slipping back and to address sanitation crisis in many non-NGP villages. Field observations, focus group discussions and personal interviews reveal that factors such as space to construct toilets, availability of water, lack of awareness, cultural factors and traditional practices are the major constraints to making the behavioural change away from open defecation. School sanitation remains a challenge as use and maintenance of school toilets is poor and keeping them clean can bring conflicts between parents and teachers. The solid and liquid disposal systems often receive a low priority and Panchayats (local government bodies) do not receive sufficient money to address these issues. The findings indicate the need for a life-cycle cost approach to planning and budgeting, additional funds for specific cost components, targeted efforts and continuous review to address sanitation progress with specific vision and targets rather than as add-on components to water supply programmes. This approach needs to be understood at all levels so the focus can move from providing toilets to maintenance and use of toilets and more comprehensive programmes of hygiene promotion. This paper has been produced by members of the WASH Cost (India team) which is researching the unit costs of providing water and sanitation services in rural and peri-urban areas.

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## 1. Introduction

The severity of the sanitation challenge facing India can be judged from the fact that hardly one third of the overall population has easy access to sanitation facilities. In rural areas, sanitation coverage is only 22%, but reaches 59% in urban areas (WHO/UNICEF 2004). About 55% of all Indians, close to 600 million people, do not have access to any toilet and those living in urban slums and rural environments are affected the most. Three quarters (74%) of the rural population still defecates in the open. In these environments, cash income is low and building a facility for defecation in or near the house is rarely given a high priority. Where facilities exist, they are often inadequate. India is losing billions of dollars each year because of poor sanitation. Illnesses are costly to families, and to the

In India, the TSC was initiated in 1999 to ensure sanitation facilities in rural areas to eradicate open defecation. This programme is designed with cash incentives to generate competition between villages to be ODF (Open Defecation Free). Box 1 gives the details on the TSC.

Against this background and in the light of sanitation service ladder parameters and indicators developed by WASH Cost, this paper attempts to focus on these objectives:

- 1) To describe the methodology used by WASH Cost to access sanitation costs and services delivered
- 2) To assess the level of sanitation service delivery and the costs of sanitation service delivery
- 3) To compare the costs and service levels between the NGP “ODF status” villages and non-NGP villages.

Sanitation refers not only to toilets but to all conditions that contribute to or harm public health. While this paper mainly considers access to and use of toilets and their costs, it also looks at community perceptions of solid and liquid waste management. The paper does not deeply explore data collected on hygiene practices, but it looks at the cost of materials essential to good hygiene.

This paper comprises four sections. The first covers the introduction and aims of the paper, the second describes the methods and tools adopted by WASH Cost to collect and analyse costs and services, section three reveals the findings categorised into service delivery and costs of sanitation in NGP and non-NGP villages. Section four describes the conclusions. The paper includes a list of references.

## 2. Methodology

WASH Cost India has adopted a phased learning approach for collecting data on water and sanitation. As a first step, several tools were developed and tested in test bed villages and peri-urban locations on a pilot basis. Based on lessons learnt during the piloting stage, these tools were modified for adoption in the large-scale sample locations.

*Sampling:* several criteria were identified and discussed at learning alliance<sup>3</sup> (advisory and working groups) meetings and it was decided to select study areas based on agro-climatic zones, as, to a large extent, these zones reflect natural criteria like rainfall, water quality, water source and scarcity. The same criteria have been followed for sanitation as for water. Further, some award winning NGP villages were selected to focus on the sanitation component. A stratified sampling design was followed to select 20 villages for collecting the cost data and ten villages for assessing the service

levels from each zone. Data collected from 20 villages spread over two agro-climatic zones was analysed and presented for this paper. A learning alliance is a group of individuals or organisations with a shared interest in innovation and the scaling-up of innovation, in a topic of mutual interest.

### 3. Methods and Tools Adopted

Both qualitative and quantitative research tools were used to elicit information at different institutional and stakeholder levels.

#### 3.1. Village base maps (using GIS and total station data)

Measurements: To show the road network, dwellings (houses), community places, institutions, places of worship, etc., overlaid with water supply and sanitation infrastructure assets, e.g. sources of water supply, pumps, pumping mains, storage facilities, distribution lines, water delivery points; drainages, individual toilets, community toilets, places of solid and liquid waste disposal, etc., and elevation contours with 1m interval using remote sensing satellite data and total station electronic surveying equipment.

Interpretation: The micro-level spatial maps helped to depict the spatial distribution of water and sanitation assets along with the associated spatial information on normative demand and actual WASH service levels. These would be important in planning, implementation, effective monitoring and critical for informed decision making for the Rural Water Supply.

#### 3.2. Secondary data collection

Measurements: Focusing on collecting information from the department and the village Panchayat (government). Information regarding investments or costs associated with sanitation infrastructure was captured following the timelines of when investments were made. Direct and indirect support costs (ExpDS and ExpIDS) were also gathered from the data in the records. Operation and maintenance costs incurred by the department and the Panchayat were gathered from the records at the district and sub-district level. At the Panchayat level focus group discussions (FGDs) were used to track information on WASH services specifically focusing on: (1) details of household sanitary toilet subsidies; (2) Institutional toilets (schools, child care centres, etc.) (3) Investments in drainage and solid disposal.

Interpretation: To arrive at the life-cycle costs of providing the sanitation services

#### 3.3. Listing of households (Rapid household survey using personal interviews)

Measurements: Household surveys assessed the socio-economic status of families in study areas in terms of caste, religion, population, educational status, availability of WASH facilities (including infrastructure, status, use, etc.). While collecting information from each household the base maps were also validated with the information on the ground.

Interpretation: To know the socio-economic profile and the access to and use of WASH assets (allowing for poverty analysis). Also, to link the Excel based attribute data to the GIS maps (in the findings).

#### 3.4. Quantified Participatory Assessments (QPA) using focus group

Measurements: QPA options pretested and finalised to assess WASH services status and delivery at water point level and at village level discussing with the women's self-help groups (SHGs) and other community groups such as scheduled caste (SC)/ST.

Interpretation: To assess information related to the functioning of WASH systems, solid and waste water management.

#### 3.5. Discussions with Panchayat members, women's SHGs and other community groups (youth and SC/ST)

Measurements: youth groups. Community perceptions are quantified using score ranges between 0 and 100 categorising the worst situations as zero and ideal situations as 100, in line with the sanitation service ladder (Potter, et al., 2010)

Interpretation: systems at the village level, participation in planning and implementation of WASH schemes, willingness to pay for better services, Panchayat response to the problems, community initiation on WASH related

#### 3.6. Sample household survey (using personal interviews and personal observation)

Measurements: 50 households were selected randomly for detailed data collection. The sample was based on income, caste, religion, land holdings and the location of the house in relation to the over-head service reservoir (OHSR) or water distribution system (problem and non-problematic)

Interpretation: Analysis of information to assess trends and patterns in WASH service delivery, the relationship between income and WASH facilities or service delivery, the extent of household expenditure on WASH, hygiene behaviour, and the status and use of sanitation.

## 4. Findings and Analysis

### 4.1. Sanitation service delivery

The Government of India and of Andhra Pradesh are focusing their efforts to improve the sanitation situation by providing subsidies for infrastructure. However, our findings reveal that household toilets are still out of reach for many in the poorer villages, and that even many households that built toilets with government subsidy are not using the toilets but converting them for other purposes. This section analyses the four sanitation service ladder parameters:

- Access to sanitation facilities (both at household and community level)
- Use of sanitation facilities
- Reliability (operational and maintenance at community and household)
- Environmental sanitation (in terms of solid and liquid waste disposal at village level)

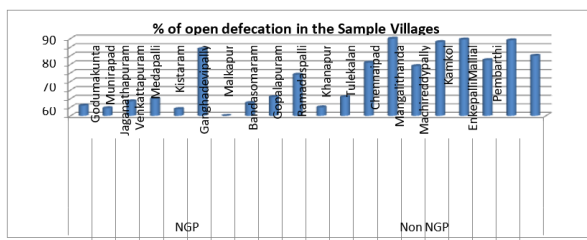
Social composition mainly consists of SC; backward castes (BC) and Other Castes (OC) communities. SC communities are at the lowest rung of the social ladder and have



constitutional provision of reservations in educational institutions and public sector jobs. BC communities are at the middle of the social ladder and have reservations in educational institutions and public sector jobs. The extent of reservation varies from State to State. OC are at the highest rung of the social ladder. ST stands for Scheduled Tribes, the category used for tribal populations.

*Open defecation:* In the sample villages, open defecation is rampant, up to 90% in some villages indicating that the majority of the population either do not have access to toilets or are not using them.

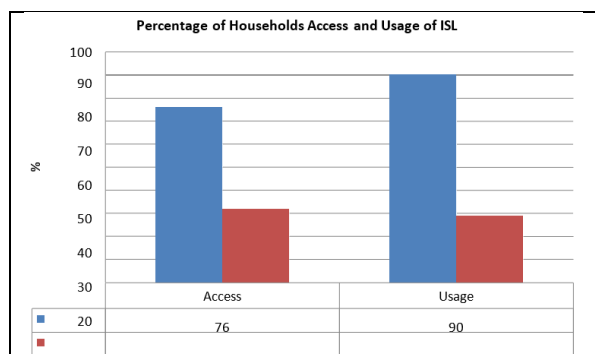
Figure 1: Graph showing open defecation status in NGP and non-NGP villages Source: Data collected by WASH Cost team from the Households in sample villages 2009/2010



The difference between NGP and non-NGP villages is substantial. NGP villages have low open defecation percentages except in two villages (Kistaram and Gopalapuram) which should not have qualified for NGP status. In theory, the NGP villages should have no open defecation, since this is why they won the award, but only one village actually demonstrated this. In the NGP villages surveyed by WASH Cost open defecation ranged from 8% to 15% showing there has been a slippage in sanitation levels, and indicating the need for government to design a follow up strategy to sustain NGP status. The situation in non-NGP villages calls for immediate attention to community level IEC activities. In many of these villages most households have access to toilets but are not using them.

*Access to and usage of Individual Sanitary Latrines (ISLs)*

Figure 2: Access and Usage of toilets in NGP and non-NGP villages



Source: Data collected by WASH Cost team from the households in sample villages, 2009

Surveys in sample villages at household level reveal that around 76% of the households in NGP villages and 32% of households in non-NGP villages have access to household toilet facilities. The higher access in NGP villages may be due to long-term efforts on sanitation promotion probably absent from non-NGP villages. Access levels vary across villages depending on household income, water availability, awareness,

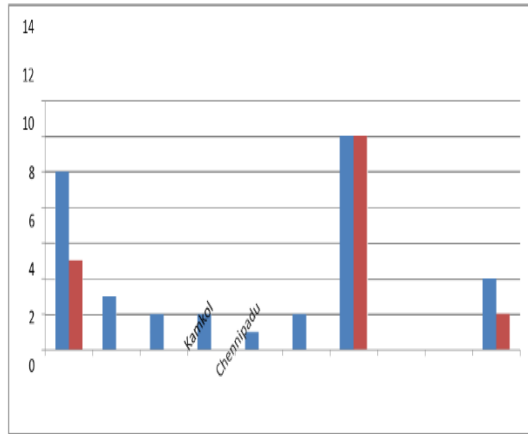
support from government schemes, etc. Despite the subsidy provided through the government programmes, sanitation is poor and requires intensive efforts from both government and communities. Factors such as low awareness levels, lack of space to construct toilets, resistance to changing a traditional practice of open defecation, and unaffordability act as major constraints to gaining access to toilets.

Service levels in terms of ISLs vary substantially between NGP and non-NGP villages. Usage levels are 14 percentile points higher in NGP villages even than theoretical access to such toilets, indicating that users must share toilets (they don't have a toilet, but they use one). Access to an ISL means having one at your own household – using your neighbour's toilet does not formally count as access. In non-NGP villages, usage is as low as 29% indicating that subsidy programmes for helping families to obtain toilets are not effective, and that even some households who own toilets are not using them. The difference between usage (29%) and access (32%) does not at first sight seem large. However, from Figure 1, we can see that two 'non-NGP' villages (Ramadaspalli and Khanapur) have low levels of open defecation, more in line with the NGP village figures – Ramadaspalli has been nominated for an NGP award. If these villages were taken out of the figures, the gap between having a toilet and using a toilet would be much more pronounced in the remaining non-NGP award villages. Interviews with households reveal that fear of the pit getting filled up, bad smells, a preference for open defecation, lack of awareness about the ill-effects of poor sanitation and poor hygiene practices, and cultural and traditional taboos about men and women using the same toilet are all factors that influence use. This indicates that investments made in installing ISLs can be wasted as there is no subsequent support (IEC/training) to raise awareness, despite in theory 10% of the budget being set aside for this. The non-use of toilets may be connected to infrastructure construction being driven by subsidy rather than a demand driven approach to toilet use. This situation is alarming and should persuade the government to rethink their efforts on comprehensive sanitation campaigns, which rely on using the media and triggering exercises as in CLTS (community-led total sanitation). To illustrate the magnitude of the problem the following GIS map (Figure 3) indicates the toilet ownership and usage patterns in one non-NGP village. Source: Data collected by WASH Cost team from the households in sample villages 2009.

Map 1 shows toilet usage in Tulekalan where the predominant colour (red) shows that many households do not have toilets, while the blue boxes show households with toilets they do not use, citing the reasons above. Many households cite as reasons for not constructing toilets, that the subsidy does not cover the real costs, poor economic conditions, caste status 32 institutional toilets were surveyed in the ten selected villages. Of these 32, three were at Anganwadi day centres and the other 29 were in schools. The majority of schools did not have toilets, but of those that had them, the majority had separate toilet arrangements for boys and girls. However, only three of the 29 school toilet blocks were being properly used. The main reasons for school toilets not being used are insufficient number of seats & toilets for boys and girls, improper maintenance, bad smell, lack of cleanliness etc.

Interviews with some of the school teachers revealed how dysfunction can lead to conflict and to giving up. One said, “Since there are no funds to appoint Ayahs (attendants) to maintain them, we gave the responsibility to the children, but the parents objected and started fighting with us, hence locking the toilet was the best option as we are busy with our academic studies.” Another teacher revealed that “we do not have any funds for repairs”. This underlines that the lack of funds for operation and maintenance and how this leads to an asset like a school toilet being unused.

Figure 3 Access to and usage of school toilets in the selected sample villages



**Reliability:** The WASH Cost sanitation service ladder lists ease of operation and maintenance and robustness of the structure as the indicators for assessing reliability. In the sample villages, the facilities are relatively new and there is little data available. But one major finding is that when the household latrine pits filled up, some households stop using the toilets and revert to open defecation.

**Main conclusions on sanitation services (toilets):** The overall sanitation services for faeces and urine received by the households can be compared with the WASH Cost service level ladder published in 2010 (Potter, A. et al., 2010) from which the composite indicators are reproduced here as Figure 4. This reveals that in both NGP and non-NGP villages, services are basic to below service level indicating the large gap that needs to be addressed. The comparison of service levels in Andhra Pradesh with the WASH Cost service ladder is made below in Table 2. No service, limited service and basic service are the three levels of service that occur most frequently.

Figure 4

	Accessibility	Use	Reliability (O&M)	Environmental protection
<b>Highly improved service</b>	Each family dwelling has sufficient toilets for all members	Used by women, men and children, and infant faeces are disposed in toilet.	Routine O&M service requiring little user effort	Positive environmental impact, e.g. productive reuse of safe byproducts
<b>Improved service</b>	Each family dwelling has a toilet in the compound		Regular O&M service requiring minimal user effort	Non problematic environmental impact/ Safe disposal
<b>Basic service</b>	Cement slab (hh or shared) at national norm distance from hh	All family members use toilets	Weak O&M requiring high user effort	
<b>Limited 'service'</b>	Platform separates faeces from user	Used by some family members	O&M difficult to access/ doesn't happen	Significant environmental pollution, increasing with increased population density
<b>No 'service'</b>	No separation between user and faeces, e.g. open defecation	No use	Not applicable	

Table 2 Comparison of service levels received in Andhra Pradesh against the Service

	Overall status	Access	Use	Reliability	Environmental Sanitation
NGP	Limited and Basic	Basic to improved	Basic	Not enough Information	Limited service
Non-NGP	No service and Limited	No Service or Limited	Limited	Not enough Information	No service to limited

Status of environmental sanitation (solid and liquid waste disposal systems)

Sanitation is not only about toilets. Community perceptions of solid and liquid waste disposal have also been quantified using QPA methodology, as described above in Table 2. As with toilets, a range of possible situations were matched to a range of scores between 0 (no service and very poor conditions) and 100 (an ideal service and situation). Five levels of service have been identified from the worst case, where rubbish is thrown everywhere to the ideal where rubbish is composted or recycled and sold. A 'benchmark' basic acceptable service was set as the midpoint, where all households take their rubbish to the village dump or there is a system of solid waste collection. These options were pretested and revised to make sure that all possible situations are captured from worst to ideal. Community members can give scores and cite the reasons for giving that score. The field investigators are intensively trained in this methodology and the options are carefully documented.

Figure 5 shows how in many villages there are no well-organised systems of solid waste management. The scoring patterns reveal that majority of the non-NGP villages did not reach even the basic service benchmark, being limited to the worst and poor conditions. While the NGP villages are above the bench mark, only one has reached the ideal. NGP villages had a system of collecting the garbage from the houses but the waste was dumped on the outskirts of the village, causing environmental pollution. This requires special attention from the Village Water and Sanitation Committees and Panchayats to plan solid disposal systems which do not hurt the environment and from government to help them design such strategies.

*The costs of sanitation and hygiene*

The main cost components of rural sanitation occur at household level and community level. At household level the main investment is in ISLs. Households also spend on providing drainage systems for household waste water to the main drainage lines and on hygiene practices like water filtering, boiling, handwashing and cleaning materials and chemicals etc. In most cases the household investments are part of or due to the promotional activities of the department which include subsidies, incentives, etc. The TSC governmental guidelines give the (normative) unit cost of an

individual latrine as US\$ 63 towards which the households are expected to make a 10% (i.e. US\$ 6) contribution. The remaining US\$ 57 is provided by the department as a subsidy. Of these costs, about 20 per cent goes towards labour costs (pits + mason), 70-75 per cent towards materials (cement + sand + metal + rings + pipes + bends + steel + slab, etc.) and the remaining (5 to 7 per cent) towards the pan. There are cost variations across the villages, which could be due to variations in transport and labour costs. In reality the costs are much higher than the normative unit cost – as much as US\$ 160 - US\$ 227 per household. This explains why, despite the '90 per cent' subsidy, household toilets remain out of reach for many.

At the community level, the major investment includes public or common toilets (at schools<sup>8</sup>, public places, and centres such as the child care Anganwadis), drainage systems, solid and liquid waste disposal systems, training and awareness programs, etc. The usual infrastructure is single pit toilets, but double pit toilets and septic tanks are also in limited use. No differentiation between the toilet technologies has been made for analysis. When assessing the cost of village level sanitation facilities all investments made at household level and community level are combined.

The cost components of sanitation (Fonseca et al., 2010) include capital expenditure (CapEx) both hardware and software, capital maintenance expenditure (CapManEx), operational and minor maintenance expenditure (OpEx), direct support costs (ExpDS) and indirect support costs (ExpIDS). Data analysis reveals that costs are available mainly for CapEx followed by OpEx and indirect support costs, while CapManEx and direct support costs are almost negligible.

#### *Capital expenditure (CapEx) for sanitation facilities*

For a basic level of service, the average capital expenditure costs of sanitation per capita per year are US\$44.08 in NGP villages and US\$ 26.36 in non-NGP villages, which are not far short of the per capita costs of about US\$ 55 a year for water supply (Reddy et al., 2010). These figures cover expenditure on toilets, solid and liquid waste and household expenditure related to hygiene (buying soap for example).

For a higher level of service, with drainage systems, in one NGP village, Muneerabad, the capital expenditure costs of sanitation per household are approximately US\$ 200. This village is a special case because it is on the outskirts of Hyderabad and generates revenue from land transactions. However, similar observations were made in Ankushapur during the WASHCost test bed phase (Reddy et al., 2009).

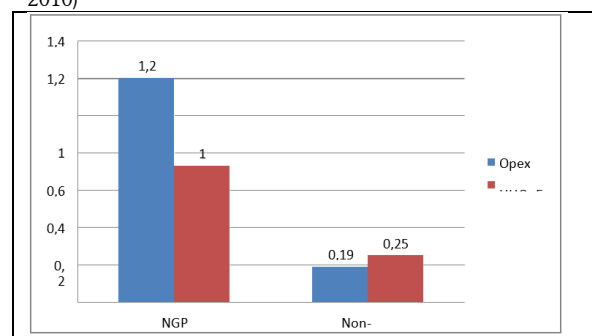
Figure 7 shows that the costs of sanitation provision is high in NGP villages which is what would be expected as these villages have high access to ISLs and open /underground drainage systems. Some NGP villages, such as Gangadevipally, have constructed soak pits instead of drainage systems. This strategy improves water recharge within the village but it can also increase the risk of groundwater pollution. In the non-NGP villages the costs of sanitation are as low as US\$ 0.3 per capita indicating the neglect of the sanitation sub-sector within the Department of Rural Water Supply and Sanitation (RWSS).

Household sanitation expenditure ranges between US\$ 15 and US\$ 133 with households investing more in NGP villages than in non-NGP villages, indicating that higher service delivery incurs higher costs. Households contribute to capital expenditure to complete toilet construction either in cash or kind, since the unit cost which determines the subsidy level is much lower than the real cost of toilets. Although there are different low-cost technologies available, households are often not aware of them, and sometimes, they choose higher quality toilets as they are regarded them to be permanent assets to their houses. Although the subsidy is a financial incentive to motivate and promote the toilet construction, the amount allocated is still too low to attract all the income and caste categories. For many of those on low incomes, the costs involved in securing even a basic service are still out of reach.

#### *Operational and minor expenditure (OpEx) on sanitation facilities*

The operational and maintenance costs invested by the Panchayats and department to provide the sanitation services at village level include the materials and chemicals used for sanitation, salaries of the employees who clean the drains and collect the solid waste from houses etc. At the household level operation and maintenance costs include emptying of pits, small repairs and replacements and costs of hygiene material such as soaps and cleaning materials such as brushes, liquid detergents etc. The data presented here on sanitation OpEx needs to be viewed with caution because most records do not contain all the information and some data is not available.

Figure 5 Operational and minor expenditure on sanitation service provision by RWSS and households, per capita, per annum (US\$ 2010)



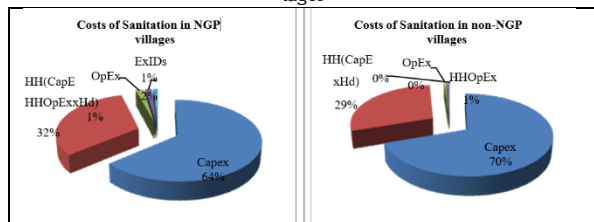
OpEx costs varies from USD\$ 0 to USD\$ 1.2 per capita at village level indicating the low priority given to operation and maintenance (O&M). Household expenditure on O&M is also relatively low given the basic service level. Figure 8 shows that in non-NGP villages the O&M costs are as low as USD \$0.2 and the household level costs are relatively high in non-NGP villages indicating the negligence on sustaining even the basic service being provided. In non-NGP villages households are spending more per capita than the RWSS on sanitation OpEx. This indicates that the amounts allocated and spent on OpEx are not adequate to meet the desired service levels. FGDs reveal that the Panchayats and Village Water and Sanitation committees receive no capacity building or funds for this purpose.

OpEx costs are difficult to capture as each component of the sanitation chain is dealt by different departments with different funding streams. School toilets are funded by the Education Department, Anganwadis by the Women and Child Welfare Department, and solid and liquid management by the Panchayat Raj Department. The overall coordination and responsibility lies with the RWSS, but coordinating these activities rarely is given a high priority and the department lacks the staff to undertake these activities. Poor coordination is also due to non-functional district, mandal and village level water and sanitation committees.

#### Indirect support costs (ExpIDS)

ExpIDS: Only in one NGP village the indirect support costs are available costing about USD \$0.7 per capita while in non-NGP villages the costs are not available or not incurred. Relative composition of sanitation costs

Figure 6 Breakdown of sanitation costs in NGP and non-NGP villages



It can be seen from the Figure 6 that the capital costs (State and household) amount to 96% of total costs in NGP villages and as much as 99% in non-NGP villages, showing the emphasis on infrastructure provision. Of this, households contribute about 30%, even in non-NGP villages where services are poor. Households indeed spend far more than the 10% that is their share of the basic toilet costs under the subsidy scheme. These charts show that the O&M costs and indirect support costs crucial for sustaining sanitation services are negligible.

### 5. Key Findings and Conclusions

Overall, the analysis reveals that a supply-side philosophy is evident in the sanitation sub-sector. Almost the entire public spending was on capital expenditure hardware. Other cost

components are absent (capital expenditure software and capital maintenance expenditure) or received negligible allocations. Support costs especially important in sanitation are absent despite policy pronouncements after the TSC. The influence of sector reforms, which suggest that at least 10% of allocations should be directed towards support costs, appears to be limited in the sample villages. The substantial amounts spent by households on sanitation expenditure indicate that the infrastructure allocations set in government guidelines are not enough.

Perhaps sanitation costs presented here are not the full coverage costs, as they reflect only the actual cost at the existing level of service coverage. Assuming that each household will have its own individual latrine, the real life-cycle costs will be twice that of present estimates. The cost of toilet ranges from US\$150 to US\$ 227 depending on the location and technology. The underground drainage system costs about US\$ 88 per capita and an open drainage US\$ 26 per capita for the existing level of service. These estimates indicate that the cost of providing sanitation could be as high as, if not more than, the costs of drinking water provision if comprehensive sanitation were to be provided beyond existing levels to ensure environmental protection. More funds need to be allocated for improved sanitation service levels. These costs would be less for alternative options like soakpits, open drainage, recharge pits etc.

Although the TSC addressed access and use of sanitary facilities, efforts seem limited compared to what is needed to achieve the desired impact. A lot needs to be done to ensure that the facilities are used by households, especially individual toilets. IEC activities need to focus so the demand is generated for toilets and their use. Solid and liquid waste management systems have not been established at village level, and this also requires attention. The department of RWSS should give special focus to a sanitation mission with proper allocations to cover the solid and liquid management systems. Government should encourage Panchayats to design comprehensive village water and sanitation plans. These need to be implemented with proper follow up and with regular IEC activities. Planning and budgeting should be based on a life-cycle approach with timely release of funds to sustain services and to avoid the ad hoc funding approaches practised.

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 Usage means use of the toilet by all the family members at all times. This paper does not discuss in detail WASHCost data on hygiene behaviour in families



**SEXUAL HARASSMENT IN UNORGANISED SECTOR: INVISIBLE REALITY**

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Keywords: Sexual Harassment, Workforce, Gender Based Discrimination

Abstract

In a country with as large a workforce as India, Labour Welfare is an important issue that needs adequate attention especially welfare of the women workers. Despite over six decades of existence of the fundamental rights guaranteed in the Constitution of India, the majority of women in India are still denied of equality of status and of opportunity and social, economic and political justice. Gender based discrimination still prevails in Indian society. Sexual harassment in workplace is treated as violation of women's right to equality, life and liberty. It creates an apprehensive and hostile work environment, which discourages women's contribution in work, hurting their social and economic empowerment and the goal of comprehensive growth. If true women empowerment is to be achieved, every workplace must ensure a safe work place for women and it is the duty of the employer to provide a safe work environment. This paper analyses the plight of women in the unorganised sector regarding sexual harassment and it highlights all the existing laws like Sexual Harassment of Women at Workplace Act, 2013 including the Vishaka guidelines to comment on the legal position of sexual harassment at the workplace as it stands today. It also examines the criticisms of law around sexual harassment through the perspective of women in the unorganised sector.

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**1. Introduction**

“You can tell the condition of a nation by looking at the status of its women”

- Pandit Jawahar Lal Nehru

The relation between nation's prosperity and women condition can be understood by this famous quote. The most significant and highest social movement continuing is movement for empowerment of women. The foremost goal for women empowerment is to improve the quality of life of women but it has also deep ramifications in social, economic and political scenario of body polity. The position of women since long has been pathetic in all aspects of life and the domination by males has been throughout a matter of history. Women could not feel independent barring a few exceptions. Working women in India face lot more problems compared to their counterparts of the world. A serious problem faced by the working women is workplace sexual harassment. Women are weak and vulnerable and the male employees and employers try to take sexual favours from women employees in return of other benefits and promotions.

In Indian criminal law, Sexual Harassment of Women at Workplace has not been enunciated as a juridical category of crime. It was only in 1997 that, in the realm of juridical interpretation, the object sexual harassment of working women was named and defined in Vishakha and Anns v. Union of India. This does not imply there are no related laws in the Indian Penal Code (IPC) that may be evoked when a woman is sexually harassed. However, these related laws are framed as an offence that either amount to obscenity in public or acts seen to violate the modesty of women under sections 294, 354 and 509 of the IPC. While Section 294 IPC is a law applicable to both men and women, the latter two are specifically oriented towards women.

Before Vishaka judgment, women facing sexual harassment had to lodge a complaint for the criminal assault of women to outrage women's modesty under Section 354 of the IPC and under Section 509 that punishes individual/individuals for using a word, gesture or Act intended to insult the

modesty of a woman. Filing the case for sexual harassment and interpretation of outraging women's modesty is left to the discretion of the police officer.

**2. Women in Unorganised Sector**

The term 'Unorganised' is often used in the Indian context to refer to the many women and men engaged in different forms of employment. These forms include home based work, employment in household enterprises, small units, self-employment, agricultural workers, construction works, domestic work, and a innumerable other forms of casual or temporary employment. Utilizing contract workers to run canteens or do housecleaning and gardening, employing teachers on hourly basis, and outsourcing jobs such as data entry are examples that may unravel the multifaceted nature of employment in the unorganised sector in the country. It includes related activities such as agriculture and forestry, livestock and fishing, and non-agricultural activities.

However, it is difficult to provide a concise and complete definition of unorganised labour it refers to workers who are scattered, loosely associated and fragmented, sometimes separated into different occupations. Unorganised workers do not formally join any union or recognized union with limited ideology, goals, and areas of expertise. The unorganised sector of the Indian economy is the largest sector in terms of worker employment. The Bill of National Commission for Enterprises in the unorganised sector, 2006 introduced by the Government of India, broadly divides the functions of the organised sector into self-employment and wage workers.

The term unorganised sector was first used by Hart in 1971, when he described the unorganised sector as part of the urban workforce which falls outside the organised labour market. In the unorganised sector, working conditions are not officially registered and working conditions are not protected by law. Therefore, the problems of unorganised women workers are not known. Due to population growth and urban migration, the active labour force is growing much faster than jobs in the organised sector. The focus of development policies gradually shifted from a clean economy to equity and growth. Thus, interest arose in sectors outside the organised

economy that provided livelihoods for the vast majority of the poor. Hence, the conception of the unorganised sector was born. The purview of unorganised sector includes self-employed workers with or without family workers and small businesses with fewer than five workers.

The National Commission for Women estimates that 94% of the total female workforce is in the unorganised sector. Many women as workers and producers in the unorganised sector, where earnings are little, employment seasonal and insecure, supportive services are inadequate or even non-existent, growth opportunities few and collective organisation weak, has brought into sharp focus the failure of the mainstream to alleviate their predicament. Although workers, despite sex, are exploited in the unorganised sector, women suffer more by the fact of their gender.

According to the data released by the World Bank in June 2020, India's female labour force participation (FLFP) is the lowest in South Asia. From 30.3 percent in 1990, India's FLFP dropped to 20.3 percent in 2020. According to the Economic Survey of India- 2020, the share of female workers has declined to 25.3 per cent in 2017-18 to 33.1 per cent in 2011-12. The majority of women in India do home based work, are self-employed, work in household establishments, work in small units, and work as agricultural labourers, construction workers, domestic workers, and many other types of temporary employment, both in rural and urban areas. In the workplace, women are placed in various unfavourable positions due to gender differences or prejudices like inequality in pay, lack of maternity benefits, sexual harassment, malnutrition and ill health. Among these most important is sexual harassment in the workplace.

### 3. Sexual Harassment of Women

Sexual harassment is a heinous crime which not only hampers physically and mentally, but has a great impact on women socially and physiologically. It cannot be termed as a new occurrence but fast changing workplace equations have brought this dark underground reality to the surface. Sexual harassment at the workplace has become a common incidence in every part of the world and India is no exception to the same. Due to the silence surrounding the issue, it is not normally discussed, but its existence can be felt in almost every workplace where women have entered and which otherwise have been traditionally dominated by men. Women belong to whichever Section of the society, directly or indirectly, such issues trouble them. Be it organised, unorganised, public or private, service or professional/ education, no sector remains untouched by this problem.

Sexual harassment is not what most people commonly think of it like verbal comment, inappropriate touching or sexual assault. It has numerous ways and forms. Its new forums or variables are being introduced every other day in this dynamic technological era. It may also include offensive looks, gesture, indecent proposals, writings or display of sexually graphic pictures through SMS or MMS, passing comments about woman's dressing sense, body or behaviour and any other unwelcome or objectionable remark or inappropriate conduct. Like any other sex-based crime, it is also related to power relationship, domination and control. The victim is often confused, humiliated or frightened. She may not know how to share her experience and with whom to share. It

appears to be mild but has rigorous consequences. Sexual assault degenerates to its gravest form of rape beginning with unrestrained sexual harassment in middle forms, which remain uncontrolled.

#### *Pre -Vishakha*

The discrimination against women in sexual harassment has been rampant throughout the ages and has always been a matter of concern for the whole world. Various international human rights organisations have been focusing on improving and protecting women's rights. The United Nations has acknowledged that women's rights are synonymous with human rights and the same was reiterated in the Beijing Declaration. Many International human rights movements have raised their voice against abuse and violence against women in general.

Over the past 50 years, various international organisations have been focusing on promoting and protecting human rights. The United Nations has recognized that women's rights are synonymous with human rights. The same was reiterated in the Beijing Declaration, 1995. International women's human rights movements have raised their voice against many forms of violence and harassment against women in general. Discrimination includes political rights, marriage, family and employment. In 1979, the United Nations General Assembly adopted CEDAW and the convention emphasised that discrimination and attacks on a woman's dignity violated the principle of equality of rights. This Convention, to which India is a party, requires state parties to take all appropriate measures to eliminate discrimination of women in employment.

India is making rapid progress in its development goals and to a greater extent women are joining the workforce. It is the duty of the state to provide for the welfare and respect of its citizens to prevent frustration, low self-esteem, insecurity and emotional distress, which can affect effectiveness of the business, leading to loss of production and loss of reputation to the employer.

Sexual Harassment in the workplace has been a major concern of the women activists in India since the early 80s. During the 1980s, revolutionary action by the Forum Against Oppression of Women from Mumbai against the sexual harassment of nurses in public and private hospitals by patients and their male relatives, ward-boys and other hospital staff; of air-hostesses by their colleagues and passengers; of teachers by their colleagues, principals and management representatives; of PhD students by their guides and so on and so forth received a lukewarm response from the trade unions and adverse publicity in the media. But these activities did not prevent the women's rights activists. Large number of working women took systematic action against Sexual Harassment at the Workplace.

In the 1990's, one of the most controversial and brutal gang rape at the workplace, a Rajasthan state government official tried to prevent child marriage as part of her duties as a officer of the Women Development Programme. After a humiliating legal battle in the Rajasthan High Court, the rape survivor did not get justice and the rapists were acquitted. This prompted the women's rights group called Vishakha to filed public interest litigation in the Supreme Court of India.

The PIL argued there was a need for legal intervention to ensure the constitutional rights of women to work in a violence-free work environment enshrined under Art 14, 19(1)(g) and 21.

#### *Post-Vishakha*

In India, there was no statutory definition of sexual harassment before 1997. The Supreme Court passed a milestone judgment in Vishakha in which it laid down guidelines to be followed by workplaces in dealing with complaints about sexual harassment. Here, the Supreme Court for the first time recognized sexual harassment as an unwelcome sexual gesture or behaviour aimed or outraging the modesty of woman directly or indirectly which cannot be justified in guise of normal relationship.

It was held by the Hon'ble Supreme Court that these mandatory guidelines known as Vishaka guidelines would be strictly observed in all work places for the prevention and enforcement of the right to gender equality of the working women and it aimed towards resolution and prevention of sexual harassment. Vishaka guidelines mandates that all employers in organised and unorganised sectors provide safe work environment for women and it applies to all working women whether working part time or full time, on contract or in voluntary/honorary capacity including students. These legally binding guidelines expressly prohibit sexual harassment at work place putting a lot of importance on suitable preventive and curative measures.

Various Courts observed occasionally in the past that the guidelines framed by the Hon'ble Supreme Court in Vishaka judgment have not been followed in workplaces strictly. The increasing rate of women in work participation made it mandatory for enacting a comprehensive legislation to prevent sexual harassment and providing a redressal mechanism. At the beginning, perhaps the current legal position of sexual harassment includes no workers outside of an office setting. Thus, 90% of women in India, employed in the unorganised sector are outside the purview of the guidelines.

#### **4. Justice Verma Committee Report**

Despite these developments, sexual harassment assumed alarming proportions and there arose a extreme need for amendments and advancements. And thus, a three-member commission was constituted on December 23, 2012 in 'the wake national outrage over the December 16 gang rape of a 23-year-old girl in Delhi'. The commission, headed by former Chief Justice of India, Justice JS Verma, with the former Solicitor General, Gopal Subramaniam, and Justice (Retd) Leila Seth as members was constituted to review laws for sexual crimes and submitted its report to the government on 2013. The committee identified 'failure of governance' as the basis for sexual crime and it has criticised the government, the police and even the public for its lack of concern, and has recommended dramatic changes in the existing legislations. Some of the important recommendations made by the committee are below:

- Domestic workers should be covered within the purview of the Bill.
- Under the Bill the victim and the respondent first must attempt conciliation. This is contrary to the Supreme

Court judgment in Vishakha vs. State of Rajasthan which intended to secure a safe workplace to women.

- The employer should pay compensation to the victim who has suffered sexual harassment.
- The Bill requires the employer to constitute an internal complaints committee to which complaints must be filed. Such an internal committee defeats the purpose of the Bill and instead, there should be an Employment Tribunal to receive and adjudicate all complaints.
- As far as the constitution of the local complaints committee, the Bill provides that every District Officer shall constitute a local complaints committee in the district. It also prescribes that an additional local complaints committee shall be constituted at the block level to address complaints in certain cases. However, the jurisdiction and functions of these commissions is unclear. This needs to be clarified.

#### **5. Legislations to Combat Sexual Harassment**

In India along with many other special acts and welfare legislations, the IPC, 1860, The code of Civil Procedure, 1908; The code of Criminal Procedure, 1973; The Indian Evidence Act, 1872 deals with this issue and provide for specific protection of women from such abnormality. Besides these, various landmark judicial pronouncements dealing with sexual harassment at workplace filled up the vacuum till the enactment of the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 herein referred as POSH Act.

Sexual harassment is termed as a violation of the fundamental rights of a woman to equality under Articles 14 and 15 of the Constitution of India and right to life and to live with dignity under Article 21 of the Constitution of India. Sexual harassment is also considered a violation of a right to practice any profession or to carry on any occupation, trade or business which includes a right to a safe environment free from sexual harassment.

In the Factories Act, 1948, specific provisions are incorporated and it provides separate enclosed accommodation (Latrines and Urinals) and adequately screened washing facilities for male and female workers. No woman shall be required or allowed to work in any factory except between the hours of 6 am and 7 pm. In Industrial Disputes Act, 1947 lists out the incidents of "unfair labour practices" and Rule 5 Schedule 5 of the ID Act could be used in sexual harassment cases.

#### *Sexual Harassment of Women at Workplace (Prevention, Prohibition & Redressal) Act, 2013*

Many women's rights organisations together approached the Court highlighting several cases of sexual harassment and urging the efficient implementation of the Vishakha Guidelines. After that, the Government of India requested the National Commission for Women (NCW) to draft legislation to prevent sexual harassment. Several women's organisations were part of the drafting committee. The Bill known as 'The Sexual Harassment of Women at the Workplace (Prevention and Redressal) Bill, 2004' was introduced in the Parliament. The Bill contained provisions for the prevention and redressal of sexual harassment of women at the workplace, or

arising during and in their employment and matters connected thereto, under the principles of equality, freedom, life and liberty as enshrined in the Constitution of India.

After 16 years from the Vishaka judgment, India finally enacted the POSH Act to prevent sexual harassment against women at the workplaces from 9th December 2013 as the date on which the Act came into force and on the same day, the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Rules, 2013 are also came into force.

This Act defines sexual harassment as an Act includes any one or more of these unwelcome acts or behaviour (whether directly or by implication), namely

- Physical contact and advances, or
- A demand or request for sexual favours, or
- Making sexually coloured remarks, or
- Showing pornography, or
- Any other unwelcome physical, verbal, nonverbal conduct of sexual nature.

## 6. Character of the Legislation

The Act not only symbolizes the India's Commitments under CEDAW but also reflects culmination of the Apex Court's initiative towards a meaningful legislation and safer work place environments for women. This reflects the constant toil, relentless efforts and workouts by various organisations and public-spirited individuals. This is a positive step towards recognition of women's basic rights as human rights as included in the Vienna Accord 1994 and the Beijing Women's Conference 1995. The objective of the Act is to provide safe, secure and enabling environment to every woman despite her age or employment status free from all forms of sexual harassment by fixing the responsibility of the employer and District Officer by laying down a statutory redressal mechanism.

### *Application of the Act to Unorganised Sector*

No definition of workplace was provided either in the Conduct Rules or in the decision of the Apex Court in Vishaka's Case. But as per Section 2(o) of the POSH Act, 'workplace' includes and covers both organised and unorganised sectors. The ambit of the definition of workplace has been widened enormously to enable it to embrace every possible sector and place. A dwelling house or any place visited by the employee arising out of or during and during the employment also comes under the ambit of workplace as per this definition.

Section 2(p) of the Act defines 'Unorganised sector' and it includes all private unincorporated enterprises including own account enterprises engaged in any agriculture, industry, trade or business sectors are also covered under this Act. By these provisions, it extends a security to many employees working in private sector including domestic workers. The framers have tried to rectify the existing lacunae by bringing every possible unorganised sector into its scope and ambit.

### *Constitution and Working of Complaint Committees*

Women in the unorganised sector, given the be short of of formal institutions to shelter them despite the lived reality of

dealing with various issues individually on daily basis, including sexual harassment, are forced to curtail and hide their agency to present themselves as victims of sexual harassment. The present Act prescribes two types complaint redressal mechanisms – Internal Complaint Committee (ICCs) and Local Complaint Committee (LCCs). Besides ICC that every company is mandated to have, the district administration is supposed to set up LCCs that woman in organisations with less than ten employees and domestic workers can approach.

The analysis about constitution of ICC has been dealt with in a three-pronged manner. Primarily, in-house management of complaints may Act as a deterrent to victims. Second, the composition of the committee members should have compulsorily been an odd number to enable the committee to reach a majority-based decision. Third, Section 3(c) mandates the appointment of a member from a non-governmental organisation (NGO) or association committed to the cause of women. There is no threshold for this qualification and it has been left open to interpretation. Further, including third-parties such as NGOs as members of the committee will also raise concerns of confidentiality due to the sensitive nature of such internal matters. The most conspicuous inadequacy is that the internal committee comprises persons with no legal qualifications. This absence of training specifications for the ICC will result in an unprepared team and obstruct justice.

Under this Act, the power to discharge the functions including that of constitution of LCC are to be conferred on a District Officer who can be the district Magistrate or Additional district Magistrate or the Collector or Deputy Collector as notified by the appropriate government. But, in absence of the District Officer who may exercise the functions, is not particularly mentioned under this Act. In such a case, it is impossible that LCC would be constituted in various districts, just because the presiding authority is unavailable or not present. The LCC has not been set up in many districts and State Governments had taken no initiative for implementing this Act.

Even in the organised sector, when there is a mechanism in place, there are multiple hurdles from stigma and segregation the victim might face to losing employment itself. There is also the threat among victims they might not be believed and taken seriously, whether they are working in small organisations or multinational companies. In the unorganised sector and among contract workers, where the very nature of their employment is not secured, the challenges in reporting harassment are manifold. In such cases, trade unions might be the only resource available to these workers.

Recently the Madras High Court heard a public interest litigation filed by Karuppusamy of Sathyamangalam in Erode district of Tamil Nadu. Using information, he got through RTI, he sought redressal for women who were sexually harassed in factories, spinning mills and other similar establishments who had no hope of getting redressal because their establishments had no ICCs even though it was mandated by law.

under Sec. 21 postulates that the Internal committee or the Local committee shall in each calendar year prepare an annual report and submit the same to the employer and the



District Officer. The Madras High Court responded to his case, by directing the collectors of all 32 districts in the state to file individual reports on steps taken by them to constitute the LCCs .

Women working in unorganised sector who need as much protection as their sisters who work in established organisations. But they are in a way wrapped in their own shells. Many women and girls from garment factories, tea estates, Cotton mills, Cracker factories, cashew processing units, fish processing units and many other small establishments face routine sexual and physical harassment and it must be tolerated if they need to hold on to their jobs. They do not know of their rights and simply they are trying to avoid the situation by protecting each other. There is no committee in existence to complain about harassment. They are distrustful about patriarchal trade unions often dominated by their own aggressors. They have learnt over generations to be passive and to put up with the abuse, the physical punishments and the crude manhandling and sexual assaults for their livelihood.

## 7. Conclusion and Suggestions

The unorganised sector is larger in rural areas in comparison with urban areas. The female participation in this part is more than male. Women worker face grave problems and their condition is highly volatile and have difficulties related to their work such as insecurity, wage discrimination, absence of medical and accidental care, lack of continuity etc. Along with all these problems, sexual harassment of women workers in unorganised sector is a grave issue.

After so many years of struggle finally, we have the special legislation for sexual harassment with specific definitions like sexual harassment, aggrieved woman and workplace.

We have excellent legislation, but of what use is it if the law is not properly implemented? When even established organised institutions do not have working ICCs and the government is silent in constituting LCCs, what chance do these women have of ever getting a committee which will address their problems? The position with the current legislation is the same. On one hand, we have a proper legislation defining sexual harassment at workplace and proper guidelines for everyone on how to deal with this sensitive issue the absence of redressal mechanisms and the lack of monitoring mechanism is also the reason for the widespread exploitation of women at workplace and increasing number of incidents of sexual harassment in unorganised sector who are most prone to this brutal Act. Government's sloppy approach is also the reason for prevalence of sexual harassment at workplaces as they have failed to ensure compliance of the Act.

Another complexity is the victim woman facing the sexual harassment alone, has as always to prove her accusation beyond reasonable doubt to get justice. Due to this, several cases of sexual harassment are borne in silence and go unreported due to lack of redressal mechanism. To win the battle against the sexual harassment, we need to bring change in the mindset of the people and there is a need to spread awareness.

“Raise awareness rather resistance”

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**WOMEN'S EMPOWERMENT AND ECONOMIC DEVELOPMENT**

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Keywords: Women Empowerment, Gender Equality, Development, Theory of The Household, Marital Bargaining

Abstract

Women's empowerment and economic development are closely related: in one direction, development alone can play a major role in driving down inequality between men and women; in the other direction, empowering women may benefit development. Does this imply that pushing just one of these two levers would set a virtuous circle in motion? This paper reviews the literature on both sides of the empowerment-development nexus, and argues that the inter-relationships are probably too weak to be self-sustaining, and that continuous policy commitment to equality for its own sake may be needed to bring about equality between men and women.

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**1. Introduction**

The persistence of gender inequality is most starkly brought home in the phenomenon of "missing women". The term was coined by Amartya Sen in a now classic article in the *New York Review of Books* (Sen, 1990) to capture that the proportion of women is lower than what would be expected if girls and women throughout the developing world were born and died at the same rate, relative to boys and men, as they do in Sub Saharan Africa. Today, it is estimated that 6 million women are missing every year (World Development Report, 2012) Of these, 23 percent are never born, 10 percent are missing in early childhood, 21 percent in the reproductive years, and 38 percent above the age of 60. Stark as the excess mortality is, it still does not capture that throughout their lives, even before birth, women in developing countries are treated differently than their brothers, lagging behind men in many domains. For each missing woman, many more women fail to get an education, a job, or a political responsibility that would have obtained if they had been men.

The relationship of gender and development is a central issue in development research and policy today. Some of the great interest in the topic stems from empirical findings suggesting that empowering women may not just be a worthy goal in its own right, but may promote overall economic development. Specifically, there is evidence that when transfer payments are given to women rather than to their husbands, expenditures on children go up disproportionately. If higher spending on children promotes human capital accumulation, this suggests that empowering women may ultimately lead to faster economic growth. Already, much practical development policy.

Correlations between Female Income and Child Outcomes  
There exists a sizeable literature that uses household data to document correlations between gender-specific resources and outcomes, specifically regarding spending on children and children's outcomes. For an early survey of this literature see Haddad, Hoddinot, and Alderman (1997). Since these studies are based on observational data, one cannot rule out that the results are driven by unobserved heterogeneity, i.e., there may be unmeasured ways households with larger female income shares are special. But the findings in this literature are suggestive, and they motivate much of the subsequent research.

Hoddinot and Haddad (1995) uses cross sectional data from the 1986/87 Living Standards Survey of the Côte d'Ivoire. The authors find that an increase in the wife's share of

income is associated with an increase in the share of expenditures on food, and a decrease in the share of expenditures on alcohol and cigarettes.<sup>1</sup> Based on the same data, Haddad and Hoddinot (1994) find that a higher female income share is associated with a better nutritional status of children (as measured by height for age), suggesting that at least some of the higher food expenditures are child related.

**2. Other Types of Female Empowerment**

Whereas the papers discussed so far are concerned with the effects of female access to financial resources, another branch of the literature puts the spotlight on measures of female bargaining power. Thomas (1994) uses the relative education level of the wife compared to the husband as a proxy for bargaining power. Based on data from the United States, Brazil, and Ghana, the paper documents that the mother's education has a bigger effect on the nutritional status of girls (measured by height for age) compared to the father's education, while the opposite is true for boys.

Another important determinant of bargaining power in marriage should be the value of the outside option. Rubalcava and Thomas (2000) exploit variation over time and across U.S. states in the aid paid to single women with children (Aid to Families with Dependent Children, AFDC). AFDC improves the outside option of married women with children, and therefore might affect their bargaining power in marriage. Based on PSID data from 1968 through 1992, the authors show that AFDC has a significant impact on expenditure shares with marriage. This is especially true for low-income households with children, those most likely to benefit from AFDC in case of separation. Interestingly, and contrary to studies from developing countries, the food budget share is lower when female bargaining power is higher.<sup>8</sup> Additional data from the Consumer Expenditure Survey (CEX) shows that the share allocated to child goods (toys, baby clothing, baby furniture) increases, while the share of "male" goods (alcohol, car maintenance, sports entertainment) decreases. The authors also find an increase in health care spending, which they interpret as human capital investment.

**3. Alternative Models of Spousal Decision Making**

The main part of our analysis of gender and development is based on a noncooperative model of decision making in marriage. This provides a contrast to the majority of the existing literature, where the unitary model and cooperative

bargaining models of marital decision making are the most common. In this section, we briefly review these alternative models, and justify our focus on the noncooperative case.

#### 4. Noncooperative Bargaining and Income Pooling

In this section, we introduce our general noncooperative bargaining framework. We envision a family consisting of two decision makers, a wife and a husband, who have separate incomes and who decide on the provision of private goods and public goods (i.e., goods from which both spouses derive utility). A common feature of the models that we consider is there is a continuum of public goods. The existence of many of public goods implies that one part of the outcome of the bargaining game is an assignment of which public goods are provided by each spouse. As we will see, the ease of substitution along this dimension will play a key role for the overall results. While the specific assumption of a continuum of goods is an idealized abstraction, we believe it is realistic to posit that a variety of public goods are provided within marriage, ranging from shelter and food to the time and goods expenditures relating to children. cause economic development Can women's empowerment?

There are two rationales for supporting active policies to promote women. The first is equity as valuable: women are worse-off than men, and this inequality between genders is repulsive in its own right. For example, in the United Nation's 2005 report on the Millennium Development Goals (MDG), Kofi Annan, the Secretary General of the United Nations, writes: "The full participation of women to all levels of decision making is a basic human right." The second, a central argument in the discourse of policymakers, is that women play a fundamental role in development. The gender gap in education, political participation, and employment opportunities should therefore be reduced not only because it is equitable to do so, but also because it will have beneficial consequences on many other society-wide outcomes. It should be done to increase efficiency. In the same report, Kofi Annan argues that gender equality is a "prerequisite" to achieving the other MDGs.

#### 5. Within the Community: Women As Policy Makers

We have seen that women and men have different preferences, and that the household does not efficiently bargain to choose the actions that maximize the household's utility, suggesting that women and men will have different policy preferences. First, women will prefer policies that better reflect their own priorities. Since they are concerned about child health and nutrition, they should prefer policies that will help them achieve these objectives. Second, women should be in favour of policies that will increase their bargaining power within the household, policies that improve their situation in cases of divorce, and policies that increase their productivity in everyday work or improve their chances to access the labour market. We see that women and men have different preferences over policies. Chattopadhyay and Duflo (2004) collected data on the complaints brought by both men and women to the local village councils in two districts in the states of West Bengal and Rajasthan, India. Village councils administer local public goods in rural India. The formal complaints differ by gender. For public works, women in West Bengal complained most about drinking water and roads,

and much less about education and irrigation. Men complained most about roads and irrigation and less about drinking water. In Rajasthan, over half the complaints made by women were about drinking water, while very few complained about education. Drinking water was also a big concern for men in Rajasthan, but it was not as predominant an issue as for women. Men complained much more than women about roads and education. The pattern of complaints dovetails with gender responsibilities of men and women within the household and their employment opportunities. Women collect drinking water, and in West Bengal, they are the main beneficiaries of road works as they provide the bulk of labour on roads. In Rajasthan, both men and women work on roads, but men use the roads more as they travel more frequently in search of work.

This implies that giving women the right to vote makes a difference. And Miller (2008) shows that introducing women suffrage in the United States was associated with a decline in infant mortality. In most countries however, women and men may now vote, although they do not get elected. Thus, the next step to increase women's political power is to directly affect their representation through quotas or reservation policies.

To understand the effect women as policy makers, Chattopadhyay and Duflo (2004) study the reservation policy for women in India mentioned above. A constitutional amendment required states to both devolve power over expenditure for local public goods to rural village councils, and to reserve a third council seats and council presidencies for women. The political representation and participation of women has increased. A comparison of the public goods provided in reserved and unreserved village councils showed that the gender of the council president impacts investments. Women invest more in infrastructure directly relevant to the expressed development priorities of women. In West Bengal, where women complained more often than men about water and roads, reserved councils invested more in water and roads. In Rajasthan, where women complained more often about drinking water but less about roads, reserved councils invested more in water and less in roads. This result sharply contrasts with the commonly held view that positions reserved for women usually go to the wife of the previous male leader who effectively continues to rule through his wife. The study also found that women in reserved seats were less experienced, had less ambition and lower prospects in politics, and were of lower socioeconomic status. There is no evidence, however, that these differences drove the results. Only the gender of the local leader explains the different investment decisions in villages reserved for women. A world run by women would look different. Women leaders seem to better represent the needs of women. This is true even in an environment (rural Rajasthan) where women traditionally have little power, female literacy is low, and where many believe women leaders simply implement the wishes of their husbands. These women are changing the realities on the ground.

#### 6. Empowering Women: What Policy Instruments?

The South African situation, where a radical change in the political situation helped to establish a permanent transfer program of reasonably large magnitude for adults who live

with children, is relatively rare. Absent these rare situations, are there things policy makers can do to shift power to women in their community or in their families? Or should they rely, once again, on a natural process of development (perhaps accelerated a little bit by working on improving access to education for girls or by encouraging an economy where women have better access to market opportunities)?

## 7. The Chattopadhyay

The Chattopadhyay and Duflo (2004) study in India, suggests that it is possible to shift power within the community via a change in the electoral rules. Even were women and men to have different preferences it cannot ensure that women policy makers, particularly those selected through quotas, would act any differently than men. In a democratic system, they would not, since both men and women would try to do what their constituents expect them to do to be re-elected. Additionally, even if we thought women leaders did a better job of understanding women's needs, it would not necessarily follow those policies designed to guarantee greater representation by women would be an effective way to achieve this representation. For example, if women are politically weak, they may find it difficult to influence actual decisions. In India, the reservation policy was (and is still, to a large extent) met with a large measure of suspicion: women would not be powerful leaders; they would be eclipsed by their husbands; or worst, local elite would take advantage of the policy to re-ascertain their power against the Panchayat. And yet the quota policy made a real difference in actual outcomes this difference appears to be durable, beyond the initial push, by affecting attitudes.

The study by Beaman et al. mentioned takes advantage of India's reservation policy, which specifies that, at each election, one-third of the villages are randomly selected and must elect a woman at the head of the local council. They compare the results of the implicit association test associating women and politics and the responses to the speeches. They find that, in men's response to the speeches, all the bias against women is erased (and it becomes a bias in favour of women). The bias against women and leadership is also diminished. Although, interestingly, the response to the explicit question is not affected, people vote more for women after the seats lose their reserved status. Beaman et al. (2011) examine another form of attitude: the aspirations that parents have for their children, and those teenagers have for themselves. We have noted the gaps between boys and girls. This gap is reduced by 0.15 standard deviations (one-fifth) in villages where positions have been reserved for females for 10 years.

Even absent any additional investment in education infrastructure, this led into an increase in educational attainment for teenage girls, and a reduction in the gaps with boys. There are thus real effects on future gender equality of giving more power to women than they would naturally get, over and above their ability to directly influence outcomes.

To what extent can similar "top-down" policies affect the balance of bargaining within the household? One avenue is the legal environment. A woman's options outside the marriage are also important for bargaining within the marriage. If a woman has no options outside of the marriage, and both she and her husband know that divorce is impossible or that

in divorce she would be with no means of support, then the husband can impose decisions on the household—he can threaten his wife with being left in a much worse position if she does not yield. This suggests that the institutional environment, such as the divorce laws that exist, and the ease of remarrying or of finding other ways of supporting oneself in case of divorce would affect decision making within households, even when they do not divorce. In Indonesia, each spouse retains ownership of the resources he/she brought into the marriage.

Thomas, Frankenberg, and Contreras (2002) show that, even controlling for the household resources today, the resources each spouse brought into the marriage continue to affect decision making within households. Specifically, children are in better health if their mother brought more resources into the marriage. Field (2003) finds that when squatters in Peru were given a property title for their land, fertility declined, but only in areas where the prescription to put both the woman's and man's name on the title was effectively enforced.

In many developing countries, women are poorly protected in divorce, and stand to lose assets and the custody of their children. Even when divorce laws exist, it is frowned upon in society, and remarrying is difficult. There is little research on the effect of these institutions in developing countries. Work from the U.S. suggests that the institutions themselves matter for the outcomes within the family. Chiappori, Fortin, and Lacroix (2002) show that the rights of each spouse in case of divorce (which vary by state and have evolved differently in different states over time) affect the labour supply decisions among married couples. Angrist (2002) shows that the female children of American immigrants have a higher marriage rate and lower labour supply (a sign of higher bargaining power, in the U.S.) when there were more males among the recent immigrants of their age cohorts. The reason is that migrants marry within their ethnic group. Immigration-induced sex ratios not balanced across sexes thus increase remarrying of the sex in short supply in case of a divorce, and thus increases their bargaining power within the household.

This suggests that policies seeking to increase women's welfare in case of divorce or to increase women's access to the labour market may affect outcomes within the household, in particular child health. But would these effects extend to temporary transfer programs that do not profoundly change the nature of the relative status of men and women? For example, do conditional cash transfers given to a mother for a period of a few years have greater positive effects than had they been given to a father? The answer is not obvious a priori. One might expect the household to recognize that the transfers are temporary. Here, the transfer should have no real effect on the recipient's bargaining power in the decision making, since the household knows that soon it will revert to the prior situation, and that the woman would be punished if she tried to extract too much while her power lasted. Instead of trying to extract much at any point, the household members should insure each other, and temporary transfers would not matter.

However, we observe that household members do not seem able to provide efficient insurance to each other. They may face the same constraints that informal insurance between households is subject to (moral hazard, hidden information,

limited commitment etc.). In Côte d'Ivoire, women and men grow different crops and are therefore affected differentially by the same rainfall. Some years are good for men, and some years are good for women. One would expect that the consumption in the family would not be affected by the temporary, rain-induced fluctuations in the share of income contributed by each partner. Yet Duflo and Udry (2004) find it is: in years when the production of women's crops is higher, the household spends a bigger share of its budget on food and on private goods for women. In years when the production of male's crops is higher, the household spends a bigger share of the budget on alcohol and tobacco and male private goods. Robinson (2011) has a similar finding from an experiment in Kenya, where husbands and wives were given small transfers over a period of a few weeks. And the fact that conditional transfer programs are targeted to women, rather than to men, seem to make a difference, even when they are both temporary and small. This was first demonstrated in a nice study by Lundberg, Pollak and Wales (1996), which takes advantage of a change in the allocation of child benefits in the UK from a tax credit to a direct payment in the name of the mother. This transfer "from the wallet to the purse" was associated with an increase in the consumption of women's and children's clothing in households with children. Despite the fact that most of the recent CCT are targeted to women, there little evidence on whether this is a factor in their effectiveness: since most are targeted to women, it is essentially impossible to distinguish the impact of the gender of the recipient from that of the effect of the increase income, or the conditionality.<sup>3</sup> An exception is a recent study by Benhassine et al. (2011), which exploits the randomization of the gender of the recipient of a small conditional cash transfer in Morocco. They found that although the transfer was small (it represented only about 3% to 4% of beneficiary's total consumption), households reported spending it differently when the woman was a recipient, and it had a somewhat larger effect on the education of young children and girls when women received it. It seems unlikely that the program directly affected their bargaining power, and the study finds no evidence that other dimensions of women empowerment have changed. However, they seem to have been more likely to be in charge to spend that money, and they were more likely to spend it on education.

There are two important lessons from these findings. First, even if they do not bring about radical changes in women's status or in the way women are perceived in society, policies targeted towards women can have immediate consequences. Even smaller changes that just give women control over a small stream of resources affect at least how this money is spent. Increasing women's control over resources, even in the short run, will improve their say within the household, which will not only increase their welfare, but as research seems to have shown repeatedly, child nutrition and health.

## 8. The Gender Wage Gap and Household Production of Public Goods

So far, we have relied on differences in preferences across genders to reproduce the finding that targeting transfers to women has distinct effects on public good spending. We now consider a model that achieves the same outcome assuming no asymmetry in preferences. The key new feature is a household production function that produces public goods by combining goods and time inputs. Different public goods

are distinguished by the relative importance of goods and time in producing them. The only asymmetry between men and women is a difference in their market wage. In this model, if women's wages are lower and hence their time is less valuable, they will endogenously specialize in providing the public goods that are the most intensive in time. Even though women don't care about the goods they provide more than their husbands do, any transfer income given to women has a disproportionate effect on female provided public goods. Thus, endogenous specialization combined with noncooperative decision making leads to an outcome that may give the appearance of a preference difference between men and women. Assuming that children are relatively time-intensive, the model follows the empirical finding that targeting transfers to women has a disproportionate impact on spending on children.

## 9. Extending the Model to a Dynamic Setting

One common theme of the last few sections was that even if transfers targeted to women raise spending on certain categories of public goods, this may come at the expense of things that also matter, such as the total spending on public goods. In this section, we add another facet to this picture by extending our framework to an intertemporal setting. We will construct examples where targeted transfers lead to higher spending on public goods in the present, but also imply lower household savings and, therefore, lead to lower spending on public goods.

For transfers to matter, as in Section 5 we must introduce frictions in the substitution between female and male provision of public goods. For simplicity, we base our intertemporal analysis on the model of Section 5.1, which introduces a direct assumption that female and male contributions to public goods are imperfect substitutes. The new results derived in this setting carry over to the settings discussed in Sections 5.2 and 5.3, at the expense of more complicated notation.

## 10. Summary and Outlook

In this paper, we have addressed from a theoretical perspective the empirical observation that money in the hands of women leads to higher spending on public goods, and in particular to higher spending on child related goods. These observations have led to a trend in development policy to target more resources to women and more generally to envision female empowerment as a key measure to foster economic development. However, to understand the effects of such gender-based development policies, one needs to know the mechanism that generates the observed empirical findings. We have developed models of marital decision making that can explain the empirical facts, and we have examined what these models imply for the effects of gender-based development policy.

From the perspective of the theory of the household, a first finding is that a large class of commonly used models of marital decision making cannot explain the facts. Models such as the unitary model or the collective model imply an income pooling result, which is clearly inconsistent with the data. While this is not surprising and well known, we show that the income pooling result survives even if decision making is noncooperative and if there are preference asymmetries

between men and women in terms of the overall appreciation of public goods. To break the income pooling result, further frictions or asymmetries are needed. We present models that can explain the facts: first, limited availability of female-specific private goods, coupled with imperfect substitutability of male and female contributions to public goods; second, preference asymmetries in the relative appreciation of different public goods; third, household production where goods differ in the importance of time and goods inputs, coupled with a gender wage differential; and fourth, gender-specific distortions in the consumption-saving choice, either through the endogenous provision of transfers between the spouses, or because of institutional restrictions.

While these different models have distinct policy implications, two overall themes stand out. First, even when the models confirm a positive effect of transfers targeted to women on expenditures on child goods, it may be the case this higher spending comes at the expense of other important public goods. For example, in the model with time and goods components of household production an increase in goods spending may be offset by a decline in time inputs. Similarly, in the intertemporal model an increase in current spending may correspond to a decline in household saving and therefore lower future spending. In such settings, it is far from obvious whether targeting transfers to women is good policy.

Second, the models suggest that different ways of achieving female empowerment may have different or even opposite effects. In some of our models, the differences in gender spending patterns are themselves endogenous and would disappear if other gender differences were removed. Thus, while targeting transfers to women may increase spending on children, reducing gender discrimination in goods or labour markets may result in women behaving more like men, which reduces the effect of targeted transfers on public good provision. The models therefore provide a warning against viewing female empowerment as a generic concept and advocate a more differentiated view that distinguishes various channels. Perhaps the most important conclusion arising from this work is that more measurement and empirical work is needed to distinguish between the theoretical models outlined above. The empirical implications of the models are distinct and could in principle be tested. Empirical research has mostly focused on expenditures on a few salient public goods that can be easily observed and quantified such as clothing, food, and education. However, our analysis implies that also accounting for effects on savings, consumer durables, and general household public goods is essential to distinguish between the different mechanisms. Only once we have some confidence in which model provides the best guide to reality will we be in a position to provide valuable policy recommendation for gender-based development initiatives.

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## A STUDY ON HEALTH EDUCATION

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Keywords: Health Education and Promotion, Health Care System, Functions

### Abstract

Health education and health promotion activities are a fundamental requirement for all health professionals. These two paradigms are closely related but are not inter-dependent. Despite this, many nurses confuse the terms and use them interchangeably. With this in mind, it is necessary to re-conceptualize the terms to bring them to a current form of 'maturity'. The aim of the paper is to analyse health promotion and health education that serves as a conceptual and operational foundation for clinicians and researchers. A concept analysis following the criterion-based methods described by Morse and her colleagues was applied to the term's health education and health promotion, using generic and nursing-related literature. The conceptual literature on health education is consistent between generic and nursing-related sources. A significant proportion of later nursing-related literature, however, suggests a maturing of the concept that brings it further in line with a socio-political health promotion agenda. While the theoretical and conceptual literature surrounding health education has remained relatively constant and unchanged over the last decade, the same cannot be said for the health promotion literature.

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## 1. Introduction

Personal education and development concerns improving knowledge about health, offering health risk advice and promoting self-esteem and self-empowerment. Examples include the opportunities provided through teacher-pupil and doctor-patient contacts. Mass media information and education is non-personal and concerns raising public awareness, creating a climate of opinion and offering health risk information and advice. It can be public relations, advertising, marketing, news information, and distance learning projects, e.g., through radio, Television, Newspapers and other publications. Health promotion. Seeks to improve or protect health through behavioural, Biological, Socio-Economic and Environmental changes. It can include health education, Personal Services and environmental measures. Community and organisational development

## 2. Health Promotion

Health promotion embraces the concepts of disease prevention and positive health the promotion of a sense of physical and mental wellbeing. A major emphasis is to make the healthy choices, the easy choices. (i) Personal services designed specifically for health promotion comprise: Preventive medicine services, e.g., immunisation, family planning, hypertension screening and control. Positive services comprising individual and group programmes, example smoking cessation. Keep weight reduction; (ii) Environmental measures concern safeguarding the physical environment and making it conducive to health, i.e., at home, at work, on the road, in public places. Examples of these often traditional 'public health, measures include provision of clean water. Safe sanitation, Pollution control, Fluoridation fire precautions, industrial safety measures, better road design and non-smoking areas; (iii) Community development normally involves the mobilization of community resources, both human and physical. Activities might include the formation of self-help and pressure groups, and the development of local facilities and services; (iv) Organisational development usually concerns implementing policies within organisations which promote the health of staff and clients. Such as the achievement of non-smoking areas, exercise and changing facilities and healthy catering services; (v) Economic and regulatory activities are primarily concerned with creating a social and economic environment which protects or improves health.

Examples include fiscal measure, legislation, voluntary codes of practice and the widening of the availability of services and products conducive to health.

## 3. Needs and Types of Health

Health education builds student's knowledge, skills, and positive attitudes about health. Health education teaches about physical, mental, emotional and social health. It motivates students to improve and maintain their health, prevent disease, and reduce risky behaviours.

Type 1 health education would be concerned with helping the individual to cycle safely, from using clear hand signals to wearing easily visible clothing. From the perspective of promoting health (rather than preventing ill health) type 1 health education would deal with issues such as cycling and physical fitness and the associated sense of wellbeing.

Type 2 might offer advice on, for example, what to do in an accident, or whether and how the older cyclist should seek a periodic medical examination.

Type 3 health education would be concerned with public understanding of how to create a safe and healthy environment for cycling. It could cover the costs of building safe and attractive cycle ways and the comparative costs of different forms of transport; the practicalities of designating certain roads (especially those leading to schools) as "cycle roads" and restricting vehicles; Dutch (and other extensive) experience of cycle ways and traffic regulations that protect the cyclist; and education about the results of surveys indicating that a high proportion of people would cycle if it were made safer and more congenial'-and so on.

## 4. Important Tool for Health Education

Health education is the main, and integral part of complementary health promotion. The main assumption underlying the essence of health education is an assertion that the health of individuals and, of communities they belong to is significantly conditioned by the behaviour of inter-subject variability, which can be pro-healthily shaped by the educational impact. Thanks to transferred knowledge, shaping attitudes and acquiring certain skills, patients receive help in coping with health problems which improves their wellbeing, satisfaction, and the process of recovery. The education of a patient has advantages either in the clinical or social field, hence, it is

perceived as an inseparable part of a high-quality healthcare. The importance of health education has been also recognized as one of the main factors that determine the long-term health policy, which indirectly may be reflected in the reduction of costs in the healthcare. In the recent years, more emphasis has been placed on preventive and educational aspects of the healthcare. Family medicine, as the source of the initiation of shaping health-oriented attitudes, has a prominent place in the system organised in such a way. In patients' opinion, medical staff is the best and most reliable source of knowledge on health. Such expectations increase the importance of primary care physicians in preventing diseases and shaping health-oriented attitudes in a society. The main task of a modern health education is primarily to support the creation of conditions for change, the growth competence of individuals and groups in the sphere of independent action for health at different levels of the organisation of social life.

### 5. Significance of Health Education

It is comprehensively understood that education is the instrument that provisions knowledge to the individuals, which is essential to differentiate between appropriate and inappropriate, inculcate the traits of morality, ethics, norms, values, principles, diligence and conscientiousness, achieve personal and professional goals, enrich ones living standards and emerge into good humans and productive citizens of the country. In the same way, health education imparts knowledge to the individuals, which is essential to be put into operation to maintain good health. It is comprehensively understood that all the individuals are focused towards achievement of personal and professional goals. All individuals carry out different tasks and activities. Hence, to carry out one's tasks and activities appropriately, the individuals need to maintain good health, physically and psychologically. When the individuals are healthy, they can put into operation, their tasks and activities in a satisfactory manner and generate the desired outcomes.

### 6. Targets and Function of Health Education

As a Health Extension Practitioner, you will use health education activities to promote healthy behaviour and practices

in the community you work in. Each individual and every community needs to think about what will bring them a healthy life. There are different risk factors in each locality that expose people to unhealthy conditions and lead to sickness and disease. Health education activities are expected to reduce these risk factors and maintain the health of your community. Every stage of life, every individual or social group in your community and all occupations are appropriate targets of health education programmes. These sections cover the main target groups for health education programmes. It is important for you to adapt your health education methods and activities to fit the group or audience you are targeting. Functions: (a) Governance; (b) Educational services; (c) Selection of staff; (d) Financing; (e) Infrastructure and Technology; (f) Information and Knowledge.

### 7. Conclusion

Health education is regarded as a tool for imparting knowledge and understanding among individuals in terms of health promotion. It is crucial for bringing about improvements in the health of the populations and promotion in health capital. The aims of health education are, provide information in terms of health as community asset, maintain norms of good health, to take precautionary measures against communicable diseases, promote mental and emotional health, assist children in understanding nature and purpose of health care services and facilities, develop a sense of civic responsibility, obtain medical assistance and health care treatment, food and nutrition, exercise and physical activities and cleanliness. The methods for imparting health education are, environmental conditions of the educational institutions, teaching-learning methods, teaching-learning materials, lectures on health by professionals, seminars and workshops, tasks and activities, printed materials, evaluation methods, educational field visits and project work. Finally, it can be stated, when the individuals will augment their understanding in terms of measures and strategies to promote good health and wellbeing and put them into operation in a well-organised manner, they can render a significant contribution in promoting good health and enrich their lives.

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Keywords: Health, Mental Health, Stress, Adult

Abstract

Health is wealth. Often, we show major importance to our physical health but as we don't know of mental health, we never consider it. Mental health has a huge impact on our physical body which most people aren't aware of. The most complex system that isn't visible determines our life and the way we live it. There is a myth that children have nothing to worry about and they have nothing to stress about. But children have lots of stress to deal with especially teenagers. When parents don't deal with their children's mental health properly, it creates unwanted tensions in the family. There are signs to discover stressed out children and easy remedies for parents to deal with their children's stress. Adults ignoring their mental health have more physical trouble.

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**1. Introduction**

Humans are the most complex organisms anyone would find on earth. Even though modern medicine has reached great heights, some parts of humans still remain a mystery to learned people. We are all a part of the creation that has emerged several billion years ago, while scientists mention it as the big bang, the particles have thrived till today to create all form of existence we see around. As like scientists at NASA working day and night to discover the theories of creation, doctors and researchers often find new discoveries in the human body. The most complex part of a human is his brain. It is where our 6th sense 'thinking' arises. Our brain has billions of neurons connected to each other sending electrical impulses all over the body making human life meaningful. The unique capacity of thinking has given humans another body called the mental body. We often take care of our physical body as it gives us visible signals of deterioration like obesity, pain, tiredness, etc. As we must get rid of physical pain to continue our day-to-day activities, we give utmost importance to curing them. We fail to give attention to our mental body. We ignore its signals and suffer without knowing.

**2. Objectives**

- 1) Importance of mental health
- 2) Dealing with teenager's mental issues
- 3) Dealing with adult's mental health

**3. Emotional Health**

Emotions are controlled by the state of our mental body. Humans rarely give attention to our mental health as we know of the impact it has over our lives. There is a saying which I would like to quote, "body is the reflection of mind". When a mind is disturbed, the body refuses to cooperate. Humanity has entered a new phase of life where man must learn to live along with a virus. The pandemic has made man to live a sedentary life style. In this phase he may not focus on his health. Losing environmental touch, both physical and mental body is forced to lose its energy. Staying inside the same four walls cages humans and tortures his mind to be a prisoner. Having fights often would disrupt the atmosphere at home and would damage the emotional well-being of family members.

India has one of the highest prevalence of mental illness globally. National Mental Health Survey 2016 found that close to

14% of India's population required active mental health interventions.

The most affected people of the pandemic mentally would be children and teenagers. They have lost touch with their social and playful world. They are set free rather online classes chaining them to digital devices followed by watching television. This hugely affects the health of children.

Most of the corporate companies over the globe give more importance to emotional quotient rather than the intelligent quotient. The reason behind this change can be easily explained with an example. Taking a person 'A' who works in a MNC IT company. 'A' has great knowledge in programming. He has been the greatest expert the company has ever had. But he lacks emotional balance. He regrets any suggestions given to him, often gets distracted, doesn't work good in a team. Managers with employees like person 'A' would see him as a liability rather than an asset.

**4. Bringing Emotional Balance in Teenagers**

Teenagers undergo various hormonal changes in them often creating mood swings. Parents would be easily annoyed by the way their children behave. This the stage is where teenagers would require more supportive parenting. Parents usually disagree with problems their children would share by saying, "is this even a problem?", or, "I too have faced it's not worth to worry about...", "you are exaggerating things", or insult their children. Little things always matter first. A small piece of diamond if lost can bring a loss up to several crores or to be technical it is called the butterfly effect. Children when given improper answers when they share their personal issues would make them lack the willingness to share things with parents. Parents would argue, "we are the reason you have taken birth, and why would you not share things with us?". This is the situation that should never be attained. Parents and their children have a generation gap and this gap prevents in understanding their own children. It is a fact that 1 in 10 young people have experienced a period of major depression. And as parents say, it's not just because millennials are on their phone.

**5. Dealing With Teenagers**

Teenagers usually would prefer complete privacy when they enter a phase of depression. As parents, should they stay quiet all the time? Absolutely no. Parents should be able to

recognize their children when they enter depression or when stressed out. There are techniques to discover:

- Children act differently
- They would refuse to go out with family
- They would refuse to eat or would eat less
- They would face difficulty in having sound sleep
- They would prefer to stay out alone
- They would not engage in family conversations
- They could not focus on a particular work for a short time
- They would feel agitated when given suggestions

People stressed out have negative energy surrounding them. The energy is attracted because the mental body is weak. So whatever conversation we have with stressed out people, they would lack interest in continuing the conversation. At this situation, we should have no serious conversations as it would bring a quarrel. So negative energy surrounding them should be removed. Religious measures to remove this energy can be avoided. Instead, we can use the abundant positive energy available with nature. Going out for a peaceful walk, watching feel good movies, travelling to places where we could admire nature like hill stations, beach cities, etc., playing peaceful music at home would help to.

## 6. Keeping Up with General Mental Health

Adults too are having difficulties in recovering from stress. We know that adults show their work pressure at home. We know spouses are the main victims of these. Adults too must maintain their mental health properly as family and people depend on them. Having a good mental stability could help maintain a healthy relationship with people. In adults, their physical body is vulnerable as per the condition of their mental state. More stressed out adults have issues starting up like hypertension, heart problems, frequent body aches, obesity, Alzheimer, asthma, sleeping disorder, etc.

Getting rid of stress is easy but time should be devoted to get faster and better results. Some of ways to get rid of stress includes:

- 1) Morning walks
- 2) Exercises
- 3) Laughing therapy
- 4) Listening to music
- 5) Watching peaceful movies

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<https://thelogicalindian.com/mentalhealth/mental-health-indians-30811>  
<https://my.clevelandclinic.org/health>

- 6) Connecting with nature
- 7) Meditation
- 8) Regulating lifestyle
- 9) Reduce drug and alcohol intakes
- 10) Having sound sleep

The main reason for having stress is reacting to irritations by other people. A good way to reduce this is by postponing our reaction to irritations. By doing this way it reduces the intensity of our reaction. As we postpone, we too forget about it and never react about it. It is helpful when we practice this method daily helping us in becoming a calmer person.

## 7. Institutions Helping Employees to Maintain Their EQ

Many institutions give more importance in maintaining emotional balance in employees to have a good working space. Corporates now hire full time counsellors to help employees deal with their emotional troubles. In small companies, managers themselves act as counsellors in treating employees. Schools too have employed counsellors to help teachers and students in dealing with their emotional troubles. Many schools and corporates now conduct meditation sessions for students, employees, workers, etc. They have reported these measures have helped them increase productivity and students have attained good understanding in complex theories reducing exam fears.

## 8. Conclusion

We have all faced a common incident where we get to know that fire hurts when touched and is dangerous even after our parents had warned repeatedly. This is the same case with children and teenagers dealing with their stress and depression. How much ever parents say that, "I too have faced the same problem when I was a kid, but know it means nothing to me. The same would apply to you", this advice would mean nothing to teenagers as we get to know fire hurts only after touching it. Letting teenagers deal it on their own makes them mature giving chance for growth and advancement. Value based education should be made compulsory to all students in the syllabus so it may help them gain knowledge about things we missed to know before. Having good mental health confirms good physical health promising great wealth.

## AN EMPIRICAL STUDY ON HYGIENIC AWARENESS ABOUT COVID

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Keywords: Covid, Social Distance, Hygiene Awareness

### Abstract

The origin of COVID-19 was found in December 2019 from Wuhan, Hubei Province, China; and it has spread fast all around the world. It is a worrying disease as many positive cases are reported increasing day by day. The emerging of Covid-19 outbreak requires social distance and other interventions to protect human and environmental health. The objective of this study is to promote awareness among public university students on the importance of hygiene during the pandemic of Covid-19. Therefore, a study was carried out to assess the hygiene awareness among public university students during this outbreak. A cross-sectional study was conducted using an online survey method among public university students. The study generally is aimed to determine Covid-19 awareness, attitudes, knowledge, and related behaviours among the students. The results show that most students are aware of the current issues of Covid-19, and they practice good self-hygiene to prevent themselves from getting infected. However, there is still room for the university students to improve their hygiene awareness, and exercising complete precautionary matters to prevent the spread of Covid-19.

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## 1. Introduction

Coronavirus is a virus that can cause several symptoms like coughing, sneezing, fever, breathing trouble, and lung infection. The World Health Organization (WHO) declared that Coronavirus Disease 19 (COVID-19) is the official name for the 2019 novel coronavirus (Adhikari et al., 2020). This new disease was unknown before December 2019, and was identified as pneumonia when it emerged in Wuhan, China. The disease has spread all over the world and Malaysia is also affected by the disease. In Malaysia, there was a case of Covid-19 detected on 24 January 2020 which later becomes the start of the pandemic (WHO, 2020). To curb the spread of Covid-19, every country should put an effort to decrease the risk of getting infected. A proper hand hygiene is a useful method to control many infectious diseases (Or, Wong, & Chung, 2020). Hygiene is generally defined as a branch of science engaged in knowledge and practices relating to health promotion (Sarfaraz et al., 2015). The spread of this recent disease could be prevented by following hygiene practices. The Covid-19 virus mainly spreads by saliva droplets or nose discharge whenever an infected person coughs or sometimes sneezes (WHO, 2020). The vaccines and treatment of Covid-19 has yet to be found. Hygiene awareness is essential to restrain the spread of this infection. The virus may cause people to suffer, generally with a mild to severe acute respiratory tract disease similar to a common cold. Some symptoms of a person infected with Covid-19 disease include coughing, aches, fever, runny nose, and pains. For those with a weak immune system, the elderly and the young, there is a risk that the virus might cause a lower respiratory tract illness, like pneumonia or bronchitis, and much more severe. There are several ways to prevent the spread of Covid-19 by washing the hands with an alcohol-based hand rub frequently and thoroughly or washing them with soap and water. This is because alcohol-based hand rub and soap with water can minimize the risk of contracting the virus. Another way is by wearing a face mask. It is advised to wear a face mask when venturing outdoors or in areas where distance from other people is difficult to maintain (LiveScience, 2020). This could reduce the viral spread among people. While the immediate risk of this new virus to the Malaysian public is believed to be moderate this study main objective is to promote awareness among public university students on the importance of hygiene during the pandemic of Covid-19. The study generally is aimed to determine Covid-

19 awareness, attitudes, knowledge, and related behaviours among the students. The study is conducted among university students to encourage them to practice good self-hygiene during Covid-19 pandemic as their part of taking everyday preventive actions as a basic step to respond to this emerging public health threat.

## 2. Literature Review

A patient in the town of Wuhan, China was diagnosed with acute pneumonia in early December 2019. The WHO regional office in Beijing had received notification from the same town about the cluster of patients with unexplained cause of pneumonia. Wuhan is the capital city of Hubei Province in Central China. With a population of 11 million people, it is known as the seventh largest city. Wuhan Institute of Virology's Researchers carried out metagenomics analysis by using next-generation sequencing sample obtained from bronchoalveolar lavage over the next few days and defining a novel coronavirus as the possible etiology. Soon they announced that it was named as novel coronavirus (nCoV-2019), while it was referred as 2019 novel coronavirus (2019-nCoV) by The United States Centers for Disease Control and Prevention (CDC). As of February 11, 2020, there are 43103 cases of 2019-nCoV reported in the last 24 hours. 98.9% are happened in China which leads to 1017 deaths. As the cases evolving, accurate up-to-date information on the number of cases and the recommendation on how to manage the case could be found online because of the rapid change of the situations. As in January 2020, the number of infections outside of China remains small (approximately 395), and the total death at only 1 (in the Philippines), but cases have been detected in 24 countries, including 18 cases in Malaysia. The most common Covid-19 symptoms are fever, sore throat, dry cough, diarrhoea, pain and aches. Usually, the symptoms are mild at first and got worse gradually. However, there are also cases where they are infected but developed no symptoms. About 80% of people infected recover with no special treatment and around one out of six people who were infected becomes develop difficulty in breathing which leads to serious illness. Older individuals, including those with underlying medical conditions such as high blood pressure, heart attacks or diabetes, are more likely to develop chronic disease. 2% of people with the disease mentioned have died. It is advisable for people with difficulty breathing and cough to seek medical attention soon.

More evidence has showed the connection between the 2019-nCoV-Sub-Species of the *Rhinolophus* bat and the related identified sub-species of the Corona virus (CoV). These sub-species are rich and present throughout Southern China, Asia, the Middle East, Africa, and Europe. Recent studies show that over 500 CoVs in Chinese bats have been identified (WHO, Novel Corona virus (2019-nCoV) Situation Report, 2020). In 2018, one case of the disease named as Middle East respiratory syndrome corona virus (MERS-CoV) was reported by Malaysia's IHR National Focal Point. A 55-year-old man living in Malaysia who visited Kingdom of Saudi Arabia from 13 to 23 December 2017 as a member of a pilgrimage group recorded had direct contact with a camel and drinking unpasteurized camel milk while visiting a camel farm in Riyadh. He developed the symptoms on 24 December after return back to Malaysia. He was treated and hospitalized in Malaysia (WHO, Middle East respiratory syndrome corona virus (MERS-CoV) – Malaysia, 2018). Covid-19 could be the second pandemic of the 21st century after the pandemic of influenza A H1N1 in the year 2009. Because of the increasingly galloping epidemic of globalization and international travel, on 11 March 2020, the WHO then declared Covid-19 as a pandemic, two days after the first official confirmation of community-acquired pneumonia clusters in Wuhan, China's Hubei Province, on 31 December 2019 (Day 1). Almost 80,000 deaths have been reported in over 1.35 million people worldwide on the 100 Day, 8 April 2020. As a precaution, proactive steps to control infections in hospitals has been implemented. Non-pharmaceutical public health initiatives also have been implemented. The initiatives include border protection or closure, checking of all incoming travellers or returnees. They need to undergo 14 days quarantine first before return to their home. Besides, hand hygiene and social distancing including school closure and cancelled of mass gatherings and the termination of all socio-economic activities, except for essential services, were also implemented to minimize the risk of population transmission it is believed that continued good personal hygiene and community-wide masking can break the Covid-19 transmission chain by reducing the risk of infection simultaneously protect those who are not infected so Covid-19 cases could be controlled and cease soon. According to Dalton, Corbett and Katelaris (2020), it is estimated that around two-thirds of Covid-19 cases exported from China were undetected globally between 1 and 13 January 2020. Scientists immediately investigated the origins of the new coronavirus, and on 10 January 2020, the study team led by Prof. Yong-Zhen Zhang published the first genome of Covid-19. This virus spread rapidly in just one month all over China during the Chinese New Year, when the time where most of the Chinese people have a high level of human mobility (Adhikari et al, 2020). It is believed that early patients reported some connection to the Huanan Seafood Market located Wuhan, China, showing these early infections were caused by the spread from animal to human. It becomes pandemic all over the world due to the high and fast human-to-human transmission of the virus (Chen et al., 2020). Over 24 550 cases of Covid-19 were confirmed as of February 5, 2020. It includes over 190 cases outside China, and over 490 reported deaths worldwide (Hellewell et al., 2020). Studies have indicated suggested that the virus spread rapidly and has been spreading in many countries since the outbreak in China (Adhikari et al., 2020). Both the pharmaceutical and non-pharmaceutical steps against Covid-19 are eligible. Non-pharmaceutical

interventions such as face mask wearing, and hand washing are necessary to reduce the risk (Chen et al, 2020). Droplet's transmission which happened when the person infected coughs or sneezes are one the ways of the virus transmission. Besides, contact transmission which happened when the infected person touches a surface or object which causes the object contaminated with the virus and the other person who were not infected touch it and touch their mouth, nose, or eyes. The third way of transmission is aerosol transmission when respiratory droplets mix in the air and form aerosols and can cause infection when large doses of aerosols are inhaled into the lungs in a relatively closed atmosphere) A proper hand washing is recognized today to prevent infection and disease transmission. The hands are a convenient way to spread several diseases and illnesses. Bacteria and other pathogens can be transferred from non-living objects into hands and then indirectly spread from one person to another. Continuing that trend leads to widespread illness. Proper soap and water hand washing will help eliminate certain bacteria from the skin (Mohammadi, Dalvandi, & Chakeri, 2020). Previous study shows that the performance of hand hygiene among students are proper and reasonable. Research by Mohammadi, Dalvandi and Chakeri (2020) shows that the attitude of students towards hand-washing improved because of education and that the intervention group was more optimistic towards hygiene and hand washing than the control group. (Moham-madi, Dalvandi, & Chakeri, 2020). Another study by Agarwal et al. (2020) shows that the practice of hand hygiene among students is good, and they were aware of their hygiene (Agarwal et al., 2020). Based on another research made by Sarfaraz et al. (2015), their result show that most of the population are aware of their hand hygiene with the total of 188 people are aware of the hand hygiene, while another 12 people state otherwise.

### 3. Discussion

This study shows that the most important factor in food choice was the costs of the food and the economic status of the individual. Similar results were obtained in various studies regarding the food selection. However, a study conducted by Alpuguz et al. found these criteria (cost/economic condition) were the least important factors among the undergraduate students which contradict with our findings. The same study determined that the individual's own preferences were the most influencing factor in food choice. Own preference response is lower in our study compared to these findings. Regarding food selection, most participants indicated that they prefer packaged foods. This finding is in line with the findings of Alpuguz et al. Element's individuals also pay attention in food selection differ a lot. In the works of McArthur et al. condition of the food package had a high rate of answer, yet in our study package condition observed to be less of a concern. We also found that some individuals do not distinguish packaged and unpackaged foods when selecting. Instead, it is revealed that undergraduate maritime students pay a great attention to the expiration date and package conditions of foods. This result is consistent and in line with other studies in the literature. Since our findings on food selection criteria seem both alike and different with several studies, it should be considered there could be unsought factors (age, nationality, etc.) affecting the food selection of individuals. So, these findings should be interpreted as circumstantial. Most of our participants know that diseases can be transmitted through food The correct response rate for this question is higher in

this study than the study of Grappasonni et al. where the correct answers rate was 76.5%. The rate of knowledge on the symptoms of food borne diseases is similar to findings of Low et al. However, this does not mean that seafarers know food borne diseases. Turkistan and Sevgili found that most seafarers were aware of the food borne diseases yet they often failed to identify the characteristics and symptoms of these diseases. Probably the most worrisome finding is that participant's inability to tell the correct way to identify contaminated food. Most believed it is possible to tell if a food is contaminated by smelling it. However, it is impossible to tell whether a food is contaminated with for example E. coli. These findings on food borne diseases are also supported with the fact of participant's incapability to identify high-risk foods. Such as, individuals lack knowledge that high-water content foods, such as cooked rice, are favourable to micro-organism multiplication. Similarly, participants lacked knowledge on the temperature control of the foods. It is also proved by other studies that temperature control and high-risk food groups are more known by food handlers. There are also few noteworthy findings on the knowledge of food storage processes. Correct answer rate for the effects of refrigeration process on pathogens is slightly higher in our study than the observed rates in the study of Grappasonni et al. On the contrary, seafarers and ashore personnel in the study of Grappasonni et al. had higher correct answers for the micro-organism multiplication and thawed food questions. These findings compared; our participants' knowledge of food storing conditions is below average. Regarding the risky behaviours on board considering food hygiene, our findings show that maritime students have knowledge and awareness deficiencies. For instance, most students know that leaving foods at room temperature for a long time is a risky behaviour but most failed to notice that hot food refrigerated in large pots may possess a similar risk. It is determined that most of our participants were concerned with personal hygiene and environmental hygiene in food contamination. In addition, they believe the food handler's hygiene is more important than food storage and preparation

process. A notable finding shows that our participants mostly ignore other factors that might result in food contamination, such as cross contamination. Diseases like Salmonellosis are mostly transmitted from raw foods to cooked foods. So cross contamination and food preparation are as much important as the hygiene of the food handler. Food borne outbreaks on board ships are caused by inadequate food temperature control, infected food handlers, contaminated raw ingredients and cross contamination. Even though the digestive and gastroenteric diseases constitute a small percentage of the causes of death among seafarers, keep these diseases under control to improve overall well-being of seafarers. Training in food hygiene during the education process of maritime students can be beneficial which is also proposed by several other studies.

#### 4. Conclusion

Food hygiene appears to be an underrated problem on board, yet it is one of the major problems in the maritime industry threatening the health of seafarers. Food hygiene-related problems affect seafarers' health and overall well-being. Ways to treat food-related diseases are limited while the ship is underway without medical professionals on board. Create an environment that favours avoidance and prevention from such diseases. Promoting food safety culture with food hygiene knowledge and awareness in maritime students could be a key factor towards this goal. We must aim to eliminate risky behaviours regarding food hygiene on board. This study highlights the shortcomings of maritime students regarding food safety. Further studies should examine maritime companies' rules and attitudes toward food hygiene on board. The way to eliminate the food contaminations on merchant vessels can be achieved by training the whole crew. Development of standardised health and disease training for seafarers should also be considered.

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**MENSTRUAL HYGIENE AWARENESS AMONG RURAL WOMEN IN INDIA***JUANA ADELINA SWETHA J*

Keywords: Hygiene, Women, Menstrual Health, Awareness

Abstract

Menstruation has long been taboo cause of various cultural and religious beliefs. Insufficient attention has been paid to menstrual-hygiene and management. The most common infections associated with menstruation are those caused by poor hygiene. Teenage girls were ill-prepared for menarche, ashamed of bleeding and were indoctrinated with ideas the monthly cycle being an illness. And women in rural households do not have proper access to hygiene products. They have been resorting to their own ways for many years. So, they rely on cheap alternatives and continue to have unhygienic practices. Government has conducted campaigns and initiated schemes to improve knowledge about menstrual health. The main aim of this conceptual paper is to analyse the problems face by rural women in maintaining menstrual-hygiene.

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**1. Introduction**

A woman's menstruation occurs when blood is expelled from her uterus through her vagina. It's a natural phenomenon. But sadly, most women and girls in rural households know of menstrual health. It is often given less importance than it should be without realizing the extent to which it effects a woman's health. Half of India's population comprises women and girls. Yet, in India, gender disparities continue to impact women and girls' education, health, and employment prospects. Besides that, women have long lists of do's and don'ts with menstruation, with many myths and misconceptions surrounding it. Women's literacy rates are significantly lower than men's which ultimately leads to lesser access to education on menstrual health. Also, lack of access to basic hygiene products has led women to follow unhygienic practices resulting in risk of reproductive and urinary tract infections. All these problems will come to a halt, only when menstruation is accepted as a natural process and when women get equal access to social and economic power.

*1.1. Importance Of the Study*

Good menstrual-hygiene is crucial for the health of girls and women. Women represent the cornerstone of a family's overall health, resulting in upcoming healthy generation. Lack of awareness about menstrual-hygiene can lead to damaging misconceptions and discrimination around menstruation.

**2. Review Of Literature**

Angeline GG et al. (2019) community based cross sectional study was carried out between August and October 2018. Sample size of 400 was calculated by using formula  $4pq/d^2$  and female respondents were selected from sampled households using systematic random sampling. Data were collected using a pre-tested, structured questionnaire, which were analysed using SPSS version 16.0 and presented using descriptive and analytical statistics. This study concludes that menstrual-hygiene practices were found be unsatisfactory among the rural women and various restrictions during menstruation were also in practice. Women should be educated about the importance of sanitary pads and the harms of using cloths. Awareness also needs to abolish the unnecessary restrictions imposed on women to be followed during menstruation.

Kartik Ramachandra et.al (2016), A study on knowledge and practices regarding menstrual-hygiene among urban

adolescent girls. Adolescent girls often lack knowledge regarding reproductive health including menstruation hygiene which can be due to socio-cultural barriers in which they grow up. To explore the knowledge, practices and sources of information regarding menstruation and hygiene among adolescent girls in Bangalore, India. Methods: An epidemiologic study was undertaken using cross sectional study method among 550 school-going adolescent girls aged 13-16 years. Data was collected using a pre-tested questionnaire and analysed using SPSS version 15. Around 34 percentage of participants were aware about menstruation before menarche, and mothers were the main source of information among both groups. Overall, 69 percentage of adolescent girls were using sanitary napkins as menstrual absorbent, while six percentages were using both cloth and sanitary napkins. Almost half of the rural participants dried the absorbent inside their homes. This study concludes there is a need to equip the adolescent girls with knowledge regarding safe, hygienic practices to enable them to lead a healthy reproductive life.

**3. Objectives**

- 1) To observe the menstrual-hygiene awareness among the rural women in India
- 2) To state the unhygienic menstrual practices
- 3) To examine the difficulties faced by rural women to maintain hygiene

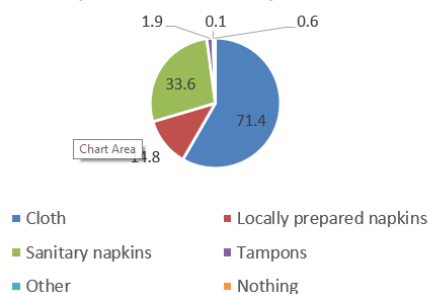
**4. Menstruation Taboos**

Our society stigmatizes menstruation. There exist several myths in Indian culture about menstruation. As menstruating women are considered impure across the country, they are often excluded from daily activities, religious gatherings, and rituals. Menstrual taboos are centered on gender inequality, cultural practices, social norms, and beliefs and religious definitions of women's purity are based on keeping clean and avoiding spreading disease. The taboos and stigmas associated with periods prevent rural girls and women from talking about their periods because they believe it is impure and shameful. And because of that almost half of girls do not know about menstruation when they begin their periods. Due to lack of knowledge and sensitivity, adolescents are misinformed about bleeding every month. Most women perceive menstrual problems as only minor health concerns, so their importance is irrelevant to the public health agenda, especially in developing countries where many women face life-threatening situations.

## 5. Unhygienic Menstrual Practices

A 2015-16 National Family Health Survey (NFHS-4) found that 52 percent of rural women in India did not use hygienic methods of protection during their periods. An observational study of 2,579 women and girls in 53 slums and 159 villages in Madhya Pradesh, Chhattisgarh and Uttar Pradesh revealed that 89% of respondents wore cloth with over half of them wearing the same fabric for more than one period. One study reported that 26% of women bathe less frequently and use non-hygienic absorbents to absorb menstrual fluids. It is recommended that women menstruating bathe at least twice a day and change sanitary pads three times a day. There are women who still use leaves, or anything that they lay their hands on to collect menstrual blood. This can lead to serious health complications. Different cultural practices, norms, and misunderstandings have also a direct impact on unhygienic menstrual practices. Since many rural women defecate in the open, they rarely use undergarments, and they cannot use sanitary napkins without underwear. Because of ignorance and socio-cultural beliefs that portray menstruation as a dirty phase of women's lives, women have long been denied access to proper menstrual-hygiene management.

Figure 1: National Family Health Survey (NFHS-4)  
Menstrual protection used by Rural households



## 6. Access To Menstrual Hygiene Products

An average length of the menstrual cycle is 21-35 days, and for a single period which lasts for 3 to 5 days, a woman requires about 6 to 12 pads. Also, GST of 12% and 18% has been imposed on sanitary pads depending upon their raw material. Tax is also a reason for non-affordability of hygiene products. Hence in India, the majority of women and girls in rural areas make their own pads to manage their menstruation. Commercial pads are expensive for low-income users, and low-cost pads are of variable quality and reach. They lack access to appropriate sanitation facilities and community support to manage their menstruation privately and safely. According to a NSS report, only 50.3% of rural households have exclusive access to bathroom and about 48.0% had bathroom and latrine both within household premises. But 28.7% do not have complete access to latrine. Lack of access to toilet hits especially women and girls terribly during menstruation. Most rural schoolgirls drop out of school or become absent due to the lack of proper facilities once they menstruate. Menstruation can be made more uncomfortable for India's disabled women and girls due to limited access to disabled-friendly toilets and built-environment. Menstrual issues are most often due to poverty and limited resources. The lack of access to menstrual products and the cost makes it necessary to use unsafe and unsanitary products, such as old clothes, rags, and sawdust. It has also become a serious

concern for women because they lack basic services, such as clean drinking water, sanitation, and sanitary facilities at public places, schools, colleges, and health centers. Feminine cycle requires for safe water, sterilization and cleanliness, particularly, significant for ladies. In such circumstances, admittance to safe water, sterilization and cleanliness can involve life and passing.

Table 1: Percentage distribution of rural households by access to latrine

Access to Latrine	Percentage
Exclusive use of the household	63.2
Common use of households in the building	7.3
Public/Community use without payment	0.2
Public/Community use with payment	0.0
Other type of access	0.5
No latrine (households without having access to latrine)	28.7

NSS Report No.584

## 7. Risks Of Poor Menstrual Hygiene

There are grave health risks in periods, if adequate sanitary measures are not taken with menstrual-hygiene. Also, their safety is compromised, causing additional stress and anxiety to them. As reported by BBC Magazine, around 70 % of reproductive infections in Indian women are caused by poor menstrual-hygiene. According to a study, almost 132000 Indian women are diagnosed with cervical cancer per year. The cervix develops cancer when cells grow in an abnormal way causing tumour. Hence, vaginal area must be kept clean. Poor menstrual-hygiene can also cause skin irritation which leads to dermatitis and discomfort. Lack of proper menstrual-hygiene acts as a major factor in contributing to the development of cervical cancer. There are also high chances of infertility if proper hygiene is not maintained. It is much more likely for women who do not change their pads frequently suffer from rashes and vaginal yeast and fungal infections, as well as an unpleasant odour. Poor menstrual-hygiene and pH level changes in the vaginal area can cause UTI. Menstrual health and hygiene interventions can help overcome these obstacles. Besides responding to an unmet demand for menstrual-hygiene products, they also build confidence, protect dignity, and strengthen sexual and reproductive health, especially in adolescents.

## 8. Government Initiatives In Menstrual Hygiene

The government has come a long way in formulating health policies and in implementing sanitary programs in the past decades.

- The National Health Mission (NHM) of India has additionally carried out a plan called Menstrual-Hygiene Scheme (MHS) for the advancement of feminine cleanliness among young adult young ladies from the age gathering of 10-19 years.
- As an important step in ensuring the health security for Indian women, Pradhan Mantri Bhartiya Jan Aushadhi Pariyojana (PMBJP) launched Jan Aushadhi Suidha Oxo-biodegradable Sanitary napkins for Rs. 1/- per pad on 27th August 2019.
- Kishori Health Cards for Adolescent Girls are maintained at Anganwadi Centers (AWCs) as part of the Scheme for Adolescent Girls (SAG) to provide

information about weight, height, Body Mass Index (BMI) and services provided by the Scheme, such as nutrition support, Iron and Folic Acid (IFA) supplementation, deworming, referral services, and vaccination from 11th February 2022.

- Aside from that, working on the admittance to reasonable sterile napkins through Accredited Social Health Activists (ASHA), the public authority has likewise made mindfulness among young adult young ladies about protected and clean feminine wellbeing rehearses through recordings, sounds, and dispersal of understanding material. In the previous many years, the issues connected with period are being tended to and the public authority has made considerable progress in outlining medical services strategies and executing clean plans.
- The plan called 'Sanitease' was sent off by the Union Ministry of Youth Affairs and Sports under the social improvement action Swachhagraha to advance ladies' wellbeing and feminine cleanliness. Aside from making mindfulness crusades, it gives operations to clean napkins to ladies and young ladies in both metropolitan and rustic regions.

## 9. Suggestions

- 1) Create opportunity to provide basic education to all rural women and girls, as education makes women stick to hygienic practices

- 2) Conducting frequent campaigns in rural areas to create awareness about menstrual-hygiene
- 3) Usage of reusable and washable cloth pads provided properly washed and dried in sunlight and its cost efficient
- 4) Another effective alternative to disposable pads is to use menstrual cups which are reusable and eco-friendly
- 5) It is essential to expand the range and quality of low-cost pads to combat menstrual health, as affordability is still the biggest barrier to their use in India
- 6) Providing comprehensive programs that engage both men and women related to menstrual health

## 10. Conclusion

In India, menstruation has consistently been a neglected topic due to myths and taboos which have led to a lack of awareness. Often menstruating girls and women face more challenges than simply having access to infrastructure, and these are rooted in the social norms and beliefs they are raised up within. This situation is not normal and unacceptable. Women's right to menstrual-hygiene goes beyond just being a basic human right. When women are educated about menstrual health, they can make informed decisions about their sexual and reproductive health. Also, government must take necessary action to ensure that all women from rural households has access to hygiene products.

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**POSITION OF WOMEN'S HEALTH AND LAWS IN INDIA***INDIRAPRIYA K – Lecturer, Government Law College, Trichy, Tamilnadu, India*

Keywords: Entrepreneurship, Students, Economic Growth

## 1. Introduction

Women play an important role in the production of food and manage the nutrition needs of the family but their own health and nutrition needs are ignored. Women's health is integrally linked to women's access to available resources and with women's productive and reproductive roles in society. Poverty, geographical location, social exclusion based on caste, gender, sexuality, disability interact closely with factors like work, housing, environment, education etc. to determine women's health. Barriers due to caste, class, gender, disability and sexuality further marginalize their position both at home and at the work place. Understand how women are impacted and their health outcomes.

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**2. Factors Affecting Women's Health**

Various factors in the housing environment may influence women's health negatively such as lack of civic amenities or limited availability or accessibility of these which cause high incidence of health problems, in urban and rural areas. Violence against women can increase the chances of homelessness and fear of homelessness can make women want to continue to remain in situations of violence and exploitation violence.

**3. International Conventions**

The Right to Health is recognised by several international conventions. In the context of women's right to health, discrimination based on sex is prohibited in the Universal Declaration of Human Rights and in Article 2 of the two most significant International Covenants on Civil and Political Rights and on Economic, Social and Cultural Rights. The women's Convention or CEDAW is the UN treaty that clearly brings together civil, political and economic, social and cultural rights. In addition, since its inception the committee established under CEDAW has issued several General Recommendations (GR) that elaborate on the articles of the Convention.

*Convention on the Elimination of Discrimination Against Women (CEDAW), 1965*

CEDAW's Article 12 establishes the obligation to adopt adequate measures to guarantee women access to health and medical care with no discrimination including access to family planning services. It also establishes the commitment to guarantee adequate maternal and child health care.

**4. National Remedies**

The Constitution of India does not explicitly recognise health as a fundamental right. However, it recognises the right to life, equality, and freedom of speech, expression and opportunity and to seek judicial redress to enforce these rights as fundamental rights. Right to Health is included in Article 47 of the Directive Principles of State Policy. These constitutional provisions must be interpreted expansively to understand and ensure women's right to health. The Preamble to the Constitution highlights some of the core values and principles that guide the Constitution of India. The Preamble directs the State to initiate measures to establish justice, equality, ensure dignity, etc. which directly affect women's health. The following Fundamental Rights in Part III of the

Constitution are related to women's right to health and health care.

- *Right to Equality and Freedom*

(Articles 14 -17 and 19) ensure the right to equality before the law and equal protection of the law, prohibition of discrimination based on sex, caste, religion, race or place of birth, equal opportunity in matters of employment and abolition of untouchability. However, the right to equality does not take away the right of the State to initiate affirmative action or specially provision women and marginalized communities (especially women from scheduled castes and tribes).

- *Right to Protection of Life and Personal Liberty*

No person shall be deprived of his or her life or personal liberty, except according to the procedure established by law. While the provision of health services is essential to ensure good health, there are several other factors that influence a person's health. The Supreme Court first recognised this in a case about the living and working conditions of stone quarry workers in Haryana (near Delhi) and whether these living and working conditions deprived them of their right to life. "The court held that humane working conditions were essential to the pursuit of the Right to Life. It lay down that worker should be provided with medical facilities, clean drinking water and sanitation facilities so that they may live with human dignity".

- *Right Against Exploitation*

Fundamental rights secure a person or persons against prohibition of traffic in humans and forced labour, employment of children in factories, mine, or in any other hazardous employment.

**5. The Directive Principles of State Policy (DPSP)**

It is the Duty of the State to raise the level of nutrition and the standard of living and to improve public healthily. The State must try to ensure that its policies are based on people's (men and women equally) right to an adequate means of livelihood; ensure equitable distribution of wealth and prevent the concentration of wealth and means of production; equal remuneration regardless of sex; ensure that the existing system do not abuse the health and strength of men and women, and children and that they are not pushed by

economic necessity to work in occupations detrimental to their age.

## 6. Protection Under the Domestic Violence Act

This act was enacted to provide more effective protection of rights of women guaranteed under the Constitution who are the victims of violence of any kind within the family. The term domestic violence under this act includes physical, emotional, sexual and economic violence. Physical violence - beating, kicking, slapping, etc emotional violence - abusing, using derogative words, demanding dowry, humiliating her because she does not have children or has only girl children, or because she is not good looking or she has not brought enough dowry, etc or threatening to throw her out of the house or threatening that she will be provided no money for her or her children's maintenance, etc. Sexual violence forcing the wife to have sex when she cannot have sex (e.g., during menstruation or soon after delivery/abortion), forcing her to watch pornography, filming her nude and then circulating these video clips, threatening to bring other women into the house to have sex with them in her presence, forcing the wife to have sex with other men, etc.

Economic abuse means neglecting to maintain the wife, not giving her money for her maintenance, throwing her out of the house and not providing any shelter or maintenance, not returning her dowry, stridhan or jewellery etc. If the woman has suffered any harm or injury due to domestic violence, she may claim compensation for it under the act.

## 7. The Dowry Prohibition Act 1961

Object of this act is to promote marital and family harmony to provide a base to fight against the abuse of dowry laws and to create awareness about the present cruelty, dowry, harassment related laws and their damaging effects on the family. This act defines dowry as any cash, jewellery, valuables, or property which the husband or his family members demand from the bride's parents at the time of marriage as a consideration of marriage. This term also includes demands made after the marriage from the bride or her parents. Demanding dowry is a serious offence under the Dowry Prohibition Act

*The Indian Penal Code (IPC) 1860*

IPC contains many provisions related to the protection of women and their rights. If a woman died in her matrimonial home within seven years under unnatural or suspicious circumstances, a special legal provision was incorporated which is termed as S.304B - Dowry Death. If a woman committed suicide due to harassment for dowry within seven years of her marriage, S.306 of IPC-Abetment to Suicide can be invoked. If the woman was harassed for dowry or was treated with cruelty, S.498A can be invoked. Here there is no limitation of seven years after marriage. If her stridhan is not returned to her S.406 can be invoked, along with S.498A.

This act also protects the women against Rape and Gang rape by severely punishing such offences.

## 8. Medical Termination of Pregnancy Act 1971

The Medical Termination of Pregnancy (MTP) act passed by Parliament in 1971 to permit legalized abortions. Before 1971 abortion was criminalized under the Indian Penal Code, 1860 except where the procedure was necessary to save the woman's life. The Shah Committee appointed by the Government of India comprehensively reviewed socio-cultural, legal and medical aspects of abortion and in 1966 recommended legalizing abortion to protect women's health and lives on both compassionate and medical grounds. It was also viewed as a population control measure. The term MTP was used to counter opposition from socio-religious groups averse to abortion.

The right to live under Article 21 include the right to live in dignity inclusive of women's reproductive rights (i.e., the right to become pregnant, to bear children to decide the number of children, the right to have an abortion, to use or not use contraceptives, to be or not to be sterilized, to be or not to be a parent, etc.). A mother's right to preserve her own health is superior to the right of an unborn child. In India a law was passed in 1971, the MTP Act to secure for women the right to have legal and safe abortions in public hospitals. This was done to curb the practice of illegal abortions carried on rampantly by non-medical professionals at a great risk to women's health.

## 9. Pre-Conception and Pre-Natal (Regulation) Act (PCPNDT) 1994

*Diagnostic Techniques*

Indian society carries within it a tradition of male preference. The great urge to have boys coupled with a high cost of living has led to a rise in sex-selective abortions. Unfortunately, provisions of the MTP Act are frequently abused in that many families invoke the act to help them in aborting female fetuses after conducting tests to determine the sex of the child using modern technology such as sonography. This act was amended in 2002 and even pre-conception techniques used advertised to select the sex of the foetus even before conception was banned. To curb this trend, in 1994, Government passed a new law, known as the Pre-Conception and Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) act, 1994 (PCPNDT act for short). Since these tests are important to detect foetal abnormalities and genetic defects the tests could not be banned, they could be regulated only. Now the tests can be done only under very strict conditions and they cannot be used to identify and disclose the sex of the unborn foetus.

## 10. The Maternity Benefit act 1961

The fundamental purpose for providing maternity benefits is to preserve the self-respect for motherliness, protect the health of women, complete safety of the child etc. Due to the increasing number of women employees in the government and private sector, it became necessary to grant maternity leave and other maternity allowances to working women. It is a piece of social legislation enacted to promote the welfare of working women. It prohibits the working of pregnant women for a specified period before and after

delivery. It also provides for maternity leave and payment of certain monetary benefits to women workers when they are out of employment because of their pregnancy. Further, the services of a woman worker cannot be terminated during the period of her absence because of pregnancy, except for gross misconduct.

### 11. Sexual Harassment of Women At Work Place (Prevention, Prohibition And Redressal) Act ,2013

Workplace sexual harassment in India was for the first time recognised by the Supreme Court of India in its landmark judgment "Vishaka Judgment" wherein the Supreme Court framed certain guidelines and issued directions to the Union of India to enact an appropriate law for combating workplace sexual harassment. Absent a specific law in India the Supreme Court in the Vishaka Judgment laid down certain guidelines making it mandatory for every employer to provide a mechanism to redress grievances pertaining to workplace sexual harassment (Vishaka Guidelines) which were being followed by employers until the enactment of the POSH Act. The Supreme Court for the first time acknowledged the glaring legislative inadequacy and acknowledged workplace sexual harassment as a human rights violation. In framing the Vishaka Guidelines the Supreme Court placed reliance on the Convention on Elimination of All Forms of Discrimination against women adopted by the General Assembly of the United Nations in 1979 which India has both signed and ratified. As per the Judgment the Vishaka Guidelines issued under Article 32 of the Constitution until then a legislative framework on the subject has been drawn-up and enacted would have the effect of law and would have to be mandatorily followed by organizations both in the private and government sector.

The POSH Act defines 'sexual harassment' in line with the Supreme Court's definition of 'sexual harassment' in the Vishaka Judgment. As per the POSH Act, 'sexual harassment' includes unwelcome sexually tinted behaviour whether

directly or by implication, such as (i) physical contact and advances, (ii) demand or request for sexual favours, (iii) making sexually coloured remarks, (iv) showing pornography, or (v) any other unwelcome physical, verbal or non-verbal sexual conduct.

#### *Punishment and Compensation*

The POSH Act prescribes these punishments that may be imposed by an employer on an employee for indulging in an act of sexual harassment punishment prescribed under the service rules of the organization. If the organization does not have service rules, disciplinary action including written apology, warning, reprimand, censure, withholding of promotion, withholding of pay rise or increments, terminating the respondent from service, undergoing a counselling session, or carrying out community service; Deduction of compensation payable to the aggrieved woman from the wages of the respondent. The POSH act also envisages payment of compensation to the aggrieved woman. The compensation payable shall be determined based on i. the mental trauma, pain, suffering and emotional distress caused to the aggrieved employee ii. the loss in career opportunity due to the incident of sexual harassment iii. medical expenses incurred by the victim for physical/psychiatric treatment iv. the income and status of the alleged perpetrator v. feasibility of such payment in lump sum or in instalments.

### 12. Conclusion

While some rights have been accepted as fundamental by both the international conventions as well the Indian laws, the 'Right to Health' has yet to be acknowledged as a fundamental right in India. The understanding and scope of women's Right to Health is constantly evolving as women participate more actively in these processes causing changes in attitudes towards women and their health bringing about change in the way laws are formulated and interpreted. Combined efforts are required now more than ever to demand and ensure the recognition of Right to Health as a fundamental right.

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**PRIMARY HEALTH CARE SYSTEM IN INDIA***Dr MUTHULAKSHMI K - Lecturer, Government Law College, Trichy, Tamilnadu, India*

Keywords: Primary Healthcare, Healthcare System, Challenges

Abstract

Primary healthcare is a vital strategy which remains the backbone of health service delivery. Primary healthcare is the day-to-day care needed to protect, maintain, or restore our health. For most people, It is both their first point of contact with the healthcare system and their most frequently used health service. In India concept of primary healthcare was laid down by the recommendations of Shore Committee (1946). In last six decades of independence, we have seen much improvement in primary healthcare services, infrastructure, and related healthcare indices of the country. Still many challenges are ahead to achieve health for all. There is a need to review primary healthcare in the country to know our strengths and weaknesses to face the challenges. This review article discusses the evolution of primary healthcare system in India over period. It is also focuses on the challenge for primary healthcare system in current scenario and in future.

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**1. Introduction**

Health Care base on practical, scientifically sound and socially acceptable methods and technology made university accessible to individuals and Families in the community through their full participation and at a cost that the community can afford to maintain at every stage of their development in the spirit of their self-reliance and self-determination. It forms an integrity part of both the countries health system of which it is the control function and main focus and of the overall social and economic development of the community with the first level of contact of individuals, the family and the community. National health system bringing health care close to which people live and Work. PHC constitute the first clement of a continuing health care process.

*The principles of Primary Health Care are:*

- 1) Community Participation
- 2) Inter-sectoral
- 3) Affordable appropriate technology
- 4) Equity and social justice

*Components of PHC*

- a) Health education about prevailing health problems.
- b) Promotion of food supply and pauper nutrition.
- c) Adequate supply of safe water and basic sanitation.
- d) Maternal and child care including family planning.
- e) Immunization against major infection diseases.
- f) Prevention and control of locally endemic disease.
- g) Appropriate treatment for common ailments and injuries.
- h) Supply of essential drugs.
- i) Oral health.
- j) Mental health
- k) Eye health.

**2. Primary health Care in India**

In 1977, the Government of India launched a Rural health Scheme, based on the principle of "placing people's health in people's hands". It is a three-tier system of health care delivery in rural areas based on the recommendation of the Shrivastav Committee in 1975. Close on the heels of these recommendations an international conference at Alma-Ata in 1978, set the goal of an acceptable level of health for all the people of the world by the year 2000 through primary health care approach. As a signatory to the Alma-Ata

Declaration, the Government of India will achieve the goal of health for throughout primary health care approach which seeks to provide universal comprehensive health care at a cost which is affordable. Keeping in view the WHO goal of "Health for All", the Government of India evolved a National Health Policy based on primary health care approach. It was approved by Parliament in 1983. The National Health Policy has laid down a plan of action for reorienting and shaping the existing rural health infrastructure.

*Health Care Infrastructure in Rural India*

The role of health of the people of a nation in economic growth is universally recognised while a well-developed health care infrastructure is the key determinant of good health, the health care infrastructure in India is unsatisfactory, especially in rural areas even after the National Rural Health Mission (NRHM). The current conditions of physical infrastructure, staff, access and usage are laid out identifying critical gaps and requirements in infrastructure and services. Issues related to institutions, financing and policy are discussed in these critical need gaps and potential role of the private sector in healthcare provisioning in villages is explored.

**3. Health Care Services**

The purpose of health care services consists in improving the health status of the population: to reduce the levels of mortality and morbidity, to increase in expectation of life, to decrease in population growth rate, improvements in nutritional status, to reduced levels of poverty, etc. Health services varies widely from country to country and influenced by general and ever changing national, state and local health problems, needs and attitudes as well as the available resources to provide these services. There is now broad agreement that health services should be:

- Comprehensive
- Accessible
- Acceptable
- Provide scope for community participation, and
- Available at a cost the community and country can afford.

These are the essential ingredients of primary health care which forms an integral part of the country's health system,

of which it is the central function and main agent for delivering health care)

#### 4. Health Care Systems

The health care system is intended to deliver the services. It constitutes the management sector and involves organizational matters; it operates in the socioeconomic and political framework of the country. In India, it is represented by five major sectors or agencies which differ from each other by the health technology applied and by the source of funds for operation. These are

- 1) Public Health Sector
  - Primary Health Care
    - Primary health center
    - Subcenter
  - Hospital Health Center
    - CHC
    - Rural Hospital
    - District Hospital
    - Specialist hospital
    - Training Hospital
- 2) Health Insurance Scheme
  - ESI
  - CGHS
  - Other
    - Railway
    - Defence
- 3) Private Health Sector
  - Private hospitals, polyclinics, nursing homes and dispensaries.
  - General Practitioners and clinics indigenous system of medicine
  - Ayurveda and Siddha
  - Unani and Tibbi
  - Homeopathy
  - Unregistered practitioners
- 4) Voluntary health Agencies
- 5) National health programme

#### *Mobile Technology for Health Care or E-Health Services in India*

Amongst the many ICT options available to govt. to improve the efficiency effectiveness of its delivery process of primary health care, mobile and wireless there in strong evidence that mobile technologies could helped to address slow response rates of govt. to citizen requests, poor access to services, particularly for low-income and marginalised populations in under serviced rural areas. In addition, mobile technologies offer significant opportunities for improving the back-office operations of government In addition, many primary healthcare clinics in the rural areas have no electronic systems and continue to operate paper-based systems, resulting in patient records being kept by patients themselves. The impact of multiple systems is that it is difficult and costly to

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develop a national overview of patient statistics. On a more basic level, it is difficult for individual institutions within the health care sector to share information between each other. One of the clearest examples of this is in sharing patient laboratory results. In most instances, this takes place only through manual exchange. Many vendors of Cellular phones embedded a variety of e-health services in Mobiles.

*National Rural Health Mission:* NRHM launched by Hon'ble Prime Minister on 12.04.2005.

- Aimed to ensure affordable, quality health care to the poorest households in remotest areas.
- Special focus on eighteen performing states which have weak public health indicators and weak infrastructure.
- Punjab is among the nine high performing states, Punjab, Haryana, Gujarat, Maharashtra, Karnataka, Kerala, Tamilnadu, Andhra Pradesh, West Bengal. The NRHM will cover all the villages in these eighteen states through approximately 2.51akh village based. A sum of Rs. 336-25 crore has been received from GOI from 2005 - 2006 to 2007 - 2008 against which a sum of Rs. 309.29 crores have been spent. The plan for the year 2008 - 2009 is for Rs. 210.70 crore (Rs. 180.00 crore GOI + Rs. 30 Crore Gap).

#### *Manpower Demand*

- The manpower demand of the healthcare industry would double up in the next 7 years. For example, the current Marketing and Sales manpower in the healthcare and pharmaceutical segment is 200,000 plus, which is expected to double up in the next seven pan. In clinical research the current shortage is; 10,000 personnel, which will increase to 50,000 personnel by 2012.
- There is huge shortage of trained healthcare A pharmaceutical marketing and sales executives, medical representatives and managers.
- There is a major shortage of. quality professionals for hospital services; service professionals for bio medical equipment, diagnostics, pharma R&D professionals.

#### 5. Conclusion

The primary health care is a system is a system referred and being call by people for health-related emergency. Primary health care has potential to address the social determinants of health. universal access and through its contribution to empowerment and socio cohesion. In India, quality in health care is not well understood, with insufficient evidence to inter-how it affects equity. Adequate regulation of the public and private sectors has been difficult to achieve.

**A STUDY ON THE AWARENESS ON MUTUAL FUND IN RURAL AREAS***RINOFIA N - A.V.C College of Engineering, Mayiladuthurai, Tamilnadu, India*

Keywords: Mutual fund, Awareness, Investment, Return

Abstract

Investment is done with the motive of earning a regular return, risk free. In our country, several investment measures can be seen ranging from insurance policies to shares or debentures. The investment chosen depends upon the income level and the risk-taking ability of the investor. Mutual Funds are an emerging mode of investment with great potential as it's got diverging investing modes with regular return and minimized risk. But the awareness level it has regarding the citizens of our country is low. This study examines the awareness among college student in rural area about mutual fund investment and pays a way to know the interest level of the students in investing. The perception of students varies widely but with this study, we can come through with the college student's level of awareness in share market, the student's mentality on share market and creates an opportunity to enhance the investors in mutual fund.

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**1. Introduction**

A mutual fund is an investment vehicle where many investors pool their money to earn returns on their capital over a period. This corpus of funds is managed by an investment professional known as a fund manager or portfolio manager. It is his/her job to invest the corpus in different securities such as bonds, stocks, gold and other assets and seek to provide potential returns. The gains (or losses) on the investment are shared collectively by the investors in proportion to their contribution to the fund. This mechanism of mutual funds pools resources from collecting smaller units of funds from its investors, after on investing them in securities under objectives provided with the offer document. Since the investment spreads itself across wide varieties of industries and sectors, the risk is reduced regarding other mechanisms. This feature of 'Diversification' in mutual funds have made this mode of investment familiar among investors – small or large. Mutual Funds shows its existence through several schemes, launched occasionally with the aim go accomplish beforehand it should get registered with Security and Exchange Board of India (SEBI) to function under approved regulations and encourages public in investing in this mode. This industry in India has started with the formation of the Unit Trust of India (UTI) in 1963 as an initiative of the Reserve Bank of India and The Government of India. Mutual Funds help investors through Qualified managers to reduce the risk such that it could be invested in securities of varied nature to deviate from a similar trend. Also, since the cost is divided between larger pools of investment, investors of all class find space in this form of investment. With its high regulation, under the supervision of The SEBI, helps enhance security, transparency with investors making the right

**2. Review of Literature**

Jambodekar (1999) conducted the study to identify the information sources that had influenced buying decision and the factors that had influenced the selection of choices of funds. This study has revealed that under the prevalent market conditions, income and open-ended schemes are more preferred that growth and close ended schemes. Investors more focus on safety of principal and liquidity and choose newspapers and televisions as their mode of awareness regarding this investment.

Priti Mane (2004) has stated mutual funds as one among the best options for information in today's world. Several researches have been carried out on investors behaviour

regarding mutual Funds. To attract investors into financial industries, require innovation in developing and delivering financial nature services for growth.

Paul and Garodia (2012) have observed that the demographic variables like age, sex, occupation, income level has a significant impact on the pattern of investment. It states that the expectation level of different investors varies with their category.

Grinblatt M and Kelohraju (2000) in their study analyses the extent to which past data affects the decisions to buy and sell. It has also analysed the investors sophistication drive towards the modes of investment.

**3. Objectives Of the Study**

- 1) To study the awareness of mutual fund among college student in rural area.
- 2) To know the investment preferences in mutual funds regarding other investment opportunities.
- 3) To analyse the purpose of investment in mutual funds.
- 4) To examine the interest of the student in learning mutual fund investment and their perception on share market.

**4. Methodology Of the Study**

The present study is exploratory research study and questionnaire survey. This study is based on primary data collection in which it has been collected through a structured close ended five-point Likert Scale, Multiple choice questions, and checklist type multiple choice question through Google form. The primary data required for the study has been collected from the college students all in the rural area with the sample size of 100 student respondents. The data are analysed using the Statistical Package for The Social Sciences (SPSS).

**5. Data Analysis**

The response of the college students in rural area has been collected by sending the questionnaire through Google form. The responses of the student were sought for identifying the awareness level of the student in mutual fund investing and options on the scale ranging from Fully not Aware to Fully Aware. Further the oblivious view point and acceptances level of students on share market investing were given with the options on the scale ranging from Strongly Disagree to Strongly Agree. To analyse the response the Descriptive

Statistics has been carried out to describe the feature of the large number of collected samples in a simplified summary. Helped by this, we can provide an end-note of the awareness level and the viewpoint of share market among students.

5.1. Awareness Level of College Student in Rural Area

The first and the foremost objective of the study are identifying the awareness level. Here, the questionnaire has been given with a set of basic share market related which implies the awareness of the student. The scale option ranges from fully not aware to aware and agree to disagree

Table 1: Awareness Level

Questions	N	$\bar{X}$	$\sigma$
Do you aware about mutual fund?	100	2.9800	1.31025
How to invest in mutual fund?	100	2.9100	1.24799
Does mutual fund is risky?	100	3.0600	1.17911
Do you have any obstacles in investing in mutual fund?	100	3.2800	1.10170
whether mutual fund is beneficial?	100	3.5400	.99919
Do mutual fund guarantee return?	100	3.2800	1.11083
Do you think that mutual fund is scam and gambling?	100	3.3200	3.3200
Demat mode is useful in mutual fund?	100	3.6700	.98530
Is there availability of opportunity to learn about mutual fund?	100	3.6900	1.12542
Do mutual fund helps in capital formation	100	3.5700	1.04693
If you were given with set material on mutual fund, would you ready to learn it and invest it	100	3.7000	1.08711
Valid N (list wise)	100		

- The mean score of awareness about mutual fund is 2.9800 with a standard deviation of 1.31025. The standard deviation is lower than 1/3rd of the mean. So, awareness level of mutual fund is aware.
- The mean score of awareness of investing in mutual fund is 2.9100 with a standard deviation of 1.24799. The standard deviation is higher than 1/3rd of the mean. So, awareness on investing in mutual fund is not aware.
- The mean score about mutual fund is risky is 3.0600 with a standard deviation of 1.1791. the standard deviation is lower than 1/3rd of the mean.so its partially aware.
- The mean score of obstacles in investing in mutual fund is 3.2800 with the standard deviation of 1.10170. the standard deviation is lower than 1/3rd of mean.so obstacle in investing in mutual fund is partially agree.
- The mean score of mutual funds is beneficial is 3.5400 with standard deviation of .99919.
- The standard deviation is lower than 1/3rd of mean. So, benefit of mutual fund is partially agreed.
- The mean score of mutual fund guarantee return is 3.2800 with standard deviation of 1.11083. the standard deviation is lower than 1/3rd of mean. So, guarantee return in mutual fund is partially agree.
- The mean score of mutual funds is scam and gambling is 3.3200 with standard deviation of 3.3200.the

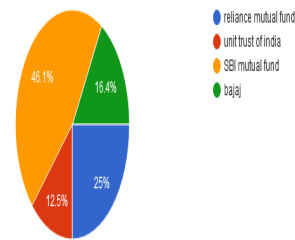
standard deviation is equal to the mean.so the mutual fund is scam and gambling is neither agree nor disagree.

- The mean score of Demat mode is useful in mutual fund is 3.6700 with standard deviation of .98530. the standard deviation is lower than 1/3rd of mean.so demat mode is usefull in mutual fund is partially agree.
- The mean score of opportunity to learn about mutual fund of 3.6900 with standard deviation of 1.12542. the standard deviation is lower than 1/3rd of mean. So, the opportunity to learn about mutual fund is agree.
- The mean score of mutual fund helps in capital formation of 3.5700 with standard deviation of 1.04693.the standard deviation is lower than 1/3rd of mean. So, it is partially agreed.
- The mean score of learning about mutual fund is 3.7000 with standard deviation is 1.08711.the standard deviation is lower than 1/3rd of mean. So, it is agreed.

5.2. Mutual Fund Preference Among College Student

The figure below portrait the mutual preference of the college student has been collected through questionnaire with check list type multiple choices.

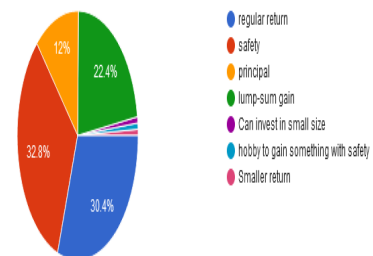
Figure 1: mutual fund preferences



From the above figure its clearly explained that most of the student are preferring State Bank of India (SBI) mutual fund and next followed by reliance mutual fund. these both are preferred by many in rural area.

5.3. Purpose of Mutual Fund Investment

Figure 2: Purpose of mutual fund

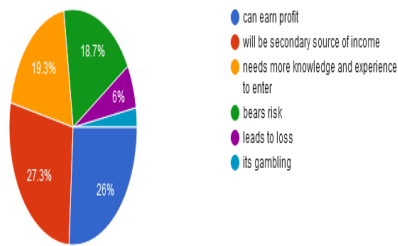


As the figure 2 given below that many students are believing that and they are strong that mutual fund is the safe to invest among the many investments and they are liking to invest in mutual fund and they are well known that mutual fund is less risky and from that we might get regular return. Many people are known that mutual fund will give lump sum gain profit.

5.4. Perception Of Mutual Fund

The student’s perception on mutual fund is vary from one person to another. From the figure 3, the student’s perception on mutual fund investment is mutual fund will be the secondary source of income. Followed by the factor the mutual fund investment will be a more profit. From this analysis, the students are interest about the mutual fund investment but unaware to enter into it. Some students were thinking it as a gambling due to their unsound knowledge in it and some says it as a risky one, but generally in mutual fund investment when we except high return we should bear risk, if we need risk free market then the return would be a moderate one.

Figure 3: Perception on mutual fund



6. Suggestion

The study focuses on the awareness of college student on rural area which has been founded that the awareness level is not aware. The students are all so active in learning about the mutual fund investment if they were provided an

opportunity to learn it and some students has an unaware depict of mutual fund investment. They are much aware that mutual fund is less risk of investment. many people prefer SBI mutual fund investment that come to know that company has created and gained and made trust among the people.one should have a sound knowledge and experiences. When in real life, it seems true but the myth is that the learning the mutual fund is modest when comparing with the myth on mutual fund. If they give proper guidance and knowledge about mutual fund means student will invest in mutual fund.

7. Conclusion

Mutual Funds, though a profitable form of investment, with limited risk factors compared to shares and debentures. From this exploratory research study with the help of primary sources of collection of data, it is understood that the college student in rural area must have the knowledge of mutual fund investment because of their interest. Helped by this study the reader can able to understand the mentality of the future leaders-(student) in the share market sector. The student oblivious view on the share market can be removed when they were filled with the sound knowledge about investment The student’s interest on mutual fund is enough that it will lead the student toward investment. The investment and perception option has been analysed in this study which can help the institution to well-verse their services based on the student’s preferences. The result achieved in this research paper would make the students to be aware on their financial knowledge.

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**A STUDY ON SOLID AND LIQUID WASTE MANAGEMENT**

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Keywords: Solid and Liquid Waste, Disposal of Waste, Waste Management

Abstract

Solid and liquid wastes generated from both animal and domestic sources can significantly impair drinking, irrigation, recreational water and other water sources in rural and urban areas. Waste as a management issue has been evident for over four millennia. Disposal of waste to the biosphere has given way to thinking about, and trying to implement, an integrated waste management approach. Disposal of solid wastes is a stinging and widespread problem in both urban and rural areas in many developed and developing countries.

\*\*\*\*

**1. Introduction**

Environmental degradation-with accompanying threats to health and disruption of ecosystem is not a new phenomenon. But with the advent of industrial revolution and large-scale adoption of technology, man now diverts vast amount of energy and materials flowing through the natural ecosystems to his own use. Industries constitute a formidable source of pollution with large quantities of waste products in solids, liquids, gases, heat, noise etc. Which are discharged into the environment? Many of these pollution problems are inherent in the technology and considerable research and developmental efforts are needed to overcome these drawbacks. Industrial research should not be limited only to the development of materials, methodologies and their management but it should also include investigation on the effective methods of waste disposal, more so, recycling of waste for productive purposes. The reasoning is simple – recycling will cost be not only effective, but also will reduce to a considerable extent contamination to our environment pollution of air, water and land, three modern aspects with which everyone is most concern.

*1.1. Waste Problem in Rural Area In India*

In India especially in rural areas, waste is a severe threat to the public health concern and cleanliness. Though, the form of waste (both solid and liquid) generated in rural areas is predominantly organic and biodegradable yet becoming a major problem to the overall sustainability of the ecological balance. For e.g. it is estimated that rural people in India are generating liquid waste (grey water) of the order of 15,000 to 18,000 million litres and solid WASTE.

In the absence of proper disposal of solid and liquid waste (grey water and wastewater from the hand pump), they are leading to vector borne diseases such as diarrhoea, Malaria, Polio, Dengue, Cholera, Typhoid, and other water borne infections such as schistosomiasis. Close to 88% of the total disease load is due to lack of clean water and waste management-which intensify their occurrence.

**2. Objectives of the study**

- To protect human health and improve quality of life among people living in rural areas.
- To reduce environment pollution and make rural areas clean.

- To promote recycling and reuse of both solid and liquid waste.
- To convert bio waste into energy for ensuring greater energy security at village level.
- To generate employment for rural poor by offering new opportunities in waste management by adopting cost effective and environmentally sound waste water and solid Waste treatment technologies.

**3. Scope Of Study**

- Analyses the existing waste management situation.
- Data Collection and Analysis for accurate quantification and characterization of waste.
- In Rural Area “Solid and Liquid Waste Management”4193.
- Design waste management hierarchy, planning and design of systems, technology selection.
- Preparation of plan for transportation of solid waste.
- Preparation of plan for disposal on land i.e environmentally safe and sustainable disposal in landfills.
- Implement the action plan and monitor the results.

**4. The "Waste" Problem: Past and Present**

Man has always generated waste materials either by-product of his activities, for which he could find no use, or products which have reached the end of useful life. Although this was going on throughout the ages, it was not a problem until recent times because nature's own waste treatment processes like dispersion, dilution and degradation, which took care of these problems. From the smoke of the caveman's fire till the 'smog' (the word 'smog' is coined in the 20<sup>th</sup> century) of the last century, the problem, went unnoticed. Wastes dumped into the rivers were washed away quickly and diluted to where no effect on water purity could have been observed. Wastes left on land, decayed by spontaneous chemical and degradation process: the balance of nature was maintained.

The situation today is not so simple. The problems due to both quantitative and qualitative nature of the wastes we are producing. The natural degradation processes are slow and can take care of only a limited amounts and specific wastes. The obnoxious fumes produced today by the civilized society are too much for the atmosphere to get dispersed, especially in urban environment. The rivers cannot dilute and degrade sufficiently the vast number of industrial effluents dumped every S. Syed20 Emirates Journal for Engineering Research,

Vol. 11, No.2, 2006day into them. And one would have to wait a long time for heaps of junk metallic material dumped to blend in with the earth's crust again as ores. This will not happen because we are dumping wastes faster than nature can degrade and absorb them. Further many of the modern waste materials like plastics and detergents are non-bio-degradable. All these will cause serious threat to our ecosystem.

*International Journal of Innovative Research in Science, Engineering and Technology* (2013)

4.1. Solid Waste Management

Solid waste management is a separate discipline dealing with the control of generation, storage, collection, transfer and transport, processing, and disposal of solid wastes in a manner in accordance with the best principles of public health, economics, engineering, conservation, aesthetics, another environmental consideration, and that also irresponsive to public attitudes. In its scope, solid waste management includes all administrative, financial, legal, planning, and engineering functions involved in the whole spectrum of solutions to problems of solid wastes thrust upon the community by its inhabitants. The solutions may involve complex interdisciplinary relationships among such fields as political science, city and regional planning, geography, economics, public health, sociology, demography, communications, and conservation, as well as engineering and materials science.

Rapid industrialization and population explosion has led to the migration of people from villages to towns, which generate thousands of tons of MSW daily. One of the main functions of urban local bodies in developing countries is Municipal Solid Waste Management (MSWM). Forecasting of solid waste generation is a vital component of MSWM. This paper deals with modelling of solid waste generation in medium scale towns in a developing country. Primary data is analysed to identify independent variables to be used to predict solid waste generation. Different empirical models are used for population projection. Projected population is used to predict solid waste to be handled during the study period. Artificial neural network models are proposed for estimation of solid waste generation in medium scale towns in the study area. Efficacy of the proposed modelling scheme for forecasting solid waste generation was successfully demonstrated with the help of validation data.

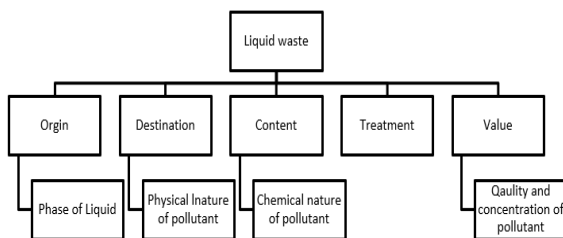
4.2. Liquid Waste Management

Waste may be follows: Origin, destination and content. The latter is further classified as: appreciate the limitations under each heading, as any one method likely will not be sufficient to characterize a liquid waste adequately.

*United Nations Environment Programme (UNEP)*

Over the last three decades there has been increasing global concern over the public health impacts attributed to environmental pollution the global burden of disease. The World Health Organization (WHO) estimates that about a quarter of the diseases facing mankind today occur due to prolonged exposure to environmental pollution. Most of these environment-related diseases are however not easily detected and may be acquired during childhood and manifested later in adulthood. The aim of the waste hierarchy is to extract the maximum practical benefits from products and to generate the minimum waste.

Figure 1 Liquid Waste Management



5. Conclusion

Treatment

This is the most common system of classification of waste. A list of treatment methods is given in with some examples. The list includes only those operations known to be used in effluent treatment, and has been divided under three main categories-chemicals, physical and biological. Practically all the listed methods are accepted chemical engineering unit operations or unit processes. Treatment of a waste for recycling, or before disposal, may be subjected to a sequence of operations.

The Management of Waste Is One of The Earliest of Man's Branches of Knowledge. In Some Ways It Can Also Be Considered as One of The Latest. There are in the rural area the waste management is important because without waste management the people are suffering from different type of diseases. Industrial research should not be limited only to the development of materials, methodologies and their management but it should also include investigation on the effective methods of waste disposal, more so, recycling of waste for productive purposes. The reasoning is simple – recycling will cost be not only effective, but also will reduce to a considerable extent contamination to our environment pollution of air, water and land, three modern aspects with which everyone is most concern. The waste disposal needs immediate attention and strict monitoring. Many new techniques have been implemented for storage, collection, transfer and transportation.

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**SWACHH BHARAT MISSION - IMPROVED RURAL WOMEN HEALTH  
PRIMARY HEALTHCARE MANAGEMENT**

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Keywords: Swachh Bharat Mission, Rural Women Health, Primary Healthcare

Abstract

Primary Health Care (PHC) is the right to the highest attainable level of health maximizing equality and solidarity while being guided by responsibility to people's need. This paper focuses on how PHC management plays a vital role to women health and how women wellness contributes to the development to the development of Indian economy. It also discusses about the India's role in PHC management and the gaps and barrier in their effective performance. It also contains my field visit report of one of the PHC centre I have visited and shared the experience of my visit and the suggestions that could bridge the gap in the healthcare sector among the rural areas thus contributing to bettering the nation.

\*\*\*\*

## 1. Introduction

Primary Healthcare is the right of every citizen of India. Its barrier is an hinderance to the Fundamental right of the people. Providing them with the quality but low-cost infrastructure services is essential for a better primary healthcare management. Suggested reforms such as portable stethometers, teaching stethoscope, modular delivery kits will ensure greater quality service at a lower cost. Investment on research and more focus on women health care is essential to provide better PHC service to rural areas. This paper speaks of such reforms that could bridge the gap in the primary healthcare management on rural areas.

Meet Kannapan a poor farmer from a remote village of Andhra Pradesh. About Three years ago Kannapan wife was pregnant with a second child during their third trimester Kannapan woke up one night hearing a scream. His wife water had broken out and she was in excruciating pain. Calculated that it would take five hours to take her to the nearest hospital he knows she will never make it. What would have happened to Kannapans wife?

The only thing that Kannapan could do is calling his family doctor. Wonder! Is there a family doctor to a poor farmer? A couple of steps echoed outside his house within few minutes after his call. And there comes the village Medics and Village Midwife. Think of the devastation that would have happed if this care was not provide to Kannapan wife. And there comes the necessity of PHC.

“Let us be the ones who say we do not accept that a child dies every three seconds simply because he does not have the drugs you and I have. Let us be the ones to say we are not satisfied that your place of birth determines your right for life. Let us be outraged, let us be loud, let us be bold.”

- BRADD PITT

There is today a recognition that populations are left behind and a sense of lost opportunities reminiscent of what gave rise thirty years ago to the Alma – Ata Paradigm shift in thinking about health. The Alma – Ata conference mobilized a PHC Movement, professionals and institutions, governments and civil society organizations researchers and grass-roots organizations that undertook to tackle the Politically, socially, and economically unacceptable health.

The PHC values to achieve health for all require health system that Put people at the centre of healthcare. PHC has remained the benchmark for most countries' discourses on

health precisely because the PHC Movement tried to provide rational, evidence based and anticipatory responses to health needs and to the social expectations.

Stronger PHC is essential to achieving the health-related Sustainable Development Goals (SDGs) and universal health coverage. It contributes to the attainment of other goals beyond the health goal (SDG3), including those on poverty, hunger, education, gender equality, clean water and sanitation, work and economic growth, reducing inequality and climate action.

By promoting PHC for women, we help promote the health and economic wellbeing of the population. Studies show that, when a mother dies, her children and her community of family and friends experience a decline in health, nutrition, education, and economic outcomes; they also face a financial loss that may take generations to overcome. This greatly suggests how health of a women has a vital role in the upliftment of the societal wellbeing. Women not only participate in taking care of their homes, they are evolving to be the major labour workforce. This can be greatly seen at tough times during the pandemic. During the covid19 the women workforce had a greater role to play. From keeping the city clean to taking care of the people at homes and serving day and night as frontline workers to educating students women had always contributed in the betterment. Such a valuable human resource needs an intense care.

## 2. Objectives

- 1) To ascertain the need of PHC
- 2) To ascertain the important role of PHC management to women

*Why more focus on PHC to women?*

PHC plays an essential role in responding to women's unique health needs through advanced age and in bridging care during life transitions, from puberty and reproduction to menopause. Achieving the vision of comprehensive PHC for women is critical to improving health outcomes, bending the cost curve, and promoting health equity. While women often require care from cardiologists, neurologists, obstetricians and gynaecologists, and other specialists who address particular conditions, these providers may not have the expertise or bandwidth to comprehensively address women's broad and intersecting health needs across the life course. Therefore, as women age and experience natural life transitions, such as menopause, they require the care and attention of a

PHC provider who can monitor their evolving needs, make connections across specialty services, and understand emerging patterns that may indicate future health risks.

### *How PHC plays a vital to women India?*

This graph clearly indicates the decline of maternal mortality rate in India and our target that to be achieved by 2030. From the above graph we could clearly look onto how the population of middle-class family has a greater impact on our economy. Not only the middle-class families are more in urban there is a greater portion of middle-class people residing in the rural too and making the access to the PHC will play a major role in preventing the health issues among women and leading to a health society.

I have visited a PHX in my locality to survey about how women are being benefited by the PHC centre and how they are serving their needs. The PHC centre plays a major role in aiding the service of primary health to especially during the women pregnancy days.

It aids in providing individual care. I have observed here that intense care can be given as population rushing to these are only from their locality and hence individual is assessed easier. Free necessity medicines are available and I see it as a best place to provide first aid services and medical advices. Other than that, I got to know about the conditions of the workforce and assessed their politeness towards their patient. The cleanliness of the Centre was also good.

From my above assessment I have found the barriers in the PHC system for women and have listed them below. Gaps and barriers of primary healthcare to women. The current PHC system in the could be much more responsive to the needs of all individuals, regardless of their sex and gender. But women experience unique challenges when seeking PHC. I have categorized the barriers into three:

- 1) Education, Financing and policy
  - a. Inadequacy of medical education and training addressing gender.
  - b. Underinvestment in PHC models that target women.
  - c. Politicization of women's health.
- 2) PHC Delivery system
  - a. Lack of care coordination
  - b. Undersupply of women specialists
- 3) PHC utilization
  - a. Inconsistent or no regular source of PHC.
  - b. Health coverage barriers to seeking PHC.

### *How India Is Responding to These Barriers?*

The primary care industry is valued at \$13bn. The share of the organized sector is practically negligible in this cases 70,000 Ayushman Bharat centre which at providing PHC services communities closer to their homes are operational in India. The market size of Ayush has grown in 2014-20 to reach \$18.1 bn and the industry is projected to reach \$23.3 bn in 2022.

### *The Rise Of E-Health Consultation*

As per the research by “the India Watch .com” India e-health care consulting market is expected to reach USD 290.1 million but FY22, growing at a CAGR of 78.9% in the past 4 years. The market is still in its infancy when compared to other developed markets in the world. But attractive demographic dividends evolving consumer behaviour, and availability of cheap 4G internet are driving the industry in a positive direction. The pandemic also gave upward thrust to the digital health industry in India. Post pandemic millions of Indian households are now comfortable in availing healthcare consultation in availing health care over the web.

Becoming self-reliant in device manufacturing India aims at becoming sold reliant manufacturing medical devices. In the FY 20 the total device manufacturing such as GE Healthcare, Philips, Siemens etc, the market is mostly import dependent. However, there is a pressing need to incentivize domestic production. Due to expensive devices many times pathology centres in smaller towns and rural areas cannot afford undermining the overall healthcare services Elevated indigenous manufacturing can help diagnostic services more affordable to average Indians.

### *Why to focus more on women health to enhance women wealth thus to contribute to India's GDP?*

- *Employment Generation*

According to the estimates by the National skill development Corporation (NSDC) healthcare can generated 27 lakh additional jobs in India between 2017 and 22 over 500,000 new jobs per year. It is found that that women makeup around half of healthcare workforce and experience a limited gender gap in promotions. A result significantly better than other industries such as financial services and automotive and industrial manufacturing.

- *Women health leads to nations wealth*

Women could make new life to the earth. Bring up a child in a right direction contribute in producing a better human resource to the nation. When a woman is healthy, she takes well care of the child and her husband which ultimately aid in providing the nation better human resources. Thus, Woman health led to family's wealth and leading to nation's wealth.

- *Empowerment Of Women*

'Health is wealth' For an empowered women health is her basic necessary. To make a women wealthy focus on her health plays a major role. Common short comings in primary healthcare management:

- 1) Inverse care: public spending on health services most often benefits the rich more than the poor.
- 2) Impoverishing care: Over 100 million people annually fall into poverty because they must pay for healthcare.
- 3) Fragmented and fragmenting care: Health services for poor and marginalized groups are often highly fragmented and severely under-resourced.
- 4) More focus to women: underinvestment on developing more infrastructure on women health.
- 5) Lack of male workforce: More no. of male workforce in required for hard heavy lifting jobs and more

employment opportunities required in improving male workforce.

(f) Modular delivery kits for safe delivery at home first aid kit;  
(g) Hand washing station where no water supply.

From the packages of the past to reform the future: National and global health authorities have seen PHC as a set of reforms as intended but as one health care delivery programme among many providing poor care for poor people. It is required in providing a sense of direction to health systems requires a specific and context sensitive reforms that respond to the health challenges of today and prepare those of tomorrow.

Quality and low-cost healthcare for poor. Best health at a lower cost is required. For Example; (a) Technologies like UV based drum which purify the contaminated water; (b) Organic mosquito repellent oil; (c) Sleep bag with palm oil for new born; (d) Checking the quality of the water with Hydrogen Sulphide based filter strip method' (e) Teaching Stethoscope;

### 3. Conclusion

“You can't build a great building on a weak foundation. You must have a solid foundation if you're going to have a strong super infrastructure”- erdon B. Himbley Healthcare services is necessary to all the living beings of the world Without health wealth cannot be achieved. Health to human is necessary for the quality human resources. A wealthy human resource is needed to the development of the nation. Focus to women health must be increased as the need a better infrastructure and services to treat their issues during the different stages of their life from puberty to gestation Giving intense care to them specifically will promote our wellbeing.

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**SOLID WASTE MANAGEMENT**

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Keywords: Waste Management, Reuse, Recycle, Guidelines, Policy

### 1. Introduction

Waste is unused or unavailable product of human activity. The waste management is become one of the major problems especially in developing countries this is because of rapid increase of population. In India Guidelines and structure of the policy for the waste management services is poor due to lack of performance of municipal agencies not doing their duties properly.

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#### 1. Introduction

James Gustave Speth, 1997 people everywhere are affected by pollution. Pollution is sensed intuitively that it has pressed beyond limits. Therefore, it is essential to clean up the world, make it a better place, and be good trustees of the earth for future generations.

Dr. I. Madalai Mary-2005 there is a close relationship between man and nature. Nature is kind and generous. But man's commercial activity and eagerness for maximising profit damage the environment. Environment performs three important functions 1) It provides natural resources like beautiful landscape and grassing land. 2) it also supplies materials for producing economic goods. 3) Environment acts as a 'sink bet' for waste materials. Production and consumption activities of the firms and households are resulting in larger amount of solid waste, liquid waste and gaseous waste.

#### 2. Objectives of Waste Management

The primary goal of solid waste management is reducing and eliminating adverse impacts of waste materials on human health and the environment to support economic development and superior quality of life. This is to be done efficiently, to keep costs low and prevent waste build-up.

#### 3. Functional Elements of The Waste Management System

There are six functional components of the waste management system, as outlined below:

- 1) Waste generation: This encompasses any activities involved in identifying materials that are no longer usable and are gathered for systematic disposal or thrown away.
- 2) Onsite handling, storage and processing: This relates to activities at the point of waste generation, which facilitate easier collection. For example, waste bins are placed at sites that generate sufficient waste.
- 3) Waste collection: A crucial phase of waste management, this includes activities such as placing waste collection bins, collecting waste from those bins, and accumulating trash in the location where the collection vehicles are emptied. Although the collection phase involves transportation, this is typically not the main stage of waste transportation.
- 4) Waste transfer and transport: These are the activities involved in moving waste from the local waste collection locations to the regional waste disposal site in large waste transport vehicles.

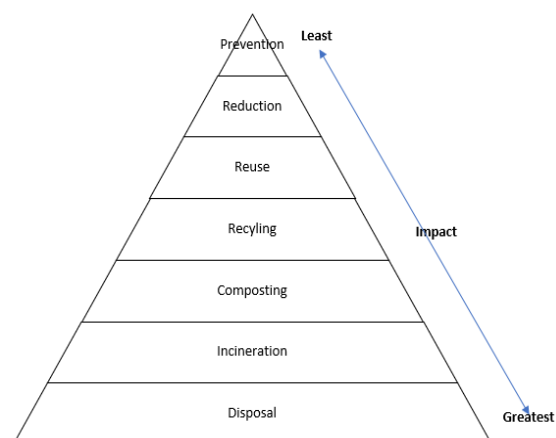
- 5) Waste processing and recovery: This refers to the facilities, equipment, and techniques employed to recover reusable or recyclable materials from the waste stream and to improve the effectiveness of other functional elements of waste management.
- 6) Disposal: The final stage of waste management. It involves the activities aimed at the systematic disposal of waste materials in locations such as landfills or waste-to-energy facilities.

#### 4. What Is Waste and Why Does It Require Management

Waste is any material not needed by the owner, producer, or processor. Humans, animals, other organisms, and all processes of production and consumption produce waste. It has always been a part of the Earth's ecosystem, but its nature and scale were such that the ecosystem could use this waste in its many cycles. There is no real waste. The apparent waste from one process becomes an input in another. The exponential growth of human activities has made waste a problem that needs to be managed. We are simply producing for more waste than nature can handle. It is however, better to prevent waste generation than to produce waste and then try to 'manage' it. We cannot simply throw away waste. As they say, 'there is no away in throw away'. What we dispose of remains in the ecosystem also and cause pollution. This pollution can have an impact far away from the point of generation and far removed in time.

#### 5. Integrated Waste Management and The Waste Hierarchy

Figure 1: The Waste Hierarchy



In recent years, the concept of Integrated Waste Management (IWM) has become popular as a new approach to waste management. As defined by the World Resource Foundation (WRF, cited in Environment Council, 2000:23), IWM refers to “the use of a range of different waste management options rather than using a single option”. The concept of IWM seems to have emerged from the realisation that technical solutions alone do not adequately address the complex issue of waste management and that there is the need to employ a more holistic approach to waste management.

## 6. Solid Waste

A waste is viewed as discarded material, which has no consumer value to the person abandoning it. According to World Health Organisation, (WHO) the term ‘Solid Waste’ is applied to unwanted and discarded materials from houses, street sweepings, commercial and agricultural operations arising out of mass activities. Solid waste is the term used to describe non-liquid materials arising from domestic, trade, commercial, agricultural and industrial activities and from public services. It is commonly known as garbage, refuse, rubbish or trash. Its main sources are residential premises, business establishments, and street sweepings. It is mixture of vegetable and organic matter; inert matter like glass, metal, stones, ashes, cinders, textiles wood, grass etc., According to the percentage of the ingredient, it would be highly compostable, or combustible, biodegradable or inert.

## 7. Solid Waste Management

Solid Waste Management is a science associated with the management of generation, storage, collection, transportation, processing and disposal of solid waste using the best principle and practices of public health, economics, engineering, conservation, aesthetics and other environmental conditions. Solid waste management is one of the important obligatory functions of urban local bodies in India. It is also one of the primary responsibilities of the municipal authorities. Over the years, the quantum of waste generated by different category of waste producers (households, commercial centres, institutions, Industries etc.) has been increasing with the increase in urbanisation, population growth and associated activities. Solid waste management is a part of public health and sanitation, and according to the Indian Constitution, falls, within the purview of the State list. Since this activity is non-exclusive, non-rivalled and essential, the responsibility for providing the service lies within the public domain. The activity being local is entrusted to the urban local bodies. The Urban Local Body undertakes solid waste service delivery, with its own staff, equipment and funds. Sometimes, part of the said work is contracted out to private enterprises.

### 7.1. Types Of Solid Waste

For subsequent discussions, it will help to categorise the solid wastes, in the most general way, based on their origin as

- Municipal wastes
- Industrial wastes
- Hazardous wastes

### *Municipal Solid Waste*

**Table 1: Classification of materials comprising municipal solid wastes**

Component	Description
Food Wastes	The animal, fruit or vegetable residues (also called garbage) resulting from the handling, preparation, cooking and eating of foods. Because food wastes are putrescible, they decompose rapidly in warm weather.
Rubbish	Combustible and non-combustible solid wastes, excluding food wastes. Typically combustible rubbish consists of materials, such as paper, cardboard, plastics, textiles, rubber, leather, wood, furniture and garden trimmings. Non-combustible rubbish consists of items, such as glass, crockery, tins, cans, construction wastes, etc.,
Ashes and Residues	Materials remaining from the burning of wood, coal, coke and other combustible wastes. Residues from power plants are normally not included in this category. Ashes and residues are normally cinders, clinkers and small amounts of burnt and partially burnt materials.
Demolition and construction wastes	Wastes from razed buildings and other structures are classified as demolition wastes. Wastes from construction of residential, commercial, industrial and similar structures are classified as construction wastes. These wastes may include dirt, stones, concrete, bricks, plaster and plumbing, heating and electrical parts.
Special wastes	Wastes, such as street sweepings, roadside litter, catch - basin debris, dead animals and abandoned vehicles are classified as special wastes.
Treatment plant wastes	The solid and semi-solid wastes from water, waste-water and industrial waste treatment facilities are included in this category.

### *Industrial Wastes*

These result from industrial activities and typically include rubbish, ashes, demolition and construction wastes, waste plastic, rubber, glass, packing materials, waste equipment, broken machinery and tools, etc.

### *Hazardous Wastes*

Wastes that pose a substantial danger, immediately or over time to human, plant or animal life, are classified as hazardous wastes. A waste is classified as hazardous if it exhibits the following characteristics:

- 1) Ignitability
- 2) Corrosivity
- 3) Reactivity
- 4) Toxicity.

Hazardous wastes were often grouped as:

- a) Radioactive substances,
- b) Chemicals,
- c) Biological wastes,

- d) Flammable wastes and.
- e) Explosives.

The chemical category included wastes that are corrosive, reactive or toxic. The principal sources of biological wastes are hospitals and biological research centre.

## 8. Solid Waste Management in India

The CPCB in collaboration with National Environmental Engineering Research Institute (NEERI), Nagpur has undertaken a detailed survey of 59 cities in the country to assess the existing status of solid waste management in these cities. Objective of the survey was to assess the compliance status of 59 cities with Municipal Solid Waste (Management and Handling) Rules, 2000 and initiatives taken for improving solid waste management practices. Some have observed that initiatives for collection of waste from house to house and waste segregation has been undertaken in only seven cities, privatisation of transportation of waste has been done in 11 cities and waste processing facilities have been set up in 15 cities. Ten waste processing facilities are based on composting; one composting facility has provision for energy recovery also, four are based on vermin-compositing, and one facility employs palletisation and energy recovery technology.

Source: MoEF-India

## 9. Current Disposal Methods of Solid Waste Management

The final functional element in the solid waste management system depicted in is disposal. Disposal is the ultimate fate of all solids wastes, whether they are waste collected and transported directly to a landfill site, semi-solid waste (sludge) from industrial treatment plants, incinerator residue, compost, or other substances from various solid-waste-processing plants of no further use. Several collection and disposal methods are in use in the United States and will be discussed in this section. Recent data are available from the Nation Solid Waste Survey. It estimates of the approximate fractions of household, commercial, and municipal wastes actually collected that were disposed of by the methods are given below.

- Open dumps
- Sanitary landfills
- Municipal incinerator
- Miscellaneous methods (composting, hog feeding, ocean dumping, salvage operations)

77 percent in open dumps (including landfills covered less frequently than once a day); 13 percent in sanitary landfills; 8 percent in municipal incinerators; 2 percent by miscellaneous methods (composting, hog feeding, ocean dumping, salvage operations) The drive to close open dumps and replace them by sanitary landfills has probably reduced the open dumps to about 60 per cent and increased the sanitary landfills to about 30 per cent.

### 9.1. Open Dumps

Disposing of solid wastes in open dumps is the most common waste disposal method used in the United States. Uncollected refuse is disposed of privately in a similar manner in ravines, swamps, and other locations. Open dumps, which produce health and air pollution problems and are an aesthetic insult, are not an acceptable method of disposal. They can cause public health problems by encouraging the growth of populations of flies (which can transmit typhoid fever, cholera, dysentery, tuberculosis, anthrax, and other diseases), rats (which can transmit plague, murine typhus fever, leptospirosis, rabies, rickettsia pox, and other diseases), cockroaches, mosquitoes (which can transmit malaria, yellow fever, dengue, mosquito borne encephalitis and filariasis), and other pests. Air pollution problems arise when the dumped wastes are burnt to reduce their volume and to conserve space or when spontaneous combustion or arson leads to fires.

### 9.2. Sanitary Landfills

The sanitary landfill become common after World War II, although its origins date to pre-world war I days, at least for the disposal of garbage. In sanitary land fill operations, refuse is spread in thin layers compacted by heavy bulldozers before another layer is spread. After the refuse is perhaps 3 m deep; it is covered by a thin layer of clean earth, which is again compacted. The fill is topped with another metre of compacted earth. (In landfills, which are not properly sanitary landfills, covering is less frequent than once a day).

### 9.3. Municipal Incinerator

There are several hundred municipal incinerators in use in the United States, accounting for about one-hand the tannage burnt, and there are thousands of small, privately owned trash burners. True incineration requires the burning of solid wastes at high temperatures, the remaining ashes, glass, metal, and unburnt combustibles amounting to perhaps one-fourth their original weight; this remainder must then be disposed of in landfill or other dump air pollution is often a problem, and New York City must legislate the upgrading of incinerators in apartment buildings because of emissions into the atmosphere. Incinerator technology has been developing in recent years, with air pollution control a particular concern. Many of the newer incinerators recover the heat for useful purposes, such as making of steam.

### 9.4. Composting

Another interesting idea for municipal refuse is composting, which is practiced on a large scale in some European countries but has not been tried extensively in the United States. The composting is generally accomplished by heaping the reuse and moistening it, and then letting it ferment for about six months.

### 9.5. Hog Feeding

Hogs were once extensively used for garbage disposal. In colonial times hogs wandering the streets were scavengers of the wastes in the gutters. As urban areas developed, nearby hog farmers found it desirable to collect urban garbage for deeding hogs. A 1941 survey of the 412U.S cities with a



population of 25,000 or more in the 1940 census found that 2 million metric tonnes of the 7 million metric tonnes of garbage produced and collected in those cities were used for feeding hogs.

#### 9.6. *Ocean Dumping*

Some coastal cities dump solid wastes into the ocean. New York City formerly dumped wastes off the new jersey shore but in 1933 New York still dumps wastes over an area several square kilometres in size 20km out into the Atlantic Ocean; this area has been described by critics as a “dead sea” of muck and black goo, largely because of the sewage sludge disposed there.

## 10. Conclusion

Solid waste is also causing solid waste related diseases like mosquito bite, fever, vomiting, dysentery, elephantiasis and filariasis. The people around the solid waste yard have been suffered a lot. Environment problem should be handled properly. House to House collection of solid waste method should be more organised by using the methods. Maintaining proper recycling units will save valuable raw materials and resources of landfills space. Promotion of the waste management systems will upgrade the living and the working condition of the waste pickers and other marginalised groups. Dumping of waste in the landfills in uncontrolled manner will leads to several health hazardous to human and animals by using composting and vermicomposting it will reduced.

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**PRIMARY HEALTHCARE CENTRE MANAGEMENT IN PUDUKKOTTAI DISTRICT**

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Keywords: Primary Healthcare Centre, Health for All, Policy, Welfare Economics

Abstract

Health is the essence of productive life. It is an integral part of development. The international objective of 'Health for All by 2000 A.D.' was suggested by the World Health Organisation (WHO). 'Health for All' means that health is to be brought within the reach of every one in a community. It implies the removal of obstacles to health that is, elimination of malnutrition, disease, provision of protected drinking water and hygienic housing. It depends on continued progress in medicine and public health. Most of the developing countries are concerned about the resources of the health sector. Such concerns broadly relate to: (i) the sources of finance for health services; (ii) the ability to maintain at least the past funding levels; (iii) resource allocation patterns and (iv) economic efficiency and equity in health care delivery. In developed countries too, with rich-economies, the concern about the high cost of health care in the perspective of scarce resources, has called for closer economic seeking and analysis of the health systems prevailing there. In this background, it is important for all public health administrators know and to apply the principles of economics in health. Health should be considered as a fundamental human right and therefore the attainment of the highest level of health should be the most important goal. Part IV of the Indian Constitution, namely the Directive two Principles of State Policy mentions "the state shall regard in raising the level of nutrition and the standard of living of its people and improvement of public health as among its primary duties". The constitution of the WHO says, "enjoyment is one of the fundamental rights of every human being without distinction of race religion, political belief, economic and social condition. Welfare economics has branched off into many applied disciplines and important among them with significant social relevance is economics of health. Aware of the economic manifestation of health and diseases and the limited resources allocated to health care services has brought to the focus, a new discipline – health economics. The ultimate aim of all human activity is social well – being. Maximisation of welfare is the keynote of modern planning. In the human resource development process, health occupies a predominant position. Health care is an important objective of Normative economics. Improvement in the health status of the population is a priority and appropriate political economic and social action is called for, apart from the development of the science of health care as such. Man is the primary factor of production. Basic standards of health and improvements thereof provide an entry point to change agents.

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**1. Introduction**

India became free, several measures have been undertaken by the national government to improve the health of the people. Prominent among these measures are the National Health Programmes, which have been launched by the central government for the control/eradication of communicable diseases, improvement of environmental sanitation, raising the standard of nutrition, control of population and improving rural health. Various international agencies like WHO, 3 UNICEF (United Nations Child Emergency Fund), World Bank, as also several foreign agencies like SIDA (Swedish International Development Agency), DANIDA (Danish International Development Agency), NORAD (Norwegian Agency for Development) and USAID (United States Agency for International Development) have been providing technical and material assistance in the implementation of the health care programmes.

Due to various programmes of eradication and control of several preventable communicable diseases, tangible progress in reduction of morbidity and mortality has been achieved. The availability of safe drinking water to the rural population considerably reduces the incidence of communicable diseases such as cholera, malaria, filariasis and Japanese encephalitis.

A government sector provides public finance and manages curative and preventive health care services from primary to tertiary level, throughout the country and free of cost in many programmes to the consumer. The provision of health care by the public sector is a responsibility shared by state, central and local governments, although it is effectively a state responsibility in terms of service delivery. State and local

governments incur about three-quarters and the centre about one-quarter of public spending on health. In the Eighth Five Year Plan (1992-97), Indian Council of Medical Research (ICMR) attempted to consolidate significant leads in "priority" or "thrust" areas identified by various scientific expert groups. These areas included emerging health problems like HIV/AIDS, other important communicable diseases like tuberculosis, leprosy, diarrhoea diseases, malaria, filariasis, Japanese encephalitis etc., non-communicable disease like four cancer, cardiovascular diseases, metabolic disorders, etc., contraception, Maternal and Child Health (MCH) and nutrition.

Health education and promotion has been an integral component of all national health care programmes and family welfare programmes. The Information Education and Communication (IEC) approach uses a community-based strategy. National health programmes are supported with health education and promotion strategies and activities specifically designed to suit programme needs. Such national programmes include leprosy eradication, tuberculosis control, malaria eradication, and HIV/AIDS control and the national iodine deficiency disorder programme and the environmental health and sanitation programmes.

The Government of India takes concerted measures to combat communicable, non-communicable and other major diseases. For this purpose, several National Health Programmes are launched and run by the Ministry of Health and Family Welfare, New Delhi, which can affect the reduction of mortality and morbidity and have a salutary effect on efforts to improve the quality of life of the common man. These programmes also reinforce the delivery of primary, secondary and tertiary health care throughout the country.

The central government plays an important part in planning, guiding and co-ordinating all the National Health Programmes in the country. The programmes are implemented at the state level. These national programmes are not static. New programmes can be added and old programmes can be deleted from the list.

Government initiatives in the public health sector have recorded noteworthy successes. Small pox and Guinea Worm Disease have been eradicated from the country; Polio is on the verge of being eradicated; Leprosy, Kala Azar, and Filariasis will likely be eliminated in the foreseeable future. There has been a substantial drop in the total fertility Rate and Infant Mortality Rate (IMR).

Health is an index of human efficiency. Good health is an essential requirement for the enjoyment of every aspect of life. A chronically sick person, in spite of his high income and higher education, cannot enjoy his life and would contribute little good to the society. Perhaps most the countries in the world are spending sizeable resources on health care. In India, the expenditure on health comprises 8.0 percent of GDP with public health investment at 1.15 percent.

At the global level 189 countries about develop with different socio, economic, political, and cultural and health status for various reasons. The Secretariat of United Nations Development Programme had framed Human Development Indices for 188 countries and published in Human Development Report, 2019.

The human development index is based on three indicators, namely life expectancy at birth, adult literacy and the standard of living measured by real GDP per capita. The following Table shows Human Development Indices (HDI) for selected countries for the year 2019. Government's efforts to improve adult literacy and to create employment opportunity will pave way for expanding the life span and improving the standard of living.

**Table 1: HDI for Selected Countries**

SI.NO	COUNTRIES	HDI VALUE	HDI RANK
1	Norway	0.954	1
2	Ireland	0.942	3
3	Iceland	0.938	6
4	Singapore	0.935	9
5	United states	0.920	15
6	Costa Rica	0.794	68
7	Cuba	0.778	72
8	India	0.647	129
9	Pakistan	0.560	152
10	Nigeria	0.534	158
11	Afghanistan	0.496	170
12	Ethiopia	0.470	173
13	Mali	0.427	184

From the above Table, health indicators prove that the public health initiatives over the years have contributed significantly to the improvement of health status. This is the outcome of the several complementary initiatives under wider umbrella of the development sector, coverings rural development agriculture food production, sanitation, drinking water supply, education etc. In spite of these impressive public health gains the morbidity and mortality levels in the country are still unacceptably high. The aggregate expenditure in the health sector is 5.2 per cent of the GDP. Out of this about 17 per

cent of the aggregate expenditure is for public health spending and the balance being out of pocket expenditure.

The Government of India takes concerted measures to combat communicable, non-communicable and other major diseases in the country. For this purpose, several National Health Programmes are launched and run by the Ministry of Health and Family Welfare, New Delhi, which can affect the reduction of mortality and morbidity and have a salutary effect on efforts to improve the quality of life of the common man. Health programmes also reinforce the delivery of primary, secondary and tertiary health care throughout the country.

## 2. Health Status in Tamil Nadu

Tamil Nadu has excelled in bringing about a faster reduction in Death Rate, Birth Rate and IMR. The Crude Birth Rate per thousand people had declined substantially from 31.4 in 1971 to 19.1 in 2001 and reduced to 18.3 in 2003 indicating a declining trend in fertility. The Crude Death Rate also declined significantly from 14.4 in 1971 to 7.7 in 2001. The life expectancy at birth had steadily increased to reach the level of 65.6 for both males and females in 2001. It is projected to go up to 67.0 for males and 69.75 for females during the period 2001-2007.

Tamil Nadu State held these relative positions in various health indicators when compared to other States in India. Tamil Nadu has the fifth highest life expectancy at birth (65.6); it has the fifth lowest IMR per 1000 live Births (52), it has the second lowest birth rate (19.3) and it has the sixth lowest Death Rate (7.9) during 2000-2001. The state has fared well in realising the national health Policy goals set for the year 2000 well in advance. Regarding Crude Birth Rate 9 (CBR). Crude Death Rate (CDR) the National Growth Rate, IMR and Couple Protection Rate, Tamilnadu state has the distinction of being in the vanguard in the realisation of family welfare goals. Tamilnadu is the leading state in India in implementing the government health programmes, as per the observation made by UNICEF and WHO. Both India and Tamil Nadu were nearing the health goals.

## 3. Statement Of the Problem

Health has been identified and accepted as an important factor in human development. The Constitution of WHO defines health as, "a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity". Thus, the health of the community must be viewed in a broader perspective than merely in terms of demographic indicators. The basic objective of any health care delivery system, therefore, would be to provide and organise the services in such a way it reaches to everyone and the available resources, knowledge and technology are optimally utilised. In India, several policy initiatives have been taken up occasionally in this direction to deal with various aspects of the delivery of health care and family welfare.

Health and development are closely interlinked. It is now established that the poor state of health slows down economic development and that insufficient economic development perpetuates a bad state of health. General health improvement increases worker productivity and thus contributes to economic growth. Hence, the human health is regarded as a

prerequisite for optimum socio-economic development. 10 In Tamil Nadu, government has taken pains to provide health care services free of cost or at low cost and make them easily accessible. It is the duty of the researcher to review the economics of primary health care services provided by the government at the level of Primary Health Centres in Pudukkottai district. Hence, the present study attempts to analyse and compare the role of PHCs to promote the health status of the people in Pudukkottai district and kamarajapuram health unit areas of Pudukkottai district.

#### 4. Objectives Of the Study

The specific objectives of the study are: The aim of this study is to evaluate the health status of the people of Tamil Nadu with special reference to rural and semi-urban areas in Pudukkottai district.

- 1) To study the trends in health indicators in Tamil Nadu and Pudukkottai district.
- 2) To analyse the determinants of health status of people in Pudukkottai district.
- 3) To discuss the socio-economic conditions of the sample users of PHC services.
- 4) To analyse the morbidity level and health awareness among the sample respondents.
- 5) To examine the reasons for preferring health care services by the sample respondents.

#### 5. Methodology

Designing a suitable methodology and selection of analytical tools are important for a meaningful analysis of any research problem. This section is devoted to a description of the methodology which includes choice of the one study area, sampling procedure, period of study, collection of data and tools of analysis. This study is based on both the primary and secondary data. The secondary data were collected from journals, books and official records. Primary data were collected by conducting personal interview with the PHC users.

##### *Hypotheses Of the Study*

Null hypothesis is a statement of generalisation and assumption that must be tested empirically. Hypotheses are framed based on the objectives of the study. The following are the null hypotheses formulated to test in the study.

- 1) IMR is independent of female literacy rate.
- 2) The total government spending for health care has not improved the life expectancy at birth of people.
- 3) Among the users of the health services in PHCs, female is more than male.
- 4) Distance is not a factor in making use of health services provided by Primary Health Centres.
- 5) Getting immunisation to children aged under five does not reflect the health awareness among the sample respondents.

#### 6. Limitations Of the Study

The main limitations of this study are confined only to PHC level in Pudukkottai town. The study includes only the health care services of the public sector particularly PHCs. The researcher does not cover rehabilitative health care service of public health sector in the study area. The period of study is

confined to a single financial year i.e., 2020-2021. The data were collected by personal interview through a pre-tested schedule with the help of user's recall method, subject of the limited memory power of the users, to gather information.

#### 7. Primary Health Centre

The Primary Health Centre is an institution which covers most of the health care needs of a large section of the population. Its services should be available to all citizens at an accessible distance and at affordable prices in terms of money, time or other resources.

Dr. A.L. Mudaliar Committee of 1962 focussed on health survey and planning of rural health care services. It recommended the strengthening of established Primary Health Centres before new ones were opened. It emphasised that a Primary Health Centre should not be made to cater to the needs of over 40,000 patients, and that the curative, preventive and promotive services should be provided at Primary Health Centres. The Government of India has reduced the coverage of patients to 30,000 per Primary Health Centre in plain area and to 20,000 per Primary Health Centre in hilly areas. Katar Singh Committee (1978) recommended multiple health worker (female) and multiple health worker (male) to work in health sub-centres. The former had to look after MCH in rural areas and the latter had to prevent the communicable diseases.

Addiss (2005) in his study lymphatic filariasis states it is a leading cause of chronic disability worldwide; about 120 million persons were infected with the filarial parasites that cause the disease and about 40 million persons suffer from chronic clinical manifestations, primarily lymphedema and hydrocele. Following a flurry of scientific advances during the late 1980s and early 1990s, the WHO announced a Global Programme to Eliminate Lymphatic Filariasis (GPELF) in 1998. Unlike most other disease eradication or elimination programmes, the goals of the GPELF are twofold; to interrupt transmission of the filarial parasite and to alleviate the suffering of those with filariasis - related disease. Embracing the challenge of morbidity control or disability alleviation has both challenged and enriched the GPELF. The paper reviews the scientific developments and decisions that helped to create the GPELF, highlights progress towards achieving programme goals and discuss the remaining challenges.

##### *Implications of the Study*

People should approach Village Health Nurse for immunisation to their children. Pregnant women should contact Village Health Nurse and have periodical antenatal check-up at the PHC. If any epidemic or environment pollution is found in their area, it should be informed to the health Inspector.

#### 8. Conclusion

From the foregoing summary and findings of the study, these important conclusions emerge. Regarding the health care services, in India the role of Primary Health Centre's and health sub-centres cannot be belittled. In the 260 present scenario of globalisation, public health sector in India is facing a cut in the health budget. India, being the second most populous country in the world, cannot shirk its responsibility of delivering the primary health care, through PHCs and

HSCs free of cost or at low cost. In India, 'Health for All' can be attained only through the judicious blending of public health care services and private health care services. Opening up of additional PHCs in the study area, namely in Tamil Nadu State and in Pudukkottai district, is the need of the hour to enhance the health status further. The findings of the

study substantiating the efforts of increase female literacy rate in the study area, have multifarious impact on health status. The central and state governments' have 80 percent of respondents say yes for availability of toilet facility.

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**PRIMARY HEALTH CARE IN INDIA**

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Keywords: PHC-Primary Health Centre, Economy, People Health

Abstract

Health and economy have a direct correlation, as the economy of a country improves the health of its citizens improves and vice versa. So, for any country to progress, its citizens must remain healthy and live longer. But right healthcare presence is a challenge for the country, especially for those with a vast population like India. Despite being one of the fastest-growing economies, Primary Health care system of India is in state of crises. Primary health care is a whole-of-society approach to health and wellbeing centred on the needs and preferences of individuals, families and communities. It addresses the broader determinants of health and focuses on the comprehensive and interrelated aspects of physical, mental and social health and wellbeing. It provides whole-person care for health needs throughout the lifespan, not just for a set of specific diseases. Primary health care ensures people receive comprehensive care - ranging from promotion and prevention to treatment, rehabilitation and palliative care - as close as feasible to people's everyday environment. This paper mainly focused on overview of primary health care in India and Tamilnadu.

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**1. Introduction**

Health and economy have a direct correlation, as the economy of a country improves the health of its citizens improves and vice versa. So, for any country to progress, its citizens must remain healthy and live longer. But right healthcare presence is a challenge for the country, especially for those with a vast population like India. Despite being one of the fastest-growing economies, Primary Health care system of India is in state of crises.

Primary health care is a whole-of-society approach to health and wellbeing centred on the needs and preferences of individuals, families and communities. It addresses the broader determinants of health and focuses on the comprehensive and interrelated aspects of physical, mental and social health and wellbeing. It provides whole-person care for health needs throughout the lifespan, not just for a set of specific diseases. Primary health care ensures people receive comprehensive care - ranging from promotion and prevention to treatment, rehabilitation and palliative care - as close as feasible to people's everyday environment.

Stronger primary health care is essential to achieving the health-related Sustainable Development Goals (SDGs) and universal health coverage. It contributes to the attainment of other goals beyond the health goal (SDG3), including those on poverty, hunger, education, gender equality, clean water and sanitation, work and economic growth, reducing inequality and climate action. WHO recognizes the central role of primary health care for achieving health and wellbeing for all, at all ages.

**2. Objectives Of the Study**

- 1) To know the overview of primary Centre in India and Tamilnadu.

**3. Principles of Primary Healthcare Approach**

- a) It should be accessible to all and cover all people in a society
- b) It involves community involvement
- c) It encompasses both curative and preventive dimensions of health

- d) It should coordinate care across service areas
- e) Develop effective primary healthcare workforce
- f) It should be cost effective to address the disadvantaged sections in a society

**4. Overview Of Primary Health Centre (PHC) in India**

Under the National Health Mission (NHM), PHC cover a population of 30,000 in rural areas and 20,000 in hilly, tribal and desert areas.

PHCs cover defined population. As per the Rural Health Statistics-2019, as on 31.03.2019, 24,855 rural PHCs and 5,190 urban PHCs have been functional in the country.

India's 2017 National Health Policy commits the government to investing a major proportion (2/3rds) of resources to PHC. The main mechanism to achieve this are the 150 000 Health and Wellness Centres (HWCs), which are intended to become the main points of contact for communities within the public health system. These centres will provide comprehensive health care, covering around 70% of out-patient care, including noncommunicable diseases and maternal and child health services. These centres will also provide free essential drugs and diagnostic services as well as referral access to secondary and tertiary health care.

**5. Overview Of PHC in Tamil Nadu**

In Tamilnadu PHCs have now been transformed into Ayushma Bharat HWCs. These centres will now screen for diabetes, hypertension and cancer and will also provide trauma care.

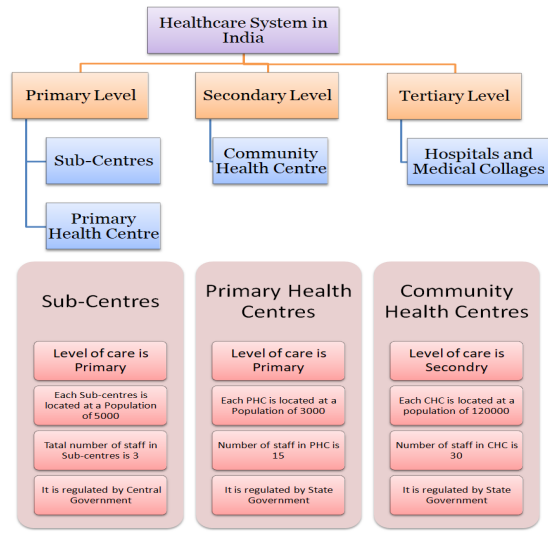
1,384 existing PHC and 460 urban PHCs across Tamil Nadu have been transformed into HWCs under the Centre's flagship programme -- Ayushman Bharat. Of the 8,000-odd health sub-centres in the state, 985 have so far been transformed into HWCs, while the remaining will be converted in a phased manner.

*Ayushman Bharat:* This is part of the government's effort to achieve universal health coverage through its flagship initiative, the Ayushman Bharat programme. Launched in 2018, the programme includes the health insurance component,

the Pradhan Mantri Jan Aarogya Yojna (PM-JAY) The creation of 1.5 lakh HWCs across the country is one of the two components of Ayushman Bharat; the aim being providing comprehensive primary health care. To do this, existing PHCs, urban PHCs and health sub-centres are being converted into HWCs in the State through the NHM - Tamilnadu.

The objective of transforming existing primary healthcare facilities into HWCs was to provide comprehensive primary healthcare to people. “The focus is primarily on screening for Non- Communicable Diseases. Screening for diabetes, hypertension, cancers of the cervix, breast and oral cancer will be available. The centres will provide medications for diabetes and hypertension, and refer those diagnosed with cancer to higher centres for further treatment/management. Apart from this, trauma care, including for injuries from falls and poisonous bites, will be provided.

**Figure 1: Levels of the Primary Healthcare**



**6. Conclusion**

The spirit of primary health care has been reduced to just primary level care. The concentration on building the health services lacks a sense of integration. The importance of a strong referral system is not recognized. Instead, there has been more emphasis on building the primary level care and even that has lacked proper implementation. When the status of health services is studied, the principles of health equity, people-centred care and a central role for communities in health action are considered radical. Research suggests these values are becoming main stream in modernizing societies. They correspond to the way people look at health and what they expect from their health systems. Rising social expectations regarding health and health care is a major driver of primary health care reforms.

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## ROLE OF DISINFECTANTS AND HYGIENE: COVID 19

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Keywords: Coronavirus, COVID-19, Disinfection, Handwashing

### Abstract

Coronavirus disease 2019 (Covid-19) being an acute respiratory disease caused by a novel coronavirus (SARS-CoV-2) is transmitted in most instances through respiratory droplets, direct contact with cases and through contaminated surfaces/objects. Though the virus survives on environmental surfaces for varied periods, it gets easily inactivated by disinfectants. Therefore, this article aims to highlight the role of surface disinfection and hand disinfection during the Covid-19 pandemic. Disinfection with appropriate and recommended physical or chemical disinfectants will not only reduce the spread of the disease but also play a significant part in flattening the curve. Alcohol-based disinfectants and other chemical disinfectants play major roles. Ether, ethanol, hydrogen peroxide, sodium hypochlorite, other chlorine-containing disinfectants, peracetic acid, chloroform used under concentrations and techniques are necessary to stop the chain of transmission. Hand disinfection using soap and water or alcohol-based hand rubs are also of equal importance. Despite the importance, the judicious use of disinfectants is also necessary. Therefore, the fastest, easiest, and most effective way to halt or reduce the spread of SARS-CoV-2 the virus resulting in the coronavirus disease (Covid-19) is through surface disinfection and handwashing with soap and water and its role in the Covid-19 pandemic is highly important.

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## 1. Introduction

The coronavirus disease is gripping the world through its devastating pandemic. Its transmission through droplets occurs when a person is in close contact with someone with respiratory symptoms (e.g., coughing or sneezing) and is therefore at risk of having his/her mucosae or conjunctiva (eyes) exposed to potentially infective respiratory droplets. Transmission may also occur through fomites in the immediate environment around the infected person.<sup>1</sup> Droplets may also land on surfaces where the virus could remain viable; thus, the immediate environment of an infected individual can serve as a source of transmission.<sup>2</sup> Therefore, this article aims to highlight the role of surface disinfection and hand disinfection during the Covid-19 pandemic.

## 2. Common Terminologies Explained

**Disinfection:** Thermal or chemical destruction of pathogenic and other types of microorganisms. Disinfection is less lethal than sterilization because it destroys the most recognized pathogenic microorganisms but not necessarily all microbial forms (e.g., bacterial spores).

**Disinfectants:** usually a chemical agent (but sometimes a physical agent) that destroys disease-causing pathogens or other harmful microorganisms but might not kill bacterial spores. It refers to substances applied to inanimate objects.

**Sterilization:** Validated process used to render a product free of all forms of viable microorganisms. In a sterilization process, microorganisms on any individual item can be expressed in terms of probability. Although this probability can be reduced to a low number, it can never be reduced to zero.

**Decontamination:** The use of physical or chemical means to remove, inactivate, or destroy blood borne pathogens on a surface or item to where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

**Cleaning:** The removal of visible soil (e.g., organic and inorganic material) from objects and surfaces and normally is accomplished manually or mechanically using water with detergents or enzymatic products. Thorough cleaning is essential

before high-level disinfection and sterilization because inorganic and organic materials that remain on the surfaces of instruments interfere with the effectiveness of these processes.

**Sanitation:** Sanitation refers to the provision of facilities and services for the safe management of human excreta from the toilet to containment and storage and treatment onsite or conveyance, treatment and eventual safe end use or disposal.

**Contact time:** Time a disinfectant is in direct contact with the surface or item to be disinfected. For surface disinfection, this period is framed by the application to the surface until complete drying has occurred.

**Viability of SARS-CoV-2 on aerosols and different surfaces**  
The disinfection process of SARS-CoV-2 virus depends highly on the surface, article or substance being disinfected. Thus, it is also necessary to know the viability of the virus in different surfaces or aerosols.

**Table 1: Some important milestones in the history of disinfection and sterilization**

Ancient civilization (from 4000 BC)	Clear water = clean water; Egypt: alum to remove suspended solids in water; China: filters to remove suspended solids in water; India: heat foul water by boiling and exposing to sunlight and by dipping seven times into a piece of hot copper, then to filter and cool in an earthen vessel.
The Roman Empire (27 BC-476 AD)	No major treatment was provided (other than the incidental mild disinfection effect of sunlight on water in open aqueducts).
1847, Ignaz Semmelweis	One of the first to sense that hands play an important role in the chain of transmission. At the obstetrical clinic in Vienna, the German-Hungarian physician ordered the use of chlorinated lime solution for handwashing. The mortality rate due to childbed fever dropped from 18% to 2%.
1850, John Snow, London, England	One of the first known uses of chlorine for water disinfection attempted to disinfect the broad street pump water supply in London after an outbreak of cholera.



In 1862, Louis Pasteur	He proved that bacteria can only evolve from existing bacterial cells and not from inanimate matter. The chemist developed and pioneered the procedures of disinfection, sterilization and pasteurization.
1862	Autoclave was invented and used for sterilization.
1865, Sir Joseph Lister	He concluded from Pasteur's findings that bacteria must also be responsible for poor wound healing. His remedy was to use carbolic acid to disinfect the air and the hands, and to soak dressings before covering wounds.
1897, Sims Woodhead Kent, England	One of the publicly approved uses of chlorine for water disinfection; used "bleach solution" as a temporary measure to sterilize potable water supply during a typhoid outbreak.

#### *Types of disinfectants recommended for SARS-CoV-2:*

SARS-CoV-2 is sensitive to:

- Physical disinfectants: including ultraviolet radiation and heat (56 C for 30 minutes).
- Chemical disinfectants (for one minute): ether, ethanol (62-75%), hydrogen peroxide 0.5%, sodium hypochlorite.
- 0.1%, other chlorine-containing disinfectants, peracetic acid and chloroform.
- Based on surface of application, the disinfectants are grouped as below:
- Hands: Soap and water, alcohol-containing quick-drying hand disinfectant, chlorine-containing disinfectant, hydrogen peroxide.
- Skin: 0.5% iodine-based disinfectant, hydrogen peroxide.
- Mucosa: 0.05% iodine-based disinfectant.
- Hand and skin disinfectants.
- Alcohol: Ethyl alcohol, isopropyl alcohol.
- Iodophors: 7.5% povidone iodine surgical scrub, soap containing povidone iodine for hand washing. Iodophors in a concentration of 0.5-10% can also be used for handwashing to reduce the infectivity of enveloped viruses.
- Phenolics: Phenol has occupied a prominent place in hospital disinfection since its initial use as a germicide by Lister in his pioneering work on antiseptic surgery.

#### *Surface disinfectants*

Chlorine and chlorine compounds: Sodium hypochlorite (liquid), household bleach, calcium hypochlorite (solid). 0.1% sodium hypochlorite solution as surface disinfectant, can efficiently inactivate human coronaviruses within 1 minute. World Health Organisation (WHO) recommends sodium hypochlorite at 0.5% (equivalent to 5000 ppm) for disinfecting surfaces. Hydrogen peroxide (used as hard surface disinfectants) 0.5% accelerated hydrogen peroxide in 1 minute has virucidal activity as surface disinfectant.

#### *Quaternary ammonium compounds*

The quaternaries commonly are used in ordinary environmental sanitation of noncritical surfaces, such as floors, furniture, and walls. Centre for disease control and prevention (CDCP) suggests Environmental Protection Agency (EPA), registered quaternary ammonium compounds are

appropriate to use for disinfecting medical equipment that contacts intact skin.

### **3. General Recommendations for Routine Cleaning and Disinfection of Household Items**

*Frequently touched surfaces:* It is necessary to practice routine cleaning of frequently touched surfaces (for example tables, doorknobs, light switches, handles, desks, toilets, faucets, sinks, and electronics.) with household cleaners and EPA-registered disinfectants external icon appropriate for the surface, following label instructions.

Linens: Machine washing of the linens with warm water 60-90 C (140-190 F) with laundry detergent has been recommended. If machine washing is impossible, linens can be soaked in hot water and soap in a large drum using a stick to stir but being careful to avoid splashing. The drum then should be emptied, and the linens should be soaked in 0.05% chlorine for approximately 30 minutes. The laundry should be rinsed with clean water and the linens should be allowed to dry fully in sunlight.

For hard and soft porous surfaces: For hard surfaces disinfection, chemical disinfectants are to be used. In case of soft porous surfaces (example, carpets, rugs, drapes, etc.) cleaning and disinfection suitable for the material should be followed. Laundry should be disinfected after use. Using gloves needs to be highlighted here.

For electronics: For electronics such as cell phones, tablets, touch screens, remote controls, and keyboards, remove visible contamination if present. It is advised to follow the manufacturer's instructions for all cleaning and disinfection products. Using of wipeable covers for electronics is also recommended. If no manufacturer guidance is available, using alcohol-based wipes or sprays containing at least 70% alcohol to disinfect touch screens need to be considered. The surfaces of the electronics should be wiped thoroughly to avoid pooling of liquids.

Hand disinfection: The role of hand hygiene during COVID-19 pandemic hand hygiene has been established as important in the prevention of the spread of the COVID19 virus. Hand washing and the use of hand sanitizers have been emphasized to fight the transmission of the SARS-CoV-2 virus. To stop the spread of the disease to break the chain of transmission and that can be done through regular training sessions at healthcare facilities aimed at promoting best hand hygiene practices and ensuring the availability of the infrastructure (equipment and supplies). All healthcare facilities should establish hand hygiene programmes, if they do not have them already, or strengthen existing ones. Procurement of adequate quantities of hand hygiene supplies; hand hygiene refresher courses and communications campaigns need to be focused upon. Use of soap and water in disinfecting hands

During a global pandemic, one of the cheapest, easiest, and most important ways to prevent the spread of a virus is to wash your hands frequently with soap and water for at least 15-30 seconds, on an average of 20 seconds following the appropriate steps. Use of alcohol-based hand sanitizers or hand rubs in disinfecting hands

The exact contribution of hand hygiene to the reduction of the direct and indirect spread of coronaviruses between people is unknown. However, hand washing mechanically

removes pathogens, and laboratory data demonstrate that alcohol-based hand rubs (ABHR) formulations containing 80% ethanol or 75% isopropanol, both of which are in the range of alcohol concentrations recommended by CDCP, inactivate SARS-CoV-2. ABHR effectively reduces the number of pathogens that may be present on the hands of healthcare providers after brief interactions with patients or the care environment.

#### *The Role of disinfection during COVID-19 pandemic*

Due to the route of transmission being droplet infection, the transmissibility rate of Covid-19 can be higher than other infective viruses. Therefore, the fastest, easiest, and most effective way to halt or reduce the spread of SARS-CoV-2 the virus resulting in the coronavirus disease (Covid-19) is through surface disinfection and handwashing with soap and water.

A study done by Kampf et al reports that human coronaviruses can remain infectious on inanimate surfaces for up to 9 days. Surface disinfection with 0.1% sodium hypochlorite or 62-71% ethanol significantly reduces coronavirus infectivity on surfaces within 1 minute exposure time, expecting a similar effect against the SARS-CoV-2.

Another such study concludes that some disinfectant agents effectively reduce coronavirus infectivity within 1 minute such as, 62%-71% ethanol, 0.5% hydrogen peroxide or 0.1% sodium hypochlorite. Compounds such as 0.05-0.2% benzalkonium chloride or 0.02% chlorhexidine Di gluconate are less effective. Therefore, an effective surface disinfection may help to ensure an early containment and prevention of further viral spread.

These, further highlight the role of disinfection strategies against Covid-19 pandemic. The current recommendations

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by the Government of India, CDCP and WHO promote and highlight the same need. Disinfection with appropriate and recommended physical or chemical disinfectants will not only reduce the spread of the disease but also play a significant part in flattening the curve. Handwashing and surface disinfection are therefore the need of the hour. Social distancing and use of face covers being other important parameters play an important role here. Proper knowledge regarding the correct disinfectant, technique of disinfection, its concentration and safe use is the key for the control of Covid-19 pandemic.

#### **4. Social Issues and Limitations**

The rapid spread of the Covid-19 pandemic resulted in panic, apathy and insecurity among the people. There have been instances of injudicious use and hoarding of disinfection substances. This has resulted in indiscriminate and ineffective use of these important disinfectants. However, the knowledge regarding use is inadequate among the general public.

#### **5. Conclusion**

Coronavirus disease 2019 (Covid-19) being an acute respiratory disease caused by a novel coronavirus (SARS-CoV-2) is transmitted in most instances through respiratory droplets, direct contact with cases and through contaminated surfaces/objects. Though the virus survives on environmental surfaces for varied period, it gets easily inactivated by chemical disinfectants. So, the correct and effective use of disinfectants, handwashing and washing using soap and water, hand disinfection with ABHRs are important.

Therefore, to curtail the spread of the disease there is an immense role of disinfection, more important its adequate knowledge and correct use.

**A STUDY ON SOLID AND LIQUID WASTE MANAGEMENT**

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Keywords: Entrepreneurship, Students, Economic Growth

Abstract

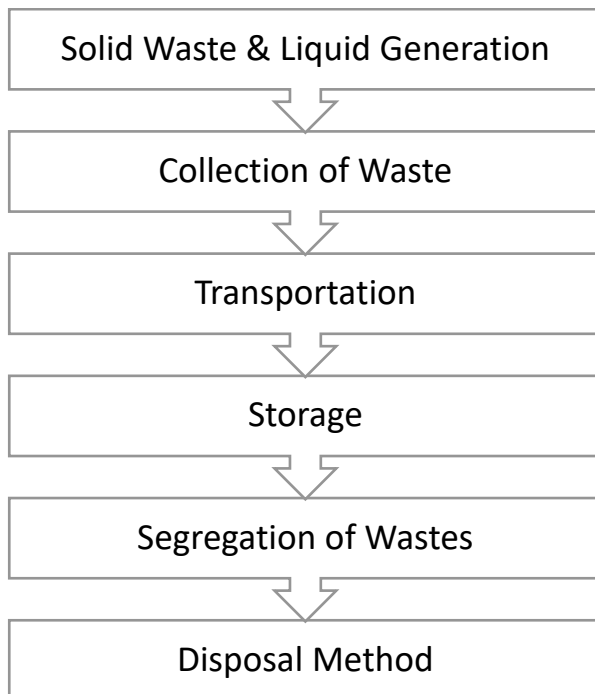
Solid and liquid waste management: A systematic administration of activities that provide for the collection, source separation, storage, transportation, transfer, processing, treatment and disposal of solid waste. Domestic Waste is a serious threat to the public health in India. Absence to proper sanitation and unhygienic disposal of waste including domestic wastewater leads to pollution of natural resources and affects human health. It is thus inevitable to develop proper waste management system in rural and urban areas. Waste has an economic value once treated and re-used. In country like India, where there is crunch of natural resources, reuse of treated domestic wastewater can lead to reduced depletion of fresh water sources and other natural resources.

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**1. Introduction**

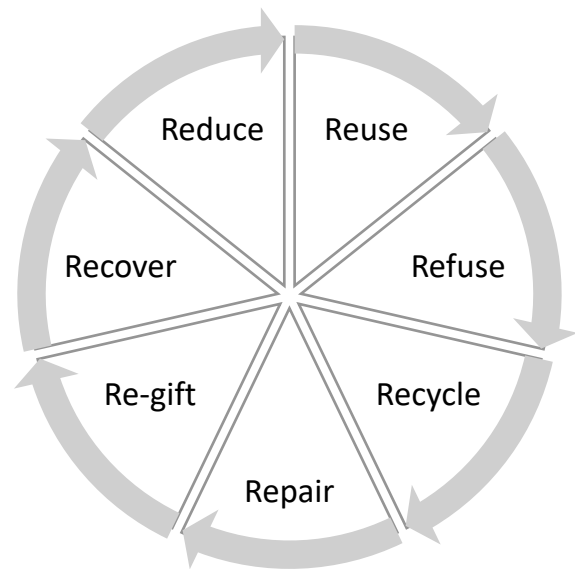
Solid and liquid waste is defined as the unwanted matter generated by the society without any economic value from the viewpoint of first owner. It is defined as the discipline associated with control of generation, storage, collection, transport or transfer, processing and disposal of solid waste materials to best addresses the range of public health, conservation, economics, aesthetic, engineering and other environmental considerations. This training module has been formulated to enhance capacity of community groups for development of sanitation systems in village sand towns and create larger awareness on better sanitation practices and domestic wastewater management amongst local communities.

**2. Process of Solid and Liquid Management**



The term solid waste management mainly refers to the complete process of collecting, treating and disposing of solid wastes. In the waste management process, the wastes are collected from different sources and are disposed of. This process includes collection, transportation, treatment, analysis and disposal.

**3. The 7 R's of Recycling**



*7 Liquid Waste Disposal Methods*

Dewatering. Dewatering works well to compact non-hazardous waste and make it more suitable for disposal. Sedimentation is similar to dewatering because it separates water from solid waste. ...

- Composting.
- Incineration.
- Root-Zone Treatment.
- Solidification.
- Disposal.

The composition of liquid waste depends on its source. The three main sources are residential, commercial, and industrial areas. Stormwater is also a source of liquid waste. Liquid waste from domestic sources can be classified as blackwater, which contains excreta, and greywater, which does not.

Liquid waste is such an important category of waste management because it is so difficult to deal with. ... Liquid wastes spread out, and easily pollute other sources of liquid if brought into contact. This waste can also soak into objects such as soil and groundwater.

Solid and Liquid Waste Management (SLWM) is one of the key components of Swachh Bharat Mission (SBM) (G), launched to bring improvement in cleanliness, hygiene and the general quality of life in rural areas.

In industrial areas liquid wastes are generated by processing or manufacturing industries and service industries, such as

car repair shops. Industrial wastewaters which contain hazardous substances must be treated, and the substances removed before the wastewater is discharged to the environment.

The three methods of composting are; (a) Aerobic Composting; (b) Anaerobic Composting; (c) Vermicomposting.

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**A STUDY OF ENVIRONMENTAL AWARENESS IN SCHOOLS AND COLLEGES**

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Keywords: Hygiene, Environment, Diseases

Abstract

Hygiene may be defined as a practice contributing to maintaining health and preventing disease, especially through cleanliness of a personal individual. Good hygiene is a principal barrier to numerous communicable diseases, which includes the faecal-oral diseases, and which promotes well-being and healthier. To attain the significant health benefits, better hygiene should be built concurrently along with the development in the sanitation and water supply, and be merged with other interventions, equally improving in increasing income and nutrition. The main benefit of practicing personal hygiene is to decrease the disease communication and improve the health condition. Personal hygiene is much important during menstruation or periods because women will sweat and vaginal discharge will be there to prevent the odour and to be healthy personal hygiene is important. Many organizations are working for personal hygiene and for providing hygiene related awareness. Practices in personal hygiene include water source, water treatment, water storage, water use, excreta disposal, waste water disposal, food handling.

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**1. Introduction**

The word “hygiene” is derived from the Greek word “hygienics” which means healthful, or relating to health. Generally, we use the term hygiene to describe the ‘practice of keeping oneself and their surroundings clean, especially to prevent illness or the spread of disease. Good hygiene is a barrier to many contagious diseases, including fecal-oral diseases. It plays an important role in promoting better health and well-being. In our last article, we discussed the difference between hygiene and sanitation. Keep reading to know the different types of hygiene

**2. Personal Hygiene in Pregnant Women**

Throughout the pregnancy, women should be special cautious about her personal hygiene. They sweat more along with more vaginal discharge than non-pregnant women, due to hormonal changes and are more vulnerable to infection by germs in the surroundings. Keeping a clean body helps avoid infection. Infections are caused due to the numerous anatomical, biochemical and physiological variations that happen in the body of pregnant women particularly the ones that must be done with raise in the hormone level, repression of the immune system and may likewise interpret for the exaggeration in the elimination of waste body products like urine, saliva, mucus, sweat etc. during pregnancy.

**3. Personal Hygiene During Menstruation**

Change sanitary napkin every 4-6 hours Changing tampons or sanitary napkins within every four to six hours is the basic rule to establish vaginal hygiene menstrual blood which releases from the body attracts numerous organisms from our bodies, which increase in the warmth of blood and which cause rashes,

**3.1. Irritation Or Urinary Tract Infections:** Tampon or sanitary napkin regularly restrict the development of organisms and prevents infections.

**3.2. Wash Yourself Properly:** Washing the vagina regularly is enormously important because the organisms adhere to the body after the removal of sanitary napkin. Most people wash themselves regularly, but

not in the correct technique which is the hands in motion as of the vagina to anus, but not in other direction which is vice-versa.

**3.3. Do Not Use Vagina Hygiene or Soaps:** products using vaginal hygienic products regularly is a good idea, but using these products during periods can turn the things around. Vaginas have their own property of mechanism of cleaning which gets produced during menstrual cycles and the artificial hygienic products can contain the natural process of leading to the infections and growth of the bacteria.

**3.4. Discarding Of the Sanitary Napkin:** Properly disposing of the sanitary napkins and tampons properly is an important step during menstruation. Wrap the sanitary napkins properly before discarding, so the infections caused by bacteria do not spread. Make sure that the sanitary napkins should not be flushed because that will block the toilet causing water to backup, spreading bacteria all over it. Since women likely touch the stained area.

**4. Environmental Hygiene**

Historical perspectives on hygiene and environmental health hygiene and sanitation have a long history at various levels of human civilization. We can roughly divide the historical events into two periods: the ancient and the modern. Prehistoric and ancient civilization religious laws, such as Moses’ Law, writings in the Old and New Testaments and laws in the Koran, played major roles in the lives of ancient peoples. These laws mainly concentrated on the provision of personal hygiene. Dead bodies and contaminated surfaces were unclean or unhygienic to touch. The importance of burying human faces was also strongly indicated. The importance of body cleanliness before praying was a motive for maintaining the integrity of hygiene with a religious practice. The importance of hygiene and sanitation flourished at the times of Greek, Roman and Egyptian civilization. Using private and public baths and latrines, cleaning of the body, shaving the head for protection from lice infestation, and constructing water pipelines and sewage ditches were widely observed. The transmission of schistosomiasis (bilharzia) was linked to bathing and swimming in the Nile River. In these

civilizations, the focus was on personal hygiene (hygiene) and human waste management (sanitation). Domestic hygiene.

Study of environmental awareness in schools:

- Environmental awareness - general issues
- Water, sanitation & water harvesting
- Air pollution and climate change
- Biodiversity and green gardens
- Conservation of energy & recycling of wastes
- Environment and health
- Plastics and its effects & noise pollution
- Eco friendly activities in school and home

To sensitize the impact of the environmental problems and issues among the students and to address the problems through local level initiatives like tree plantation, rain water harvesting, energy savings, safeguarding of biodiversity, climate change, nature camping, disaster mitigation and vermin-composting and waste management etc., their level of understanding, strategies followed, outcome of belief and need of further developmental aspects and techniques have been tested for their validity and reliability. The questionnaire responses received from the students were subjected to statistical tests after checking the error free data.

## 5. Domestic Hygiene

which involves cleanliness, preparing food, and ventilation, generally means cleanliness in homes. Domestic hygiene practices include all the work done to keep people's clothes, beddings, and houses clean. These activities include washing clothes and beddings, cleaning the toilet, sweeping and cleaning floors, and washing dishes after meals. Keep the house clean so it remains a healthy place. Where the house and things in it rarely are cleaned, dirt and moisture accumulate, making the house ideal for the breeding of parasites, germs, and disease-carrying animals. These germs can cause infection or sickness to the people living in the house. Domestic hygiene also entails the use of soap, proper ventilation, fresh air, hygiene in food storage, proper waste disposal, and keeping away household pests, rats, and insects.

## 6. Handwashing

Proper handwashing is one of the most effective ways of preventing the spread of diarrheal diseases. Pathogens cannot be seen on hands, and water alone is not always sufficient to remove them. Soap and wood ash are both cleansing and disinfecting agents when used with water and can kill pathogens on hands and utensils. The most important times that hands should be washed with soap and water are:

- After defecating.
- After cleaning a child who has defecated.
- Before eating or handling food.

Promoting good personal hygiene often requires that community members are mobilized towards this goal and awareness is raised about how to achieve it. It is important that hygiene education programmers' do more than simply tell people that if they do not wash their hands, they will become sick because of pathogens they cannot see. This rarely

works. Instead, education programmes should try different methods to maximize community participation.

## 7. Bathing

Regular bathing and laundering are important for cleanliness and good personal appearance. They also prevent hygiene related diseases such as scabies, ringworm, trachoma, conjunctivitis and louse-borne typhus. Educational and promotional activities can encourage bathing and laundering, but increasing the number of washing facilities and locating them conveniently may be more effective. Bathing with soap is an important means of preventing the transmission of trachoma—an illness that can cause blindness and other eyesight problems. Children's faces in particular should be washed regularly and thoroughly. If a child has trachoma, a special towel or tissue should wipe or dry the child's face; the towel should never be used for other children because of the risk of transmitting the disease. Ideally, programmers' that promote bathing should be combined with a programmer to reduce the numbers of flies, which spread trachoma and other diseases, and to improve sanitation. Laundering To promote laundering of clothes and bedding, laundry slabs or sinks can be constructed near water points. They should be large enough to wash bedding and other bulky items and be situated so water drains away from the laundry area and away from the water source. Locating laundry places in natural water bodies, streams and irrigation canals is best avoided since this practice can contribute to the transmission of schistosomiasis.

## 8. Community Hygiene

Some health measures can be undertaken only by the community; these include water source protection, proper disposal of solid waste and excreta, wastewater drainage, controlling animal rearing and market hygiene. Some have been described in earlier sections. Individual community members play an important role in community hygiene, and have a responsibility to their neighbour's and to the community to promote good health and a clean environment. For example, everyone in the village must keep their houses and compounds clean, because one dirty house can affect many conscientious neighbour's and contribute to the spread of disease. Community leaders can promote cleanliness in the home by regularly checking on village households and by using by-laws to encourage household maintenance.

## 9. Food Hygiene

One of the greatest risks to the health of a population is contaminated food. It is a leading cause of disease outbreaks and transmission. Food kept for too long contains pathogens or toxic chemicals whereas foodstuffs consumed raw, such as vegetables and fruits, can get contaminated by flies, dirty hands, or unclean water. Food improperly prepared can also lead to chemical poisoning. For instance, improperly pounded and cooked cassava leaves may contain dangerous cyanide levels. Therefore, to promote good health, food should be prepared and stored properly.

Food preparation in the home. As most food is likely to be prepared in the home, families should understand the principles of basic hygiene and know how to prepare food safely. Before preparing food, hands should be washed with soap

or ash. Raw fruit and vegetables should not be eaten unless they are first peeled or washed with clean water. It is also important to cook food properly, particularly meat. Both cattle and pigs host tapeworms that can be transferred to humans through improperly cooked meat; raw meat should never be eaten. Eggs, too, must be cooked properly before eating, since they may contain salmonella, a virulent pathogen. The kitchen itself should be kept clean and waste food disposed of carefully to avoid attracting vermin, such as rats and mice, that may transmit disease. Keeping food preparation surfaces clean is critical, because harmful organisms can grow on these surfaces and contaminate food. Fresh meat should be cooked and eaten on the same day, unless it can be stored in a refrigerator; if not, it should be thrown away.

Cooked food should be eaten while it is still hot and should not be left to stand at room temperature.

## 10. Conclusion

Results of various articles, organization's mission, various government guidelines considering all these revealed that hand washing, dental care, washing clothes, bathing, cutting nails will help to achieve personal hygiene in children, women and men. In under developing countries like Africa, Asia, and some in South America, these countries lack back in personal hygiene which increase the risk of personal hygiene related problems. The main benefit of practicing personal hygiene is to decrease the disease communication.

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**SWACHH BHARAT SCHEME IN SMART CITIES**

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Abstract

The PM government's pet projects, Smart Cities and Swatch Bharat Mission in urban areas, could face funding cuts in the 2016-17 fiscal. Our PM message to people "A clean India is the best tribute we can pay to Bapu when we celebrate his 150th birth anniversary in 2019. I urge every one of you to devote at least hundred hours every year towards cleanliness. We can't let India remain unclean any longer." The smart cities focus on their most pressing needs and on the greatest opportunities to improve lives, clean and sustainable environment and application of 'Smart' Solutions. The mission will cover 100 cities and its duration will be five years (FY2015-16 to FY2019-20). The concept of smart city CSS (Centrally Sponsored Scheme), SCP (Smart City Proposal) with AMRUT (Atal Mission for Rejuvenation and Urban Transformation), SPV (Special Purpose Vehicle), and SAAP (State Annual Action Plan) will be followed SLIP (Service Level Implementation Plans). States and ULBs (Urban Local Bodies) will play a key supportive role in the development of smart cities. The participation of smart people will be enabled by the SPV through increasing use of ICT, especially mobile-based tools. The success of the programmes will be judged in future by its power to transform the life of the people, and their ability to reduce growing inequality in our society.

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**1. Introduction**

The PM government's pet projects, Smart Cities and Swatch Bharat Mission in urban areas, could face funding cuts in the 2016-17 fiscal. In response to the clarion call given by Hon'ble Prime Minister Narendra Modi for Swatch Bharat (Clean India), the Nation witnessed a wave of enthusiasts wielding the broom and taking up the cleanliness pledge. Earlier, the Prime Minister wrote a message to citizens stating, "A clean India is the best tribute we can pay to Bapu when we celebrate his 150th birth anniversary in 2019. I urge every one of you to devote at least hundred hours every year towards cleanliness. We can't let India remain unclean any longer." On 2nd October, the launch of the mission was followed by Prime Minister flagging off a walkathon at Rajpath. Shri Modi visited Rajghat followed by Valmiki Basti (a housing colony), where he swept streets for a symbolic start. The mission has extended to every nook and corner of the country. Various tasks and discussions relating to Swatch Bharat Abhiyan also featured on the Gov platform to involve more people in the mission.

**2. Fund Allocation**

The urban development (UD) ministry has sought Rs 10,000 crore for its plan to enlist 40 cities in 2016-17 for the smart city programme besides providing funds for the 20 cities selected last year. But sources said the ministry is likely to get around Rs 3,150 crore. "The programme has taken off now and selected cities are getting ready to roll off projects. A cut in allocation at this stage will affect implementation," a senior government official said. Under the Smart Cities Mission, the centre will provide Rs 200 crore per city in the first year, followed by Rs 100 crore each for the next three years. "While Rs 2,000 crore would be due in 2016-17 for the 20 selected cities, Rs 8,000 crore would be due for the 40 cities to be selected in the new fiscal. This comes to Rs 10,000 crore," added another government official.

The Swatch Bharat programme in urban areas could face funds crunch as well because the finance ministry may give Rs 2,000 crore – Rs 3,000 crore less than that sought by

the UD ministry overseeing the cleanliness drive. The overall budget of the UD ministry – which oversees the implementation of Smart Cities and Swatch Bharat in urban areas and other urban infrastructure modernisation programmes may increase to Rs 18,000 crore, or a 6.9% jump up from Rs 16,832 crore in the previous fiscal.

Officials said this is not enough to meet requirements of the slew of big-ticket urban modernisation programmes rolled out by the ministry. Metro expansion will also face a fund crunch. "It will affect the expansion of the metro network in cities such as Delhi, Chennai and Mumbai. Of the Rs 33,000 crore the ministry has sought, it is likely to get about Rs 4,000 crore," said a finance ministry source.

**3. Smart Cities**

The Smart Cities Mission is an inventive and recent programme by the Government of India to constrain economic growth and improve the worth of living of the people by enabling home improvement and harnessing knowledge to create elegant outcomes for citizens. Smart Cities centre of attention on them for the most part of pressing requirements and on the furthestmost opportunities to improve lives. They tap a range of approaches - digital and information technologies, urban planning best practices, public-private partnerships, and policy change - to make a difference. They always put people first. In the approach to the Smart Cities Mission, the goal is to promote cities that provide core communications and give a decent quality of living to it's a general public, a clean and to be maintained environment and relevance of 'Smart' Solutions. The focal point is on to be maintained and comprehensive improvement and the thought be toward look at compact areas, construct a replicable mock-up which will act similar to a light house to other aspiring cities. The Smart Cities Mission sets examples that can be replicated both within and outside the smart city, catalysing the creation of similar smart cities in various regions and parts of the country.

**4. Coverage and Duration**



The mission determinate to wrap 100 cities and the period will be five years (FY2015-16 to FY2019-20). The mission possible to be continued thereafter in the light of an evaluation to be done by the Ministry of Urban Development (MoUD) and incorporating the learning's into the mission.

The total has been distributed among the States and UTs based on equitable criteria. The formula gives equal weightage (50:50) to urban population of the State/UT and the number of statutory towns in the State/UT. Based on this formula, each State/UT will, therefore, have some potential smart cities, with each State/UT having at least one. The number of potential smart cities from each State/UT will be capped at the indicated number. This distribution formula has also been used for allocation of funds under AMRUT.

Distributing smart cities will be reviewed after two years of implementing the mission. Based on an assessment of the performance of States/ULBs in the Challenge, some re-allocation of the remaining potential smart cities among States may have to be done by the MoUD.

### 5. Financing of Smart Cities

The smart city mission will be operated as a CSS and the Central Government proposes to give financial support to the mission for Rs. 48,000 crores over five years i.e. on an average Rs. 100 crore per city per year. An equal amount, on a matching basis, must be contributed by the State/ULB; therefore, nearly Rupees one lakh crore of government/ULB funds will be available for smart cities development.

### 6. Convergence With Other Government Schemes

Comprehensive development occurs in areas by integrating the physical, institutional, social and economic infrastructure. Many of the sectoral schemes of the government converge in this goal, although the path is different. There is a strong complementarity between the AMRUT and Smart Cities Mission in achieving urban transformation. While AMRUT follows a project-based approach, the Smart Cities Mission follows an area-based strategy.

Similarly, great benefit can be derived by seeking convergence of other central and State government programmes/Schemes with the Smart Cities Mission. At the planning stage itself, cities must seek convergence in the SCP with AMRUT, Swachh Bharat Mission (SBM), National Heritage City Development and Augmentation Yojana (HRIDAY) - External Website that opens in a new window, Digital India, Skill development, Housing for All, construction of Museums funded by the Culture Department and other programmes connected to social infrastructure such as Health, Education and Culture.

Implementing the Smart Cities Mission will be carried out by a SPV headed by a full-time CEO with nominees of central, State and Local Governments. The SPV will be a limited company under the Companies Act, 2013 at the city level. At the city level, a smart city Advisory Forum will be established for all 100 smart cities to advise and enable collaboration among various stakeholders and will include the District Collector, MP, MLA, Mayor, CEO of SPV, local youths and citizens and technical experts. The Smart Cities Mission

requires smart people to participate actively in governance and reforms. The participation of smart people will be enabled by the SPV through increasing use of ICT, especially mobile-based tools. The Central Government will provide Rs 194 crore as grant initially with an equal matching grant from the State government. The future grants to the smart city depend upon performance. The 100 smart cities will be selected based on competition inviting SCP. A large number of consulting firms and handholding agencies, will be engaged in different stages of smart city development. Eventually, these cities will acquire a brand and an identity based on their main economic activity such as local cuisine, health, education, arts and the old city of concrete, glass and steel now conceals a vast underworld of computer and software's. The new city is a digital upgrade to our built legacy giving rise to a new wind of city'- we may call it a smart city. Yojana was craft, culture, sports goods, furniture, hosiery, textile etc. Thus, the smart cities will emerge not only as sites of production and efficient governance but also the sites of consumption. In the event of this, it is likely to spur economic growth and improve the quality of life of its citizens. At a complementary to the Smart Cities Mission, AMRUT has been launched to cover 500 cities with a population of one lakh and more. The mandate of the AMRUT confines to water supply, sewerage and septage management, storm water drainage, urban transport and development of green spaces and parks including capacity building and reform implementation by the ULBs. It is envisaged that funding under AMRUT will prefer the potential smart cities. A State Annual Action Plan will be prepared (SAAP) in conformity with other central and State government programmes. The State contribution to SAAP should not be less than 20 per cent of the total project cost. Preparing SAAP will be followed by preparation of SLIP. Under AMRUT, one of the innovative approaches suggested for augmenting water supply is the recycling and reuse of water instead of bringing it from long distances. These two programmes also have strong complementarities in achieving urban transformation. While AMRUT follows a project-based approach, the Smart Cities Mission follows an area-based strategy. However, both programmes endeavour to promote partnership with State, ULBs and private sectors with Central Government playing a decisive role.

### 7. Challenges and Implications

The unique feature of India's present urban system is that it has 7935 cities and towns led by three mega cities namely Mumbai, Kolkata and Chennai which grew during British rule along with the national capital of Delhi. They have been followed by second ranking large cities namely Bengaluru, Hyderabad, Ahmedabad and Pune. The interdependence and inter-linkages among these eight cities with their regional manifestations and urban corridors has the potential to transform India into a global economic power. However, these cities themselves may not do it as they face huge challenges. Therefore, UD strategy could play a vital role. The regional inequality, rural-urban divide and intracity disparities are the strong barriers to India's urban transformation and economic progress. The concept and strategies of smart city and AMRUT of the present Central Government must be seen in this light. There are many smart cities being proposed for the less urbanised areas of central, eastern and north eastern India. AMRUT also proposes to cover 500 urban centres out of the 4041 statutory cities and towns. However, there are a

large number of census towns (3894) which are not covered by either of the two programmes. Census Towns are mostly governed by Village Panchayats, which lack resources and institutional capacity but have the potential to act as a bridge between rural and urban areas. Also, incorporation of census towns in the fold of UD strategy will be likely to unleash the potential of urbanisation for rural development. The potential of Smart Cities Mission and its convergence with AMRUT and Housing for All may bring many benefits, but there is a need to safeguard the poor and the slum dwellers that comprise 65 million as per 2011 Census.

#### 8. Core Of Infrastructure Elements

- Adequate water supply,
- Assured electricity supply,
- Sanitation, including solid waste management,
- Efficient urban mobility and public transport,
- Affordable housing, especially for the poor,
- Robust IT connectivity and digitalisation,
- Good governance, especially e-Governance and citizen participation,
- Sustainable environment,
- Safety and security of voters, significantly girls, kids and therefore the aged, and
- Health and education.

#### 9. Challenges

- States and ULBs will play a key supportive role in the development of smart cities. Smart leadership and vision at this level and talent to act resolutely are vital factors crucial the success of the mission.
- This is the first time; a MoUD programme is using the 'Challenge' or competition method to select cities for

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[www.yojana.gov.in](http://www.yojana.gov.in)

funding and using a strategy of area-based development. This captures the spirit of 'competitive and co-operative federalism'.

- Understanding the concepts of retrofitting, improvement and Greenfield development by the policy manufacturers, implementers and alternative stakeholders at different levels would force capability help. Major investments in time and resources can need to be created throughout the look section before participation within the Challenge. This differs from the conventional DPR-driven approach.
- The good Cities mission needs good folks that actively participate in governance and reforms. Citizen involvement is way over a ceremonial participation in governance.
- The participation of sensible folks are enabled by the SPV through increasing use of ICT, especially mobile-based tools.

#### 10. Conclusion

These programmes should not be seen in isolation either at the level of governance or at the level of implementation; otherwise, they might lose sight of inclusiveness. As envisaged, smart cities are not meant to widen the digital divide but to help bridge the intra-urban gap and the rural-urban divide. The emergence of the smart city ought to be seen in the backdrop of the need to contain corruption and meet the requirement of adequate and efficient service delivery in urban areas victimisation info and digital technologies. The success of the programmes will be judged in future by its power to transform the life of the people, and their ability to reduce growing inequality in our society.

Keywords: Swachh Bharat Mission, Sanitation, Toilets, Society

### Abstract

Swachh Bharat Mission (SBM) is necessary to run continuously in India and till it achieves its goal. It is essential for the people in India to really to get the feeling of physical mental, social and intellectual wellbeing. Mahatma Gandhi rightly said, "Sanitation is more important than independence". Swachh Bharat Abhiyan was launched by the Government of India to solve the problems of sanitation and waste management in India by ensuring hygiene across the country. The main aim of the project is to create sanitation facilities for all and provide every rural family with a toilet by 2019. The SBM of urban areas aims to cover almost 1.04 crore households to provide them 2.6 lakhs of public toilet, 2.5 lakhs of community toilet with the solid waste management in every town. Garmin SBM is a Mission implementing cleanliness programmes in the rural areas. Earlier the Nirmal Bharat Abhiyan was established by the Government of India in 1999 to make rural areas clean however, now it has been restructured into the SBM Garmin). This campaign is aimed to make rural areas free of open defecation till 2019 for which the cost has been estimated is one lakh thirty-four thousand crore rupees for constructing approximately eleven crore 11 lakh toilets in the country. There is a big plan of converting waste into bio – fertiliser and useful energy forms. This Mission involves the participation of Gram Panchayat, Panchayat Samiti.

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## 1. Introduction

*"When there is both inner and Outer cleanliness, it approaches Godliness".*

The SBM was initiated by our Prime Minister (PM) Sri. Narendra Modi with a view to create clean India. It is launched on October 2nd in 2014. SBM advised every Indian citizen to take up responsibility in keeping the country clean. The PM stated that a clean India would be the best tribute to give to the father of the Nation on his 150th birth anniversary and that everyone should contribute their part in doing away with litter and waste by the year 2019. He asked everyone to devote a hundred hours every year, two hours a week towards to the cleanliness. Father of our Nation Gandhiji maintained meticulous life style and accorded highest importance to cleanliness he realised the indispensable place of sanitation in Nation building and stated "Cleanliness is only next to Godliness" Development is a betterment that invitation brings about in any facet of life. Human development incorporates all aspects of individual's well - being food security clean and fresh air safe drinking water health and sanitation access to where with all to assure all these quality education and freedom of choice.

The prime minister's advice should not be taken up deaf ears but should be accepted with a change in collective mentality of the public and the Government officials at all levels. Proper sanitation and systems should be in place to dispose waste and maintain cleanliness. Anti – litter campaigns should be held to create awareness among the general public and motivate them to take up the broom. The funds should be collected and allocated to provide proper sewage systems public toilets and garbage disposal, so a collective education to citizens can ensure that their cities are kept clean. SBM is a huge movement that if taken forward can bring about a massive change in both the country's out look as well the citizen's attitude. Reduction in waste minimised littering and pollution will pave for a healthier and productive state and mind.

- Mindset need to change: If Mahatma Gandhi and PM can do, why we cannot maintain cleanliness.

- Anti - litter campaigns: Create awareness in our apartment, community and neighbourhood and motivate the people to take up broom.

### 1.1. Truth Realisation

For Gandhiji, sanitation is not just a biological requirement; it is a way of life, an integral part of truth realisation. His understanding of cleanliness stems from his realisation of the universal oneness of truth. Gandhiji who worshipped truth as, God saw the absolute, the all-encompassing truth as pure and hence equated "Cleanliness with Godliness". He accorded "Sanitation" the status of an essential step to freedom incorporating it into the list of eighteen Constructive Programme.

The seeker after truth saw life as the closest manifestation of truth, therefore he equalled life with truth or gods all the processes part of our life and it conduct are also the part of the truth realisation. In this sense, Gandhiji believed, sanitation, cleanliness of inner and outer self are means of God realisation. "We can no more gain God's blessing with an unclean body than with an unclean mind. A clean body cannot reside in an unclean city.

## 2. Objectives of SBM

The SBM has these objectives:

- 1) Elimination of open defecation.
- 2) Eradication of manual scavenging.
- 3) Modern and scientific Municipal solid waste management.
- 4) To effect behavioural change regarding healthy sanitation practices.
- 5) Generate awareness about sanitation and its linkage with public health.
- 6) Capacity augmentation for urban local bodies (ULB's).
- 7) To create enabling environment for private sector participation in Capex (capital expenditure) and Opex (operations maintenance).

## 3. Components Of SBM

The SBM has these components:

- 1) Household toilets, including conversion of in insanitary latrines into pour – flush latrines.
- 2) Community toilets.
- 3) Public toilets.
- 4) Solid Waste Management.
- 5) IEC & Public Awareness.
- 6) Capacity building and Administrative & Office Expenses (A &OE).

*By Public Toilets:* It is implied these are to be provided for the floating population / general public in places such as markets, train stations, tourist places, near office complexes, or other public areas where there are many people passing by.

*By Community Toilets:* It is implied that a shared facility provides by and for a group of residents or an entire settlement slum, where space and / or land are constraints in providing a household toilet. These are for a more or less fixed user group.

#### 4. Importance Of the Study

According to a UN report, India leads the world in open defecation in rural India due to lack of toilets. According to Government estimates urban India generates 68.8 million tone of solid waste per year (1.88 lakh tonne every day), which is estimated to touch 16 million tonnes by 2041. One third of garbage in urban areas remains untreated. According to census 2011, 5.48 crore households (32.7%) have access to toilets so (67.3%) of the rural households in the country still not have access to sanitation facilities. As per a baseline survey, 2012 – 2013, (40.35%) rural household has access to toilets. Over two million people, mostly children die each year from diseases associated with lack of access to safe drinking water, inadequate sanitation and hygiene (WHO AND UNICEF, 2000).

The problem is compounded by about 38 billion litres of sewage generated every day in 498 Tier one cities (2009 Figures). Out of this, 26 billion is left in the open untreated. Rural India generates 0.4 million tonnes of solid waste. According to a UN report, India leads the world in open defecation. 88 % of diseases in rural India are due to lack of clean water, sanitisation and solid waste management.

In urban areas, people throw litter and dust on the roads, outside the homes footpath instead of put in dustbins, which slowly accumulate and transforms into huge garbage. If not cleaned in time, this garbage smell stink and welcomes diseases affecting people. Public defecation in open fields lead to human contact with excreta via where is water roots contamination of fingers, Field crops, food files etc.

The WHO reports about 600 million episodes of diarrhea and 400,000 childhood deaths due to contaminated water and lack of sanitation, with an estimate 80% of all diseases are one third deaths in developing countries induced by consumption of contaminated water (Rajgiri, 2013). In this context, Mahatma Gandhi had said, "Sanitation is more important than independence". But, still 60 million of the 1.2 billion people in India have no access to toilets.

The Government report in May 2017, claims that over two lakh villages have become open defecation free (Dash, 2016). However, urban areas struggle to manage their daily municipal waste and open urine Nation. In rural areas the challenge is the liquid waste generated. People in rural areas are not much aware of health and hygiene, which leads to several diseases especially in children and it results in child mortality. The Government several initiatives including annual cleanliness surveys and social media campaigns forcing on behaviour change, there has been no significant improvement on the ground. One of the main reasons is the slow progress in setting up of plants to process solid waste. About 80% of the total seventeen lakh tonnes of waste generated daily is dumped without processing. Despite all efforts, using compost remains at low level of only two lakh tones.

The local bodies in most of our cities find it difficult to manage the cleanliness, Sanitation and hygiene in satisfactory state. Often the Government's helplessness comes to the fore on the cleanliness front due to shortage of resources. Sustainable and active participation of public in the national cleanliness drive can help proper development of our cities, towns and villages.

This is possible only if adequate steps are taken to create awareness, impart education and develop a sense of responsibility towards our surroundings. The media can play a pivotal role in generating awareness about the need of cleanliness and mobilise the people to join the campaign.

##### 4.1. Sanitation an act of Nation building

Spearheading freedom struggle, he explained the dimensions of freedom and highlighted the importance of 'clean behaviour'. In this context he stated 'before we think of self-Government, we shall have to do necessary plodding.'

From the stand point of health, Gandhiji termed the condition of villages as deplorable. "One of the chief causes of our poverty is the non – availability of the essential knowledge of hygiene. In this sense, he stated Swaraj is not 'freeing India merely from the English yoke but from any yoke whatsoever'

On other occasion, he stated; Swaraj will be a fruit of incessant labour and intelligent appreciation of the environment.'

*Open Defecation:* Open defecation (OD) is the practice of defecating outside or in public. This may be done because of cultural practices or having no access to toilets. OD is practiced all over the world or camping type of situations and represents no health and environmental problems when done in sparsely populated settlements and when "cat method" is used, i.e. covering the feces with some soil, leaves of sand.

The battle to end OD in India needs to be fought on two fronts: One on the ground which toilets and sanitation infrastructure, and second in the hearts and minds of the people by re-positioning toilets so latrine use becomes the norm.

*Impacts Of Open Defecation:* The health and personal safety impacts due to open defecations are principally the same as those from lack of sanitation.

*Health Impacts:* OD or lack of sanitation causes various diseases, most notably diarrhea and intestinal worm infections but also typhoid, cholera, hepatitis, polio, trachoma and others. Those countries where OD is most widely practiced have the highest number of deaths of children under the age of 5 and high levels of malnourishment (leading to stunted growth in children), high levels of poverty and large disparities between the rich and poor. OD is a leading cause of diarrheal death; 2,000 children under the age of five die every day, one every 40 seconds, from diarrhea.

The Swachh Bharat Abhiyan was expected to bring the following transformation.

- 1) Eliminate the OD practice in India and make toilets facilities to everyone.
- 2) Convert the insanitary toilets into flushing toilets.
- 3) Eradicate the manual scavenging system.
- 4) Proper management through the scientific processes, hygienic disposal, reuse and recycling of the municipal solid wastes.
- 5) Behavioural changes among Indian people regarding maintenance of personal hygiene and practice of healthy sanitation methods.
- 6) Create global awareness among common public living in rural areas and link it to the public health.
- 7) Support working bodies to design, execute and operate waste disposal system locally.
- 8) Private sector participation to develop sanitary facilities throughout the India.
- 9) Make a clean and green India.
- 10) Improve the quality of life of people in rural areas.
- 11) Sustainable sanitation practices by motivating communities and Panchayati Raj Institutions through the awareness programmes like health education.

## 5. Recommendations

- Sanitation practices should be included in school curriculum from the first standard itself. In each school and college, a team of students called the “Swachh a Senani” may be formed to spread awareness about sanitation and cleanliness.
- Medicated Mission for the Swachh Bharat Abhiyan may be set up both at National and State Level for the coordination, guidance support and monitoring of the program.
- Swachh Bharat Grading/Rating may be done for all Gram Panchayats, Municipalities, block, District and States every year to promote competition among them.

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- Assign one day each month and one week each year (culminating with 2<sup>nd</sup> October) for the activities of the SBA and to reward best performing Gram Panchayat, Block, ULB, District and State as per the ratings. This program may include PM and Chief Minister to give the award.

## 6. Conclusion

A pollution free clean India would be the best tribute to the Nation. Swachh Bharat Abhiyan is a cleanliness mass movement organised by the Government of India acts by the honourable PM Mr. Narendra Modi. This is the most valuable expedition which everyone must beware of for the bright future of India. This campaign is a political free Mission that immensely focuses on the welfare of the country. The primary aim of the prestigious campaign is to motivate people to make India pristine clean. Teachers, Students and common people are participating in this “Swachh Bharat Abhiyan” with big hits and fire. The main aim of cleanliness campaign is to disseminate the Mission as an awareness programs globally.

This program involves the construction of bathrooms in public areas, promoting sanitation awareness in rural areas, cleaning streets, bringing behavioural changes to the people, and converting India an ideal country before the world. Agreeing to this campaign nine people would first invite to the program and continue the chain likewise, this way there would be a huge chain of people who can involves in this campaign and make it a success. By completing the cleanliness program, it would indelicately draw the attention of business investors in India and tourist’s attract ion would be more from all over the world. This would afford a more serious outcome economic growth of India. On that point are various brand ambassadors are nominated by the prime minister to this event to induce it a successful campaign. This Mission facilitates the participation of private sector towards cleanliness program.

Efforts to reduce OD include awareness rising (for example vie the UN World toilet day at a global level), behaviour change campaigns, increasing political will and demand sanitation. Community – Led total sanitation (CLTS) Campaigns have placed a particular focus on ending OD by “Triggering” the communities themselves into action and let us hope the recently launched SBM will further help to resolve the problem.

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Keywords: Health, Healthy Lifestyle, Importance of Health, Valuable

### Abstract

Life is about maintaining a balance between some basic aspects of life. One aspect in health. Good health is a sign of being wealthy instead of ownership of quantities of money. That is why there is a proverb in the literature that health is wealth. To get a healthy life, one should change his life. These changes can be your eating habits, your sleeping patterns and some tweaks to your lifestyle. For your physical health, take a balanced diet full of nutrients.

\*\*\*\*

## 1. Introduction

“Health is Wealth”. This proverb is heard by almost everyone. This is not a line but a factual proverb. Without health, a wealthy person is also poor because he cannot enjoy his life to the fullest. We must always remember that health has a value greater than money. An unhealthy person’s money and talent will go waste. To obtain good health is not too difficult if we take care of our health by following methods, we will get good health. We should take a balanced diet full of nutrients and develop a habit of exercising daily.

## 2. Importance Of Living a Healthy Life

*Prevents Diseases:* The most important thing is that a good healthy lifestyle provides immunity against several severe diseases, many dangerous virus and Bacteria.

*Improve Mood:* Bad habits in your daily lifestyle may lead to a bad mood, and you can improve it by adopting a healthy lifestyle, it will lead you to a relaxed mind and keeps your energetic in a day. Exercise and eating good will help to improve your mood & boost your self-confidence.

*Weight Management:* to avoid being overweight, do regular exercise and eat a healthy diet. Physical activity is crucial for anybody to approach the weight loss target and not only that it also helps you to increase your immunity, and alleviate your energy level.

*Improves Longevity:* When our body gets nutrition and do proper exercise, it corrects all the bad habits and our daily routine. In this way, our body becomes more fit and healthy. All thing collectively led to the result in the longevity of a person’s life.

## 3. Influence and Significance

Nowadays, people are influenced by wealth, improperly, that they don’t even care about their health, the greatest wealth. They don’t understand that without health there is no real happiness and enviable success. Our first priority should be to maintain our health in the best way. A Healthy life is when someone feels good and active from inside and outside. You may feel healthy but can be the exact opposite. Being healthy is not about being physically, healthy, your mental health is also a part of it. When you cannot concentrate on things despite a healthy body, it demonstrates your poor mental health.

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A stronger Ability to Cope with Life’s Stressors; A Positive Self-Image; Healthier Relationships; Better Productivity; Higher Quality of Life.

## 4. Tips To Stay Healthy During Covid-19 Pandemic

*Practise Mindfulness:* Being mindful in what you do and pay attention to the present moment will help cultivate your sense of being. The practise of mindfulness has been proven to help overcome stress, and loneliness especially during the corona virus lockdown.

*Have A Healthy and Balanced Diet:* Keeping a healthy diet may help boost your immune system to help fight COVID-19. And, don’t forget to keep yourself hydrated throughout the day fully.

*Stay Connected:* Take this time to reconnect with your friends and families during self-isolation you can learn how to use new technology to keep in your touch with your loved ones.

*Stay Active:* Staying active can be as simple as taking short walk around your backyard, gardening, cleaning your home environment, knitting and cooking. Having a daily routine is important to keep you to stay active, strong and healthy during pandemic.

*Keep Yourself Entertained:* Keeping yourself busy and entertained during Covid-19 is important. Listening to music, watching your favourite shows, reading a new book, watching tutorials and learning a new skill are ideas you can try.

*Stay Informed with The Right Information:* During uncertain times like these, information overload could happen, resulting in stress and anxiety.

## 5. Conclusion

To sum it up, healthy life is the most unusual blessing that should not be taken for sure. It is actually the root of all happiness. Using money one can buy all the luxuries of the world but a healthy life can’t be bought by money. Good health enables you to live a happy life, achieve your goals and escape all your medical expenses. A healthy person is more likely to achieve all his goals because he can effortlessly concentrate on his goals and he possess all the energy to accomplish them. This is the basis that the saying “HEALTH IS WEALTH” holds a huge weight.

Keywords: Social Issues, Sanitation Workers, Sewage Systems

Abstract

"India can send rockets to the moon but we don't want to invest in technology that removes the need for humans to clean toilets manually."- Bezwada Wilson

“The Voice of Voiceless” analyses the socio-legal issues of sanitation workers in Digital India by way of embracing a Socio-legal study. The International Labour Organization (ILO) distinguished three forms of manual scavenging. 1. Removal of human excrement from public streets and dry latrines. 2. Cleaning septic tanks 3. Cleaning, gutters and sewers. Manual scavenging survives but technically thrives in many parts of India without proper sewage systems. Some municipalities still run public dry toilets illegal by law. The biggest violators of this law have been our Indian Railways which has toilets dropping all excreta from trains on the tracks and they employ countless scavengers to clean it manually. People engaged in manual scavenging are due to casteism and patriarchy and not just because of their insufferable poverty. Judiciary has always played an active role in strengthening the cause of socio-economic welfare by translating several directive principles into enforceable rights for the upliftment of poor and weaker section of the society. Despite all sort of actions and measures taken by the Judiciary to curb out this social mischief, still it survives helped by legislators and executives. Schemes like Swachh Bharat is only focusing on building toilets all over India but it has nothing to do with these cursed children of our Bharat Mattha.

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**1. Introduction**

The day everyone in India gets a toilet to Use, I shall know that our country has reached the Pinnacle of Progress” Even after the so many years of Independence we still lack this Context. “Bhangi” literally the Broken Identity and a derogatory name used to refer people from caste Traditionally Responsible for Manual Scavenging. This Practice persist in several parts of south Asia, across much of India and it's a Century old feudal and caste-based Custom. This Designated operation reinforces the social stigma they are Unclean or Untouchable and perpetuates wide spread discrimination. This History of Humiliation intends to repeat regardless of time.

**2. Purity at the Cost of Dignity**

The primary reason for the continuation of the process is apathy on behalf of the public and the state. But instead of rectifying this, state governments seem to be going in the opposite direction. In Karnataka, the Social Welfare Minister proposed legalizing manual scavenging in an emergency. Without a strong will to educate our communities against this dehumanizing practice, strict enforcement of criminal penalties and a genuine financial commitment to overcome the technological barriers, is even impossible to make a dent in this travesty.

In India, there is an inexorable link between occupation and caste; the occupation of manual scavenging is linked with caste. We must break the link between caste and occupation before we set out to achieve Swachh Bharat. It cannot be achieved by preaching “Cleanliness is next to Godliness”. Ironically certain communities in India from particular castes clean the country. If that were not the case, why is it that for the last 4,000 years, the same communities are cleaning the countryside? Without breaking the chain, those who make Bharat Swachh will never be a part of the campaign. You will project an illusion and to promote that, you will conceive of campaigns where the success of the illusion will depend on how well you promote it. Schemes like Swachh Bharat is only focusing on building toilets all over India but it has nothing to do with these cursed children of our Bharat Mattha.

**3. In-conducive Statutes of Sanitation**

Despite the Constitution declaring the abolition of Untouchability in Article 17, it is still practiced by perpetuating occupations such as scavenging. The cause has not been clarified by the Protection of Civil Rights Act, 1955. Initially the Untouchability (Offences) Act, 1955, had been enacted to abolish the practice of Untouchability and social disabilities arising out of it against members of the scheduled castes. It was amended in 1977 and is now known as the Protection of Civil Rights Act, 1955. Under the revised Act, The Scheduled Castes & Scheduled Tribes (Prevention of Atrocities) Act, 1989 came into force on January 31, 1990. The Act specifies types of offences as atrocities, provides for imposition of stricter penalties for the guilty and setting up of special courts for speedy trial of such cases. The main objective of the Act is to prevent the commission of offences of atrocities against the members of the scheduled castes and the scheduled tribes, to provide for special courts for the trial of such offences and for the relief and rehabilitation of the victims of such offences and for matters connected therewith or incidental thereto.

The Act was further strengthened, in relation to manual scavengers, by the recent amendments. The Act notified by the Central Government on January 1, 2016 makes it a punishable offence to employ, permit or make any person belonging to SC/ST community, to do manual scavenging. The contravention of the said provision attracts an imprisonment for a term not less than six months and may exceed to five years and fine. Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993.

**4. With Gears Not a Scavenger**

After the enactment of countless ineffective statutes, in the year 2013 The Prohibition of Employment as manual scavengers and their Rehabilitation Act was enforced. According to the Act, If the sanitation worker uses safety gears for cleaning the excreta, then he will not be a Manual Scavenger So the definition given by this Act for the term “Manual Scavenger” is twiddling “With gears not a Scavenger and without

a gear obviously a Manual Scavenger” It is only a tiny hole in massive dike. This definition adopted in PEMS Act 2013 will boil down to one thing, it dilutes the core objectives of the Act to end the practice of any form of manual cleaning, carrying, disposing or handling the human waste.

### 5. Schemes and Dreams

Indian Government's administrative schemes has allocated resources to modernize sanitation. National sanitation schemes aimed at modernizing human waste management. Sulabh Shauchalaya Scheme, Integrated Low-Cost Sanitation Scheme, Nirmal Bharat Abhiyan and recently the Swachh Bharat Abhiyaan are some examples. Some schemes for the welfare of scavenging communities, Self-employment scheme for rehabilitation of manual scavenging (SRMS) In April, the government initiated this scheme to liberate the manual scavengers and to rehabilitate them. Central Government has revised the SRMS for rehabilitation of all the manual scavengers identified under the manual scavengers Act, the main features of the Scheme include one-time cash assistance, training with stipend and concessional loans with subsidy for taking up alternative occupation.

In the year 1989 NSLRS was initiated, the main objective of the NSLRS is to liberate manual scavengers from their existing hereditary inhuman occupation of manually removing night soil and filth and to provide for and engage them in alternative and dignified occupations. In 2003, a CAG report concluded that scheme failed to achieve its objective involving investment of Rupees 600 crores. CAG report also pointed there was “lack of correspondence between ‘liberation’ and ‘rehabilitation’ and there was no evidence to suggest if those liberated were in fact rehabilitated”. The Government of India, Ministry of Urban Employment and Poverty Alleviation along with HUDCO have joined hands in taking up a major programme for Integrated Low-Cost Sanitation for conversion of dry latrine system into water borne low-cost sanitation.

### 6. Cast, Class and Gender

As for gender side women clean dry toilets. Men and women both clean excreta from open defecation sites, gutters and drains. While men alone are desired for physically demeaning work of cleaning sewers and septic tanks. Women largely continue to work as manual scavengers because of family pressure and lack of employment. Women are worst victim of manual scavengers as they constitute most of the work force of manual scavengers. At least 80-90 percent of India's estimated 1.8 million manual scavengers are women, according to a campaign group of Jan Sahas. Women work is even very less paid than men. Women scavengers face triple suppression of caste, class and gender.

According to World Bank one in every ten deaths in India is due to poor sanitation. Around 7, 68,000 deaths a year. Around 50 percent population in the country defecates in the open accounting for 60 percent of the world's total open defecations. Poor sanitation in India incurred huge health expenditure. These tasks are sub divided by gender: 95 percent of private and village toilets are cleaned by women. Both women and men clean open defecation sites, open areas and gutters and men typically clean septic tanks, closed gutters and sewers. Even the practice of manual scavenging violates

international human rights law including protection found in the UDHR, the ICERD and the CEDAW. India is also a party to other international conventions that reinforces obligations to end manual scavenging. The problem of health and sanitation has also attained high importance in the modern times.

### 7. Caste & the Catastrophic Rail Road's

Several international agencies such as the WHO, UNICEF and UNDP are working for improving health and sanitary conditions in the world. The ILO distinguished three forms of manual scavenging. Removal of human excrement from public streets and dry latrines, cleaning septic tanks, cleaning gutters and sewers. Manual scavenging survives in many parts of India without proper sewage systems. It is most prevalent in Gujarat, Madhya Pradesh, Uttar Pradesh, and Rajasthan. Some municipalities still run public dry toilets illegal by law. Traditionally the biggest violators of this law have been Indian Railways which has toilets dropping all excreta from trains on the tracks and they employ countless scavengers to clean it manually. The manual scavengers are forced to work in such inhuman practices out of compulsion and not by choice. They enjoy little alternatives.

Caste privilege and discrimination remain engrained in our society. Dalits engaged in manual scavenging is due to casteism and patriarchy and not just because of poverty. The concern here is why does caste matters in your employability or profession in modern India? Not every Dalit is a sanitation worker but every sanitation worker is a Dalit. The manual scavenging is passed on from generation to generation. Culture of acceptance is prevailing among them is also depriving them of their basic rights. Central and state govt. have failed to implement the law on manual scavenging. Some scholars and activist such as National Safai Karmchari activist Bez-wada Wilson argues that the mission for a clean India will not work without breaking the link between caste and occupation.

Mr. Wilson, who is the National convener of SKA, pointed those 12 crore toilets are being constructed under the SBM without considering the fact that they would still need manual scavengers to clean them. The question arises who will clean the septic tanks absent suction pumps?” “India can build cryogenic engines and send rockets to the moon but we don't want to invest in technology that removes the need for humans to clean toilets manually,” Pointing out that “four times as many Indians have already died in septic tanks and underground sewers as have died in terror attacks,” our government still does not devote half as much time and resources to combat manual scavenging deaths as it does to terrorism,” A case study done in 2016 revealed that 96.5% of rural elementary government schools had toilets, but more than one in four toilets (27.79%) were dysfunctional or locked. Under the SBM, no importance is being given to the upkeep, maintenance and sustainability of these community infrastructures. Proper integration of various components of the sanitation chain such as ensuring water supply, seepage management, sewerage networks, prevention of manual scavenging and solid waste management form the key for the Swachh Bharat Mission. Given the efforts underway to make this chain work, the way forward is towards a Clean India. The ongoing mass mobilization campaign “Swachhata



## 8. Judicial Intervention in Manual Scavenging

Judicial intervention in manual scavenging - Judiciary has always played an active role in strengthening the cause of socio-economic welfare by translating several directive principles into enforceable rights for the upliftment of poor and weaker section of the society. A liberal interpretation of Article 21 of the constitution has created numerous rights and has given a new direction to social welfare jurisprudence in India. Regarding judicial response towards the manual scavengers, recently courts have adopted a stern attitude towards the manual scavenging and pulled up the state authorities for failing to eliminate manual scavenging.

Safai Karamchari Andolan & Ors. Vs. Union of India in the present case the Supreme Court acknowledged the menace of manual scavenging in India as an inhuman, degrading and undignified profession. Safai Karamchari Andolan(SKA) is a National moment for eradicating the practice of manual scavenging in India, SKA with 18 other organization filed a Public Interest Litigation In the Apex Court seeking the eradication of manual scavengers, liberation of all manual scavengers from their degrading jobs and initiation of measures for their rehabilitation.

## 9. Invisible Inequalities

The Supreme Court observed that PEMSR Act, 2013 and the EMSCDL Act, 1993 neither dilutes constitutional mandate of Article 17 of the constitution nor does it condone inaction on part of union and state governments under EMSCDL Act, 1993. The Supreme Court held that the PEMSR Act, 2013 expressly acknowledges Article 17 and 21 of the constitution as the rights of persons engaged in sewage cleaning and cleaning tanks as well persons cleaning human excretion on railway tracks. P. Sathasivam CJ, said that “the official statistics of the Ministry of Social Justice and Empowerment for the year 2002-2003 put the figure of identified manual scavengers at 6, 76,009. Of these, over 95 percent are dalits, compelled to undertake this denigrating task.” The

Supreme Court also referred to several international covenants and instruments, to which India is a signatory, that seeks to guarantee a dignified human life regarding his profession and other walks of life e.g., UDHR, CERD and CEDAW.

## 10. The Definitive Decision About an Ill-Use

The Honourable Supreme Court of India laid down following propositions regarding rehabilitation of manual scavengers, to eradicate the social stigma of manual scavenging. If the practice of manual scavenging has to be brought to a close and to prevent future generations from the inhuman practice of manual scavenging, rehabilitation of manual scavengers will need to include:

- a) Sewer deaths – entering sewer lines without safety gears should be made a crime even in emergency situations. For each such death, compensation of Rs. 10 lakhs should be given to the family of the deceased.
- b) Railways – should take time bound strategy to end manual scavenging on the tracks.
- c) Persons released from manual scavenging should not have to cross hurdles to receive what is their legitimate due under the law.
- d) Provide support for dignified livelihood to safai karamchari women under their choice of livelihood schemes.
- e) Identify the families of all persons who have died in sewerage work (manholes, septic tanks) since 1993 and award compensation of Rs.10 lakhs for each such death to the family members depending on them.
- f) Rehabilitation must be based on the principles of justice and transformation. Supreme Court stressed on the rehabilitation of manual scavengers under part IV of the PEMSR Act, 2013. The Supreme Court directed the state governments and union territories to implement various provisions of PEMSR Act, 2013 and take appropriate action for non-implementation and violation of provisions in PEMSR Act, 2013.

Despite all sort of actions and measures taken by the Judiciary to curb out this social mischief, still it survives helped by legislators and executives. Schemes like Swachh Bharat is only focusing on building toilets all over India but it has nothing to do with these cursed children of our Bharat Mattha.

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**SERVICE QUALITY THROUGH PRIMARY HEALTH CENTERS: A CASE STUDY OF TAMILNADU**

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**Keywords:** Healthcare Services, Primary Healthcare Centres, Consumers Expectations, Perceptions, Service Quality Dimensions, Service Quality Gap

**Abstract**

Access to efficient and economic healthcare services has tremendous importance due to the alarming growth rate of lifestyle diseases despite any demographic factors. Tamil Nadu is one of the best performing states in terms of implementing reproductive and child health schemes. Though the government has introduced various health policies and set up public facilities to ensure that the poor who fall ill can find curative measures close to home, the state still faces healthcare challenges. One of the major challenges is the lack of adequate access to healthcare, though public healthcare services are free of cost or highly subsidized by the government. This is because most of the healthcare centres are aimed at benefiting the urban dwellers and the upper class. While healthcare in urban areas is been provided by properly equipped dispensaries and hospitals managed by corporate and other organizations, health services in rural areas have inadequate facilities. Against this backdrop, a study has been conducted to examine the root causes by comparing consumer's expectations and perceptions on the service quality dimensions of PHCs in Pudukkottai District, Tamil Nadu, using SERVQUAL and Gap models.

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**1. Introduction**

Health is not everything in life. But life is nothing without health (Peter & Friedrich, 1997). People's health is the foundation upon which all of their happiness and power as a state is built. Man's most precious possession is his health, which is a component of welfare. Good health and long life have therefore traditionally been the most prized goals of mankind. Good health also contributes to economic progress, as healthy populations live longer, are more productive, and save more (CBHI, 2019). A healthy community is an infrastructure upon which an economically viable society can be created as unhealthy individuals are unlikely to make any valid contribution. Thus, health is considered a highly valued asset. It is even claimed that health is the only thing that counts in life.

India is the world's second-most populated nation, accounting for 18 per cent of the global population (UN, 2017). However, a huge human resource base brings with it a slew of challenges. According to the 2016 Central Bureau of Health Intelligence Report, India is facing the 'Triple Burden of Diseases, which includes the unfinished agenda of communicable diseases, non-communicable diseases and new infectious diseases. The disease burden due to communicable, maternal, neonatal, and nutritional diseases dropped from 61 per cent to 33 per cent between 1990 and 2016, according to the India Council of Medical Research's 2017 report. During the same period, the disease burden from non-communicable diseases increased from 30 percent to 55 percent. The epidemiological transition varies substantially among Indian states ranging from 48 percent to 75 percent for non-communicable diseases, 14 percent to 43 percent for infectious and associated diseases, and 9 percent to 14 percent for injuries. Thus, non-communicable diseases have been shown to outnumber communicable diseases in terms of the country's total disease burden (CBHI, 2019).

With its economic gains, India has made great progress in other areas. For example, life expectancy has increased to 65 years, while infant mortality, maternal mortality, and death rates have all reduced dramatically (GOI, 2012). Polio, smallpox, guinea worm and leprosy have all been

nearlySimilarly, the birth rate is on the decline. To provide healthcare services to many rural corners of the country, the number of doctors, health clinics, and nursing has expanded. The success of these measures can be ascribed to increased healthcare penetration, enhanced vaccinations, rising literacy and a slew of government and private sector initiatives (CBHI, 2018). In 2010, India spent 4.10 percent of the total GDP on healthcare (WHO, 2010). In comparison, the world average was 9.7 percent with the USA having the highest percentage (15.70 percent) followed by UK and Brazil (8.40 percent each). About public and private expenditure, it was 26.20 percent and 73.80 percent, respectively. This is lopsided, and public sector spending is the lowest compared to the USA (45.5 percent), UK (81.70 percent), Brazil (41.60 percent) and China (44.70 percent). India has the largest private sector contribution while the global average is 40.40 percent. The per capita spending on healthcare is also among the lowest in India (40 US\$). However, the healthcare industry in India is expanding, owing to increased population, expected increase in geriatric population, lifestyle-related diseases, rising literacy and disposable income which makes healthcare more accessible.

**2. Healthcare Infrastructure System in India**

India has a mixed healthcare system that includes both public and private healthcare service providers. However, the majority of the private healthcare providers, who provide secondary and tertiary care healthcare services, are concentrated in urban India. In rural areas, the public healthcare infrastructure has been established as a three-tier system based on the demographic norms, including (i) Sub-centres (ii) Primary Health Centres (PHCs) and (iii) Community Health Centres.

**Table 1: National norms of population coverage for Healthcare Institutions**

Centre	Population Coverage	
	Plain Area	Hilly/Tribal Area
Sub-Centre	5000	3000
Primary Health Centre	30000	20000
Community Health Centre	120000	80000

Source: Bulletin on Rural Health Statistics, December 1997

### 3. Review of Literature

Rajan Rushender et al (2016) through a study in Orathur PHC, Cuddalore district, Tamil Nadu exposed that the utilization of primary level services is better for preventive and promotive care but is poor for treatment of acute illness, intranasal care and family welfare services, special investigation services. Brijesh C Purohit (2017) in his study at the district level for Bihar indicated that although relatively an economically and socially disadvantaged state, the infant mortality rate in Bihar is close to the all-India average. Maya Annie Elias et al (2018) in their study on access to medicines for diabetes and hypertension in Tumkur, Karnataka discovered that the majority of households depend on private facilities for diabetes and hypertension care because of the lack of laboratory facilities and frequent medicine stock-outs at PHCs. Faiza Manzoor et al (2019) in their study indicated that the overall opinions about the satisfaction level of patients for the availability of health services in three public hospitals in Pakistan were good. Tania Steyl (2020) in his study to assess patients with type 2 diabetes' satisfaction with healthcare services at primary healthcare settings in the Cape Metropolitan District, Western Cape, South Africa concluded that employing more staff in the multidisciplinary team and improving health information by developing staff through continuous education could foster more positive experiences and provide care that contributes to the well-being of patients.

### 4. Methodology

#### 4.1. Study of Area

Pudukkottai district has been selected as the study area for several specific reasons. It is considered one of the backward districts in the State of Tamil Nadu. According to the 2011 Census, Pudukkottai district has a population of 16,18,345 persons. The rural and urban population was 13,01,991 and 3,16,354 persons respectively. Pudukkottai district has one medical college hospital, 14 Government taluk hospitals, 75 PHCs and 252 health sub-centres. Most people in this district avail the of healthcare services through healthcare programmes at PHCs. These are the main reasons for selecting Pudukkottai district for the study. Easy accessibility for the collection of data also has been a compelling reason for the selection of Pudukkottai district since the researcher resides in this district.

#### 4.2. Database

This research is based on both primary and secondary data sources. The primary data was collected from the sample respondents who received treatment from local PHCs throughout 2019-2020 using a pre-structured questionnaire that focused on the five service quality dimensions. Secondary data was gathered from a variety of published and unpublished sources, including the Directorate of Medical Services Reports, Annual Statistical Abstract of Government of Tamil Nadu, journals, newspaper, and thesis, among others.

#### 4.3. Sample Design

Besides two revenue divisions, there are 11 taluks and 13 development blocks consisting of 498 village panchayats in the district. By keeping 20 per cent as the sample size, 13

PHCs from the rural areas and two PHCs from the urban area has been selected. Hence, the study has selected a sample size of 15 PHCs. To give equal weightage to all the blocks in the district, one PHC from each of the 13 blocks and one urban PHC from each revenue divisions has been selected randomly.

Next, to determine the sample size of the households, two village panchayats located nearby the selected PHCs were identified. Thus, 30 village panchayats were selected. From each village panchayat, 25 households who had received treatment from the local PHCs were identified and thus, total sample size of 750 households (30 x 25 = 750) was selected.

#### 4.4. Analytical Tools

The present study was conducted with the help of SERVQUAL scale and Gap model, developed by Parasuraman, Zeithaml and Berry (Parasuraman, A. et al 1988). They have formulated five dimensions of service quality that apply to service organizations. These dimensions are:

- Tangibles (physical facilities, equipment and appearance of personnel);
- Reliability (ability to perform the promised service dependably and accurately);
- Responsiveness (willingness to help customers and provide prompt service);
- Assurance (knowledge and courtesy of employees and their ability to inspire trust and confidence); and
- Empathy (caring, the individual attention provides to its customers).

Instead of the original seven-point scale format, a five-point Likert response format (ranging from "strongly agree = 5" to "strongly disagree = 1") was adopted to reduce the disparity in responses and to increase the response rate and the quality of the responses.

### 5. Data Analysis

Socio-economic status is an important factor that carries a great deal of weight in health-related research. One's socio-economic standing reflects their behaviour and attitudes towards what one thinks. Table 2 shows the basic profile of the sample households in the selected area of the present study.

**Table 2: Basic Profile of the Sample Household**

Gender	Number of Respondents	%
Male	268	35.7
Female	482	64.3
<b>Age</b>		
21 - 30	374	49.9
31 - 40	238	31.7
41 - 50	102	13.6
51 - 60	24	3.2
Above 61	12	1.6
<b>Social Group</b>		
Forward	58	7.7
Backward	312	41.6
SC/ST	380	50.7
<b>Type of House</b>		
Thatched	34	4.5
Tiled	404	53.9
Terrace	312	41.6

Source of Drinking Water		
Tape	589	78.5
Bore well	122	16.3
Well	24	3.2
Others	15	2.0
Sanitation Facility		
Yes	132	17.6
No	618	82.4

Source: Compiled from primary data

Table 2 indicates that of the total sample respondents in the study area, 64.3 percent are female and 35.7 percent are male. 81.6 percent of the sample respondents belong to the age group 21 - 40 in the high-efficiency stage of the skilled or unskilled labour force. 16.8 percent of the respondents belong to the age group 41 - 60 and the remaining 1.6 percent of the respondents are above the age of 61 years. The majority (50.7 percent) of the respondents belong to schedule caste followed by the backward community (41.6 percent) and forward community (7.7 percent) respectively. 78.5 percent of the respondents depended on public tape for safe drinking water. Similarly, 16.3 percent depended on bore well followed by 3.2 percent and 2 percent depended on well and other sources respectively. 82.4 percent of the sample respondents do not have sanitation facility and merely 17.6 percent have sanitation facilities in their homes.

5.1. SERVQUAL Analysis

SERVQUAL is a multi-dimensional research tool designed to capture consumer expectations and perceptions of a service along the five dimensions thought to represent service quality. The model is based on the expectancy disconfirmation paradigm, which simply means that service quality is understood as the extent to which consumers' pre-consumption expectations of quality are confirmed or disconfirmed by their actual perceptions of the service experience (Antony and Ravikumar, 2018).

In its most recent conceptualization, service quality (SQ), is defined as a comparison of perceived expectations (E) of a service and perceived performance (P), yielding equation  $SQ = P - E$ . SQ is judged low when customer expectations are greater than their perceptions of received delivery. SQ is high when perceptions exceed expectations.

Table 3: Dimensions of Service Quality

SQ Dimensions	$\bar{X}$ (E)	$\bar{X}$ (P)	Quality Gap (P-E)	Score
<b>Tangibility (Average)</b>	<b>4.8</b>	<b>4.4</b>	<b>-0.4</b>	<b>5</b>
The appearance of Physical facilities	4.6	4.6	0.0	
The appearance of Service Provider	4.8	4.5	-0.3	
Availability of modern Equipment's	4.7	4.0	-0.7	
Availability of communication materials	5.0	4.5	-0.5	
<b>Reliability (Average)</b>	<b>4.3</b>	<b>3.3</b>	<b>-1.0</b>	<b>3</b>
Upkeep of promised Appointment schedules	4.3	3.2	-1.1	
Shows genuine interest to diagnose the issues	4.2	3.8	-0.4	
Provision of excellent service at the first visit	4.3	3.0	-1.3	
Error free treatment with proper records	4.2	3.2	-1.0	

Provision of promised service without compromise	4.1	3.1	-1.0	
<b>Responsiveness (Average)</b>	<b>4.5</b>	<b>3.2</b>	<b>-1.3</b>	<b>1</b>
Provision of service without unnecessary delay	5.0	3.2	-1.8	
Ready to offer right information on time	4.5	3.2	-1.3	
Ready to offer assistance at any point in time	4.3	3.4	-0.9	
Prompt addressal of complaints / enquiries	4.2	3.2	-1.0	
<b>Assurance (Average)</b>	<b>4.5</b>	<b>3.3</b>	<b>-1.2</b>	<b>2</b>
Credibility	3.8	2.7	-1.1	
Provision of safe and secure service	4.5	3.2	-1.3	
Competency of service provider	5.0	3.8	-1.2	
Courtesy of staff	4.6	3.3	-1.3	
<b>Empathy (Average)</b>	<b>3.9</b>	<b>3.4</b>	<b>-0.5</b>	<b>4</b>
Approachability and ease of contact	4.2	4.2	0.0	
Listening to customers and their issues	4.0	2.8	-1.2	
Understanding the customer	3.5	3.0	-0.5	
Provision of individual attention and care	3.0	2.6	-0.4	
Convenient operating hours	4.7	4.5	-0.2	

Source: Compiled from primary data

Table 3 shows that of the five SQ dimensions, Responsiveness and Assurance has the maximum gap. The responsiveness dimension received negative scores, indicating that the majority of consumers are unsatisfied with these elements. Unnecessarily delays for availing of services due to lack of skilled medical and paramedical staff, staff absenteeism, and the service provider's negligence and irresponsible attitude all lead to this dissatisfaction. Nobody is ready to take a chance of visiting PHCs in emergencies because most of the PHCs lack an emergency/casualty ward or ambulance service. Some have also stated that there are no female staff to assist female patients in certain circumstances. Assurance is the second-lowest scored dimension. The majority of the consumers expect the service provider to give them a firm assurance they will receive safe and secure treatment from the PHC. However, they must face issues such as lack of reliable diagnostic facilities, inadequate skilled paramedical staff to operate machines, and lack of medicines in many a case. Consumer confidence is lowered because of these flaws, which leads to the underutilization of services.

Consumers' expectations were rather lower than the perceived service delivery with the reliability dimension. Though there was some dissatisfaction with the delays in consulting doctors and getting the diagnostic test, the majority of the consumers would accept it as a normal occurrence. In terms of vaccination services offered by PHCs, the reliability factor revealed a high satisfaction level. Consumers are satisfied with the tangible elements of PHCs, and in certain circumstances, they are not bothered about the building or modern-looking equipment. However, they believe that more than the physical elements, these institutions must provide better and safer treatment as well as timely service. The majority of consumers' expectations on the Empathy dimension were lower than the perceived service, which was surprising. This is because the majority of the frequent visitors are above 50 years old and from the rural female population. They believed that only a few PHCs works 24 hours a day, seven days a week, 7 and that the timings are inconvenient in

certain emergency cases, forcing them to seek treatment at private clinics.

lab services, shortage of medicines, and other issues are highlighted in the report.

## 6. Findings and Conclusions

Consumer expectations and views on the quality of services offered by PHCs were investigated, and it was discovered there exists a wide SQ gap in most dimensions. The main SQ gap was identified in the Responsiveness and Assurance dimension. The findings highlight the root cause of the underutilization of primary healthcare services, a ground-breaking WHO initiative. Every consumer expects to receive timely, safe, and secure service from a provider, and when they don't get it, they look for alternative options. Consumers have lost faith in PHCs in this dimension, and they are turning to private providers, although they must pay exorbitant charges. When the SQ is substandard, the highlighted factors of affordability and accessibility of PHCs are insignificant for the target population.

Because health is considered of prime importance to every human, the assurance factor plays a vital role in customer satisfaction. They will go to any length to reclaim their health. In a state like Tamil Nadu, where people are health-conscious and educated, health issues are never compromised. Therefore, assurance of quality healthcare is essential for the very existence of any healthcare provider.

Inadequate female staff to assist female patients, insufficient skilled medical and paramedical staff, lack of proper maintenance of equipment and machinery, inaccuracy in diagnostic, References

PHCs are responsible for community development, implementation of anti-epidemic programs, birth control programs, sterilization surgeries such as vasectomy and tubectomy, pregnancy and related care and emergencies, besides patient care. But the role and contribution of PHCs are comparatively minimal in most of these functional areas.

The proper administration of immunization/vaccination programmes and well-built infrastructure facilities is the positive and encouraging factor of PHCs. Government hospitals can play a vital role in controlling the dominance of private healthcare providers by interfering in the competition, and lowering the astronomical fees charged by the private hospitals. Personal attention and care should be ensured to enhance responsiveness and create assurance in consumers' minds. A mechanism should be in place to control and standardize the SQ in a periodic manner, increasing customer satisfaction through value addition and creation. To create trust and confidence, the communication between service providers and patients should be strengthened. Patients believe that cost is the least essential aspect determining their satisfaction, and they will pay a reasonable price for good treatment. Because of these considerations, public healthcare providers must try to become more competitive and customer-friendly to meet the goals outlined in the Alma Ata Declaration.

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**MANUAL SCAVENGING: CHALLENGES AND STIGMA IN WASH CONCERNS**

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Keywords: Marginalized People, Sanitation, Manual Scavenging

Abstract

Sanitation workers in the developing countries face a lot of challenges, because of weak legal protection and non-enforcement of laws. In India manual scavenging still prevails due to caste and class prejudices, occupational segregation and governmental indifference. Improper planning of the maintenance of sewage, septic tanks, and waste disposal system due to defective urban drainage planning and failure to adhere to the WASH principles in implementation of urban development policies have also hurt the life of the manual scavengers. The job of manual scavengers not only puts their self-respect in peril but also endangers the safety of their life. The numbers of people being killed while cleaning sewers and septic tanks on the increase stand as evidence. The highest number of manual scavenging death was recorded in 2019, showing an increase by 61 percent compared to 2018. A national survey conducted in 18 States in India, identified 48,345 manual scavengers till January 31, 2020 working, though manual scavenging has been legally banned in the Parliament. According to 2018 data, 29,923 people were engaged in manual scavenging in Uttar Pradesh, the state with the highest number of manual scavengers in the country. A wide range of data through secondary sources were also collected from different sources such as documents/magazines, media & news cover, diaries, pamphlets, brochures, booklets and records of unions to analyse the status of manual scavenging in India and the stigma associated with the same. Relevant photographs of the scavenging activity were also taken. Even a Documentary film named KAKKOOS an award-winning film also considered as prime evidence and based on this short film different key point have been taken for this study to understand the deliberate de-humanising side of manual scavenging. Of utmost importance in human practice and those practising is properly rehabilitation. In this context, the present study aims to examine the aspects of manual scavenging in India, the methods by which this regressive practise can be curtailed and the emancipation those involved in manual scavenging and rehabilitation. More so, the perception that there has to be section of people to work on scavenging, clearing of the drainage etc reinforcing the occupational reinforcement on a particular section, and treating them as untouchable cannot be borne anymore in a human rights perspective.

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**1. Introduction**

Manual Scavengers are removing human excrement from streets and dry latrines, cleaning septic tanks, gutters and sewers. Scavenging has been an occupation imposed upon certain citizens of the country by the society, which later on continued as a traditional occupation among Scheduled Castes. This class of citizens of India is known as manual scavengers. Scavengers are employed to collect, carrying and dispose excreta from, sewers, septic tanks, drains and railway track. This referred to the practice of removing excreta from dry latrines. However, new modern sanitation technologies brought new forms of manual scavenging work, which include manual and unsafe cleaning of drains, sewer lines, septic tanks and latrine pits, from open places with the help of brooms, buckets, sometimes with bare hands.

Article 15 of the constitution says that the state shall not discriminate against any citizen on grounds of religion, race, caste, sex, place of birth or any of them. Article 15 of the Indian Constitution prohibits caste-based discrimination. But the sanitation workers are forced to do unsafety jobs and live in the shadow of exploitation. Article 17 of the constitution says Abolition of Untouchability. It guarantees social justice and dignity, the twin privileges denied to a vast section (Scheduled Castes (SC), Scheduled Tribes (ST), and Other Backward Classes (OBC)) of the Indian society for centuries together." Article 17 of the Constitution was written with the hope that practice of manual scavenging would not continue in Independent India" (Odisha HC, 2021). Article 46 of the constitution, provides that the state shall protect the weaker sections particularly, the SC and the ST from social injustice and all forms of exploitation.

Practising manual scavenging continues in several parts of India largely due to governmental indifference and social prejudice. There is a complete absence of planning for the maintenance of sewerage, septic tanks, and waste disposal systems in the urban policies made for the city by the state and private companies. Specifically, the Dalit community people are doing it for years as their profession. Manual Scavenging is one of the worst violations of human rights. Not only exploiting the marginalized people but also economic wise and health wise. Manual scavenging impacts the people involved in it both physically and mentally due to the social exclusion they experience in terms of denial of basic facilities including education and healthcare. The toxic and poisonous gases evolved from the decaying of faecal matter can cause skin diseases, respiratory problems, long-term illness, and death too.

The number of people killed while cleaning sewers and septic tanks has increased over the last few years. In 2019 it is observed that the highest number of manual scavenging deaths in the past five years. According to an official in a ministry of social justice and empowerment, about 1,013 persons died while working as manual scavengers from 27 years up till 2020. Manual scavenging not only violates the right of dignity but also the right to health which is a universal right and right to life and liberty. The life of manual scavengers is constantly under threat due to the severe health hazard it causes. And further, it is also violation of the right to equality by treating untouchables in an undignified manner. The practice of manual cleaning of sewers without safety equipment is not only violation of the laws of the land but also reflects the inhuman attitude and slavery towards certain sections of society. There is urgent need to take proactive actions against such practices and those violating the laws should be

strictly punished. In this context, my study aims to analysis issues of manual scavenging, in India.

## 2. Objectives Of the Study

- 1) To analyse psycho-socio and economic factors compelling particular communities to continue as manual scavengers.
- 2) To understand the reasons for manual scavenging practise even after the introduction of several mechanized system for sewage cleaning.
- 3) To suggest solutions and give recommendations towards the eradication of manual scavenging.

## 3. Review of Literature

Even in this modern era people are following untouchables and force to clean the excreta for livelihood. The reality about the life of sanitation workers is not just about unsafe working and living conditions, irregular and minimum wages, and their health conditions and exploitation by their contractors (Dhamma, 2020). The traditional form of manual scavenging is cleaning human excreta from dry latrines it is still much present in the different rural parts of India. The other forms of manual scavenging can be easily seen in urban areas.

Lacking any alternative job opportunity and having a social stigma attached to their traditional jobs in their villages, members of the lower castes are forced to migrate to cities where they work in unskilled and hazardous jobs like rag picking, recycling and cleaning works (Rajneesh Kumar et.al, 2017). The Dalits form a significant percentage of the Indian Population and are highly disadvantaged socio-culturally, politically and economically. Government officials, social reformers and people belonging to the higher castes have invoked several terms, viz, Exterior Castes, Outcastes, Depressed Classes, refer to this social category (Vikram Singh, 2020) The relation between caste and occupation is not a new phenomenon as it exists since ages and is the beginning of the Hindu Verna system.

My argument is that the very act of engaging in the practice of manual scavenging even with protective gear when construed discursively in its history and present social manifestations, grossly fails the constitutional scheme prohibiting untouchability and violates the constitutional understanding of human dignity. SCI jurisprudence has failed to capture this apparent basic structure violation, which has allowed the practice to perpetuate relying on the permissibility of protective gear as a legal exception to the prohibition (Asang Wankhede, 2021). On health grounds, manual scavengers have direct skin contact with human excreta contributing to countless diseases: TB, Campylobacter infection, Viral and other bacterial diseases and sometimes even death. The news of manual scavengers died in manhole is frequent these days. For safety side around 90 percent of all scavengers have not been provided proper safety equipment like gloves, masks. Boots, brooms, oxygen cylinder (Harsh Maurya,2018).

Due to the hazardous nature of the job, many workers have related health problems. It is believed to be most prevalent in Karnataka, Gujarat, Madhya Pradesh, Rajasthan and Uttar Pradesh. It is observed that Indian Railways is also playing as

big violator. The excreta from trains toilet are cleaning manually 95 percent are women (Pallavi Gupta,2021)

## 4. Methodology

This research paper is based on secondary data sources such as articles, journals, thesis/dissertation, govt. & NGO reports, books, documentaries, govt. ministries data census data, newspaper, websites etc. A derived and combined source of data sets and the information will bring out the exact output of this study.

## 5. Analysis

Manual Scavenging is a job it is highly heinous act in the world. It is the act of cleaning sewers or removal of human waste from toilets with bare hands. According to the International Labour Organization, there are mainly three forms of scavenging that is septic tanks cleaning, removal of human excreta from dry latrines and gutters and sewer cleaning.

Manual Scavenging are common in Asian countries like Nepal, Bangladesh, Pakistan and Sri Lanka. Developed countries have two main methods to loosen blockages and clear sewer drains without using manual scavenging. That are sewer rodding and sewer -jetting. Rodding involves a long metal rod rotating fast to loosen the blockage. Jetting involves a hose sparing a high-pressure jet of water to clear a sewage pipe of blockage. Indian municipal bodies are gradually adopting machinated sewer cleaning to end manual scavenging, but at a slow pace. Hyderabad, for example, introduced 70 mini sewer jetting machines in 2017. The practice of manual scavenging deliberately violates various international human rights law, including protections found in the Universal Declaration of Human Rights (UDHR), the International Convention on the Elimination of All Forms of Racial Discrimination (ICERD), the Convention on the Elimination of All Forms of Discrimination against women (CEDAW), and International Convention on Economic, Civil and Political Rights. India is also party to other international conventions and covenants that reinforce obligations to end manual scavenging. But ground realities are different.

The country has 58,098 manual scavengers and 42,594 belong to the SC, the government has told Parliament (Dec, 2021). Minister of State of Social Justice and Empowerment Ramdass Athwale said this in Rajya Sabha in a written reply to a question by RJD member. The ministry said that several surveys on manual scavengers in the country have been carried out according to the manual scavenging act, 2013. These surveys have confirmed a disproportionately large number of manual scavengers from SC alone.

Table 1

Category	No. of manual scavengers
SC	42,594
ST	421
OBC	431
Others	351

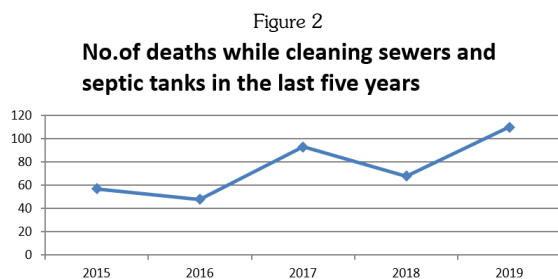
Source: Rajya Sabha

58,098 manual scavengers have been identified as per the criteria laid down in the 2013 act. Of these, caste-related data is available for 43,797 manual scavengers, 97.25% of who belonged to SC. The survey of manual scavengers in

2018 was conducted by the National Safai Karamcharis Finance and Development Corporation (NSKFDC) at the behest of the Ministry of Social Justice and Empowerment. This survey, which found 87,913 manual scavengers in India, was only conducted in the statutory towns of 14 Indian states.

Scavenging continues in parts of India in different forms largely due to governmental indifference and social prejudice. Caste system has been playing vital role to existing this inhuman practice. These people are known as different names in different places. The names are Arundhatiyar, Bassfor, Baafod, Baalshaahi, Bhovi, Chooda, Chekkiyar, Charey, Dom, Domar, Hela, Hari, Haadi, Katungaygar, Mira, Mochi, Madigaru, malkani, Relli, Shaikh, Thotti, Valmiki, Vital, Yandi. It's means 'broken identity', this people are facing huge discrimination and not allowed to do any other work. They are poor, uneducated, marginalized in the name of caste cleaning human excreta with their own hands. There is a complete absence of planning for the maintenance of sewerage, septic tanks, and waste disposal systems in the urban policies made for the city by the state and private companies. India is one of the fastest growing economies in the world and spending more money to develop infrastructure. Still people are doing manually.

The number of people killed while cleaning sewer and septic tanks has increased over the last few years. It is estimated that over 600 sewer workers die every year. That's over ten times the number of Indian soldiers killed by terrorists.



Source: Social Justice Ministry in the Lok Sabha 2020

2019 saw the highest number of manual scavenging death in past five years. 110 workers were killed while cleaning sewers and septic tanks. This is urging the authorities to take steps for the rehabilitation of workers and mechanize the work completely.

## 6. Based on Kakoos Documentary

The Documentary focused on different districts of Tamil Nadu and the sanitation facilities. It reveals that manual scavenging practise still existing in different forms throughout the state. Particular community people are born to do this inhuman practice because of their caste. Documentary deliberately exposes the slavery and exploitation through the means of casteism and discrimination. Not every Dalit is a sanitation worker but every sanitation worker is a Dalit. Here respect deserves only for the caste not for human. The marginal castes from rural areas moving to urban areas to seek a better livelihood always end up in the same occupation. People who engage themselves in sanitation were staying in rented houses. But their income from the manual scavenging

activities cannot manage enough their livelihood. It is difficult particularly for the women in every aspect. 98 percent of women were engaged in entire sanitation. There is a wage discrimination based on the gender. Documentary shows the major issue of women were getting abused verbally and sexually. Another aspect from this file refers that the people of upper caste were poor in sanitation management. It observed there is a structural violence against manual scavengers. Manual scavengers are facing two violence such as violence associated with caste discrimination and the social violence by excluding them in the day-to-day social activities and secondly physical violence sanitation workers are forced to make heinous practice. Men are particularly relied on alcohol to cope with the hazards of manual scavenging works. This Documentary also analysed another major aspect of health concern known as musculoskeletal disorder and the osteoarthritis. The manual scavenging workers in the sewerage also come in contact with the discharges from rodents found in the sewers and may be infected with leptospirosis. Other health-related problems include dermatitis, gastric cancer, and respiratory problems. These back-to-back tragedies results in another worst form of atrocities in the number of deaths of manual scavengers are interpreting as suspicious death under Criminal Procedure code 174. The normal air breathe from the outer atmosphere consists of 78 percent Nitrogen, 20 percent oxygen and 2 percent of other gases. But inside the sewer lines, the decomposition of garbage and faecal matter leads to increased level of methane, hydrogen sulphide, carbon die oxide and ammonia which reduces the oxygen levels and this causes hypoxia which can lead to immediate decease and sometimes to fall unconscious. Still now there are no proper strategies put forwarded to liberate the manual scavengers physically and psychologically. This stigma spontaneously pushing in the stringent practice to get even deeper and deeper into the practice of manual scavenging. Contemporary issue analysed by this Documentary is all about the children of manual scavenging workers were also discriminated and forced to take over the same work as their parents. Other related documentaries and news reports are also saying it is well planned occupation for marginalized people for exploiting in the name of caste. It is the best example of slavery and forced labour are still following in India. This shows slavery by birth, by caste, by gender.

## 7. Government Initiative

Constitution of India

- The Protection of Civil Rights act, 1955
- Employment of manual scavengers and Construction of Dry Latrines (Prohibition) act, 1993
- National Commission for Safai Karamcharis act, 1993
- Prohibition of Employment as manual scavengers and their Rehabilitation act, 2013
- Self-employment scheme for rehabilitation of manual scavenging (SRMS)
- National scheme of liberation and rehabilitation of scavengers and their dependents (NSLRSD)
- Nirmal Bharat Abhiyaan (NBA) (2009-14) and Swachh Bharat Abhiyaan (SBA) (2014- 19)

## 8. Critical Analysis on Government Initiatives



### 8.1. NBA (2009-14) & SBA (2014- 19)

In 1999, the Total Sanitation Campaign (TSC) was conceived, which in 2012 was renamed Nirmal Bharat Abhiyan to ensure 100% sanitation in rural and urban areas by 2017. In 2014 the NBA was replaced with SBA.

The main objectives of SBM:

- a) Eradicating open defecation.
- b) Eradication of Scavenging by Manual.
- c) Municipal Solid Waste Disposal is new and analytical.
- d) For safe sanitation activities to effect behavioural improvement.

### 8.2. SBA and its impact on Manual Scavenging

It is 6 years of Launch of SBA, the plight of manual scavengers has worsened, now they have more toilets to clean, more tanks and sewer pipes to look into. The campaign stresses on constructing compost and bio toilets but many built septic tanks only. Septic tanks lead to groundwater pollution, and demand manual scavengers to clean, empty it when it requires transfer. Indian Railways is largest employer of manual scavengers to clean its tracks and railway stations. There are about 8,025 railway stations in the country which ferry about 2,30,00,000 passengers every day. Whenever passengers use train toilets while trains are halted at stations, the excreta directly fall on the railway tracks beside the platforms. The biggest violator of the law is the Indian Railways which dumps human excreta directly on railway tracks every day and employs scavengers to clean it.

Though in 2017 Railway Budget, Mr. Suresh Prabhu, MP, claimed to introduce bio toilets in the operational trains by 2021 and help in eradicating the heinous bolt. Indian Railways have said that its goal is to install 1,440,000 bio toilets in all 55,000 coaches under the “Clean Rail-Clean India” program by the end of 2019. Bio toilet is a decomposition mechanized toilet system which decomposes human excretory waste in the digester tank using specific high graded bacteria (aerobic or anaerobic) further converting it into methane gas and water. It saves a lot of water and helps in keeping the station clean.

“SBA” helped introducing toilets into the houses across the country, 5.8 million in 2014-2015 itself. It has solved the Problem of Infrastructure for excreting, but Faecal Sludge Management is still unsolved. Sludge from the septic tanks and sewage drains, filled with human excreta, needs to be emptied and transferred into the landfills/Treatment Plants to become compost. These composts are later on sold as Bio-soil/ Manure for the plantation and gardening purposes. Still the actual question is who empties the tanks. SBM can say successful, if “manual scavenging” is eradicated and modern technology latrines are installed. An alternate means of living must be provided to those taken out from the inhuman work, are then tried to rehabilitated through various skill-based programs (like PM Kaushalvikasojna).

## 9. Critical Assessment on SBM

In 2014, Prime Minister Narendra Modi pledged to clean the “filthiness all around us”, which, according to him, is an obstacle for promoting the tourism that offers jobs to the

poorest of the poor. Mr. Modi announced his government’s resolve to accomplish the vision of a clean India by 2019, on the 150th birth anniversary of Gandhi. SBA was an unprecedented nationwide initiative aimed to inspire the public to voluntarily clean public spaces as a service to the nation. The campaign initially highlighted images of celebrities “voluntarily” sweeping the streets, in protective gear. Circulated by a pliable commercial media, these images trended on social media. Concurrently, municipalities employed more contractual labourer — mostly scavengers forced into the profession by their caste to remove waste.

## 10. Adopting the Western Approach

The West introduced technologies to systematically remove waste. For example, when Londoners experienced the ‘Great Stink’ in 1858, the government realized that it would need a holistic sewerage plan, which would become part of the London water infrastructure, to remove filth and treat waste from the river Thames in a sustainable way. Soon, constructing toilets in households and shops became mandatory.

The Swachh Bharat campaign hardly addresses a reworking of the underground sewerage system. This is a cause for grave concern, since many labourers have died recently while cleaning jammed manholes that open into the sewerage system. Most disturbingly, these deaths have a caste pattern. According to a reply by the Ministry of Social Justice and Empowerment to the Lok Sabha in December 2017, over 300 cases of deaths due to manual scavenging, mostly from particular caste groups, were reported that year. Punitive measures should exhort the public to learn where and how one should urinate, defecate and dispose of garbage. The campaign, however, burdens the contractual labourer with an ‘exclusive’ right to cleaning public spaces, while making it a voluntary act for the ‘public’ to not defecate, urinate or litter in random spaces. In India, waste carries the stigma attached to pollution and caste, as does the process of removal (‘scavenging’), and the occupation (‘scavenger’). The waste remover in India is not a professional, like in the West. Also stigmatized are the spaces in which the removal takes place and where the waste is disposed. These are considered contaminated by caste pollution. Stigma resides in the profession, the labour, the body, and in the space.

It is significant that ‘toilets’ are not viewed as essential parts of buildings and public architecture in India. For instance, the Delhi Metro did not include toilets in all the stations in its original plan. After a PIL did the Delhi High Court direct the Metro authorities to construct toilets and provide other facilities in all stations. This ‘oversight’ is only compounded by the location of the toilets. For instance, temples rarely constructed toilets. And when constructed, they are built away from the boundary.

## 11. Addressing the Stigma

Similarities between the secular SBA and the casteist form of manual scavenging are evident, but they have gone unnoticed. The secular sounding Swachh Bharat offers only concealment of caste. The SBA enables a disjunction between the cleaning and disposing of waste, where the cleaning is a voluntary ‘service’ which caste Hindus have to undertake,

while collecting and disposing waste is a 'duty' relegated to municipal workers from particular castes. Any tangible achievement of a clean India is possible only if the stigma attached to sanitary labour, place and waste are critically addressed by caste-neutralizing these professions and through adoption of technologies. Until then we are unlikely to succeed in any mission to keep our cities clean. Even if we put up a façade of cleanliness, we need to remember that a clean village exists because an 'unclean' caste has absorbed all the 'filth' of the village.

### 12. Major Critics on SBM

- 1) There are no appropriate steps has been taken so for to eradicate the complete practise of manual scavenging.
- 2) Achieved target of toilet construction over the rural areas were not maintained properly throughout the state.
- 3) Spending allocation has been reduced in the recent years as according to the budget estimates.
- 4) Major part of the spending gone for the media, advertising and non-materialistic things.
- 5) Problem in implementation by the bureaucrats around the states.
- 6) There is no proper functioning and adjustments in public private partnerships.
- 7) Government is focusing on constructing toilet for achieving target, not for proper solution.

### 13. WASH Concerns

The WASH (Water, Sanitation and Hygiene) initiative has been taken by various countries to provide safe drinking water, proper sanitation facilities and a hygienic environment and livelihood to all. India is the second most populous country in the world and 60 percent of population lives in urban areas. This put stress on water and sanitation services in the country. Solid waste from households and industries are major problem to person who involved in cleaning jobs and lack of proper recycle it affect environment badly.

India, one of the world's most water-stressed countries, will become water-scarce with time. Per capita water available is set to decline to 1,465 cubic metres by 2025 from 1,544 m<sup>3</sup> in 2011 (and 1,816 m<sup>3</sup> in 2001), according to a 2018 Niti Aayog study. India will need 1.5 trillion m<sup>3</sup> water by 2030, according to the Central Pollution Control Board.

### 14. Environmental Impact

Most of sewer lines carry run of water to sea. If untreated sewage is discharged into rivers or seas, then the water in the rivers or seas would also get contaminated. It affects

ecological system. Sewage and wastewater contain bacteria, fungi, parasites, and viruses that can cause intestinal, lung, and other infections. The consider fact that we are dumping waste into water bodies. We are literally polluting the water and environment.

India has struggled to enforce laws banning the unsafe practice. Under the new measures, sewer and septic tank cleaning will be mechanized, with funds directly transferred to sanitation workers to buy cleaning machines. Provide skill development and livelihoods training to women, linking them to government employment schemes and entitlements as well as ensuring their land rights. Vocational training linked to employment for young people, and support to liberated manual scavengers in building alternate livelihoods could go a long way in ensuring steady, stable livelihoods for the future. Bandicoot, the robot developed by the start-up firm Genrobotics, will be used for cleaning sewer holes. The robot has four limbs and a bucket system attached to a spider web looking extension, which can go inside the manhole. After shovelling the heap of garbage at the bottom of the manhole, it will be collected by using the bucket system before lifting it upward. It also has Wi-Fi and Bluetooth modules. Bandicoot has ability to reach deep down the drainage and remove the solid waste from sewer, along with a camera that can aid in inspecting the manhole for any blockage. This robot can finish the work of five people in lesser time. In Chennai, a drainage cleaning robot named Bandicoot has been introduced as part of efforts to rid of manual scavenging. Kerala also planning to replace men in cleaning up sewer holes, ending the age-old practice of manual scavenging in the southern state.

### 15. Suggestions

- a) Every Municipalities, Panchayaths shall prepare list of manual scavengers and provide ID cards which includes all details.
- b) The District Magistrate of all districts take responsible for rehabilitation of each manual scavengers.
- c) Certain regulations should be stringent regarding the ban on manual scavenging.
- d) More funds should be spent on research & development cell to mechanize and replace the manual scavenging through artificial machines and robots.
- e) Effective implementation of schemes throughout the rural and urban areas.
- f) To strengthen the nodal agencies in all levels of government such as central, state and local bodies.
- g) Ministry of HRD should concentrate and monitor the effective eradication of manual scavenging.
- h) An alternative skill set training should be given to the manual scavengers for their further employment and livelihood.
- i) Ensure discrimination-free, secure and alternate livelihoods.

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**MENTAL HEALTH PROBLEMS OF WOMEN POLICE HAILS FROM RURAL AREAS**

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Keywords: Mental Health, Women Police from rural area, Work Life Balance

Abstract

Globally, the profession of police personnel is many-sided. This is the most challenging profession subjugated by males, however more females are entering the police workforce. They juggle with personal and professional roles especially those who come from rural areas. In rural area the attitude of people towards working women is different. Most families think that a woman should do all the household works perfectly and then she can go for her professional works. At work place they must enrich themselves in communicating in official language and update themselves along to the current requirement of the work place. Initially most can cope with, but as days go on, they are incompetent to bring a balance and develop mental health problems. The struggles they face in their day today life at home and work causes many work-life balance problems. When those work-life balance problems prolonged with no relevant measures which may turn as serious mental health problems such as depression, anxiety and stress. Mental health is nurtured by emotional, psychological, and social well-being. The reasons behind those mental health problems can be divide into personal and organisational factors. Personal factors include fatigue, lack of understanding from family and friends about work, working alone at night, feeling like always on the job, over time demands, not enough time available to spend with friends and family, work related activities on off days, limitation to social life and shift in work.

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**1. Introduction**

Policing is an essential and challenging work. The role of women has been subjected to many changes over the past few decades. The impact of inequality is reflected in the status of women worldwide and in India. Over time, women engaged in various professions including police. The role of policing is essentially to maintain law and order in the society and it is a stressful work. The work place environment affects employee morale both positively and negatively. It influences their level of motivation and performance. Policing is a psychologically stressful work filled with responsibility to maintain law and order besides personal responsibilities towards their own families. This becomes stressful to women police as women are traditionally considered as care takers of household activities. Nature of police work and a multiplicity of stressful situations impose substantial stress among police personnel which affects their physical health, mental health and interpersonal relationship. Women police work environment and their family environment is different from normal Indian women family environment. Work environment non-uniform service is normally 8 hours and five working days or 6 days in a week. Enjoying holiday for Saturday or Sunday or both in a week and enjoying other festival holidays too. In rural area the attitude of people towards working women is different. Most families think that a woman should do all the household works perfectly and then she can go for her professional works.

Women working in police work department, have no fixed timing for day-to-day duty. Their nature of work is 24/7. They work in all the departments namely law and order, traffic, special branch, railways, women police stations etc. Their roles are to prevent, protect and maintain law and order at time of emergencies and at all needs. As an Indian traditional woman, women police also to take all the responsibility like normal women viz., kitchen work, child care, husband care, father-in-law and mother-in-law care, brother-in-law and sister-in-law care, father and mother care, relations visit and hospitality, festival functions. So, women police face many problems in her day-to-day life and busted because of heavy work load especially in rural area. They may massively affect with distress. These stress responses may be an adaptive one

because of the result of emergency reaction. While analysing the fact, it is seen that maximum discomfort may arise stress of women police through family environment. Many families' environmental factors affected stress of women police which includes family support, not disclose feeling, fight a lot, not doing own think, feeling importance, spending week end, planned activities, criticism, resolve problem, different ideas.

Work-life balance plays a great role in many employees, irrespective to which sector they belong to whether private or public. Work- life balance is also an element of employee welfare, since it distracts the employee physiological and psychological. Achieving work- life balance is a priority and desire of an individual employee. Work-life balance is a state of equilibrium in which the demand of both a person's job and personal life are equal. Work-Life Balance is the main motto in every organisation and a licence for the success of every organisation. In modern life, employer understand that work-life imbalance mainly escalate stress, eventually causes poor performance, one role for another i.e., work on life or life on work. Management must try to nurture a work- life balance, promoting a culture that attracts and retain people, which help them in avoiding their employee resign their job. The police profession has a challenging or even outright hostile work environment for women and men officers. Work-life balance is an essential problem in police personals. The job of a police is one occupation that have been identified as the high level of stress. The responsibilities of police personals are varied and differed from one another. Usual duties of police constables relate to keeping the law enforcement, peacekeeping, and people protection, protection of properties, and finally investigation and interrogation of crimes. They must respond to unexpected situations that may arise when they are on duty. The boredom of monotonous responsibilities, exorbitant workload, exposure to adverse and extreme environmental conditions, lack of communications, lack of appreciation, unsatisfactory career prospects, poor pay and allowances, conflicts, working in night shift, un-scheduled working time, complex role assigned to the law enforcers make the job and life of police officers difficult to manage. Police personals have to maintain orders and consequent reporting to higher officials. The police officers also experience interpersonal relationship problems. Many

studies were conducted to examine the influence of immune and nervous systems on the psychological consequence of stress in humans. Some also pointed out that chronic stress may lead to aggravate moods disorder like depression, anxiety, bipolar disorder, personality changes and problem behaviour. Stress is something everyone experiences. Despite being unpleasant, stress is not an illness. But there are connections between stress and mental health conditions including depression, anxiety, psychosis and post-traumatic stress disorder. Researchers are also investigating how these systems are involved in anxiety and depression, suggesting a biochemical link between stress and mental illness. Recent studies have shown that long-term stress can change the structure of the brain, especially in areas supporting learning and memory. It can affect both nerve cells (grey matter) and the connections between them (white matter). It is possible these changes, along with other factors, can increase developing mental illness.

## 2. Statement Of the Problem

The emergence of globalisation and women liberalisation, the women played a great role in all fields. But the prime difficulty is faced by women in balancing work and life. This would lead to a stressful life. Work-family conflict among women police posed to be a significant problem in the present scenario. Some individuals feel that their workplace creates too many pressures to maintain a work and family balance, and they may feel a reduction in their feelings of satisfaction and enjoyment of life. They are not getting time to spend with their family members. They cannot concentrate on their duty because of frustration. Later on, this frustration will turn into depression and they will lose their interest in their job. Policing is most stressful profession than other professions and they have the greater risk of stress. Especially female police personnel face more stress related problems than their male counterpart as they manage the family commitments and work in law enforcement. Rather than any working woman, woman in police force must take more effort to balance their responsibility in work and home. Her contribution to the family income, increases the standard of living and additionally she has to do the household work and childcare also. After her full day work in job, she has to do a second shift at home. Balancing between the two faces of life is not easiest job it needs more effort. She must perform well in her career. If children go astray, in case of the working mother is the first person to be blamed. If the guests were not treated properly and unattended, and if the house is unclean, then the woman is the person to be accused first. Between this the working women doesn't have time to take care for her. The society glosses over the man not combining roles-as father, husband and son in law perfectly either!! The general perception is that the role of women at home and in the department are two things and one cannot be an excuse for the to perform the other. This perception is irrational and illogical. The human body and mind have their own limitations. Excessive loading often leads to break down. Forcing a woman to choose between the two spheres is not the solution as a citizen, she may be educated and employed. She cannot be expected to sacrifice her productive role, as a matter of right. It is a criminal mistake to keep half the population at home, denying their participation in social production. Employment is not a privilege to male alone. And if a woman works then she needs the support from the family, the community. And in working environment the employer creates a

conductive working climate. Her twofold responsibilities should not be considered a private concern.

## 3. Significance

Women play active role in the economic development of the country. Earlier their role was only limited to household activities. But now, many women are opting jobs to build a good career and give financial support to their families. When compared to other occupation, police job is highly stressful and stress is as an integral part of the life of a professional police officer. Police work involves protection of life, safeguarding property through vital patrol techniques, enforcement of laws in the place for which the police station is responsible. They are the first line of protection between the criminals and the society. Women in policing have had an important political, social, economic and psychological impact. Stress is an integral part of modern life and it is the psychological or physiological reaction that occurs when an individual perceives an imbalance between the level of demand placed upon him and his capability for meeting the demand.

## 4. Review of Literature

Anandhi (2020) conducted a study on Stress Management of Women Constables in Tamilnadu Police Force. This study revealed that among the age group, stress affected other impact factors are tense circumstance, meditation, assignments are monotonous, insufficient no of employees, objectives of work role, officials do not interfere, group or political pressure, responsibilities of future.

Lavanya Sobana (2019) conducted a study on stress among women police personnel in Tamilnadu. In this study 12.5% employees mentioned that their family causes stress, 9.1% of employees mentioned that their personal attitude causes stress. 59.2% of people mentioned that their job is their major stress contributing factor. 19.2% people agreed that their health is the major contributing factor. Very few people accepted that their personal attitude of cause of stress.

Jayasathya & K. Swathi (2019) conducted a study on problems and challenges faced by women police constables in Coimbatore. In this study noted challenges are suspicion by society and family members, family members disagree to work at night, inadequate time to look after family affairs, lack of support of family members, no time for retirement, no time to participate in social and religious functions, no time for personal grooming, excessive tensions and challenges, health related problems, too much responsibility. This study recommends that effective training programs are imparted to every woman police constable in technology development and in handling crowds and criminals. This helps the women police constables to overcome the stress.

Vivek S, Rosin George Varghese (2018) A cross sectional study was conducted among 50 female police officers working in various police stations of Thiruvananthapuram city, selected by simple random sampling, during the period May 2018 to July 2018, using a pre tested semi structured questionnaire based on operational police stress questionnaire (PSQ-OP) and organisational police stress questionnaire (PSQ-ORG). The data was properly coded and entered in Microsoft excel and analysed using SPSS version 16.0.

Results: Mean age of the study population was 38.07 years (SD=5.714 years) and majority (64%) belonged to middle socio-economic class. Perceived organisational and operational stress prevalence among the study population was as high as 80% (40 % experienced moderate stress and 40% experienced high stress) and 90% (high stress reported by 70 % and moderate stress by 20%) respectively. The most common stressor reported for organisational stress was staff shortage (74%) and that for operational stress was finding time to stay in good physical condition (76%).

Sundarameena (2017) prepared an empirical study on work-life balance of women constables in police service. This study covers 17% women police hails from rural area of Chennai. This study noted that women police is expected to perform police services despite their gender. They must perform duties as compliance of the public and the government. Women police constables must be working in a proactive, positive and powerful way as per the job. Women police constables feel they are facing more challenges which create more mental pressure and depression than non-working women or women working in other fields. The police must have an up-graded knowledge about technology and then they can accomplish their task, easily by reducing their working hours and concentrate their family and achieve work – life balance. It is found that the women police constables strongly agreed that insufficient staff, poor equipment's and too many investigations create stress. They moderately agreed that criticism by superiors leads to stress. Women police constables moderately agreed to the opinion that various roles played on duty, leads to dispute and disagreement in the family and that irregular hour of duty or night shifts, create strain and stress to women constables.

Suganya (2017) steered a study on stress management among women police in Madurai city. In this study "Loss of hunger /Sleeplessness" follow the maximum score by the statement "Absent mind / Mind upsetting". The statements "Tend to feel worse in the morning", "Difficulty in concentrating", "Worrying a lot about health and job" occupy the third, fourth and fifth place respectively. Therefore "Loss of hunger /Sleeplessness" causes more stress compared with other factors on physical and psychological problems.

Maheshkumar Kuppusami (2016) assessed psychological stress among female police personnel in Kerala. The Perceived Stress Scale (PSS) was simultaneously administered to 75 PW of both constable and officers, between 21-60 years of age from randomly selected police stations in the three districts of Kerala. Result: In PW, those working for more than 12 hours in a day experienced significantly ( $P < 0.05$ ) more stress ( $21.4 \pm 3.40$ ) than the 6 - 12 hours workers ( $17.98 \pm 2.64$ ). Simultaneously PW with gender inequality has significantly ( $P < 0.05$ ) experienced high stress ( $27.82 \pm 3.52$ ) than the others with no gender issue ( $19.5 \pm 4.38$ ). Conclusion: This study provides an understanding on the perceived psychosocial stress level of female police personnel in Kerala, and gender inequality present in their work, mainly due to their minority in the department.

G.Ragesh & Harish M (2016) studied on occupational stress among police personnel in India. The study found that both operational and organisational stress was significant among the police officers. Organisational stress was experienced in

moderate level by 68% and in high level by 14%. Operational stress scores were in the moderate range in 67% and in high range in 16.5%. The younger age group (21-35 years) and lower-level rank police personnel had higher stress. Stress was higher among female police personnel compared to males. While 23% had been diagnosed with physical illnesses, a significant four per cent of them with mental illness, and 29% reported substance abuse.

Kavya and Chandrashekar (2016) directed a sociological study on job satisfaction and adjustment problems among female police constables in Karnataka. This study finds that due to lack of time, lack of facilities, over time duty, high level job stress, inadequate salary, lack of holidays, delayed promotion, lack of recognition for good work majority of the respondents are dissatisfied with their job. The study also finds that majority of the respondents are facing both family and professional adjustment problems.

## 5. Discussion

Mental Health Problems Related Potential Challenges Faced by women police: From the review analysis it is understood that women police are facing challenges which may affect mental health in future phase. Those challenges can be listed under five sorts. They are (a) Challenges within the police Profession; (b) Challenges posed by Women's Personality Traits; (c) Challenges outside the work place; (d) Problems faced at Work Environment; (e) Problems faced at Home.

Challenges within the police profession includes gender discrimination, sexual harassment and organisational in civility, prejudices and biases of male police personnel, role ambiguity and role conflicts, corruption, inadequate strength and problems of coordination. Challenges posed by women's personality traits covers difference in leadership style, low acceptance, poor comfort level and lack of job satisfaction. Challenges outside the work place comprises balancing career and family life and technological advancement. Problems faced at work place consist of late working hours, inadequate income, excess work load, sexual harassment, long travel to work, boredom and monotony of work, insecure to work at night, increased gender bias, increase exploitation by higher authorities and health issues. Problems faced at home covers suspicion by society and family members, hamper the family relationship, family members disagree to work at night, odd hours work affect family members at home, hindrance to carry out the responsibility as a daughter /wife/mother, inadequate time to look after family affairs, lack of support of family members, no time for retirement, no time to participate in social and religious functions, no time for personal grooming, excessive tensions and challenges, health related problems and too much responsibility.

## 6. Family Support

Women and men have certain differences, both biologically and in our societal structure, which cannot be neglected. Having a career poses challenges for women due to their family responsibilities. Working women are forced to leave their small children at home because of their work. The family support is the most important source of support for a working female it helps them to concentrate more in work. Lacks of proper support system, health issues are also bother

the working women. It is possible for a woman to be a good wife, mother, and an achiever helped by family support. Many have done it with the help from society and family, and others have battled with endless odds to prove the same. In today's world, it is both desirable and incumbent upon mothers to be working, like their spouses. In the developing world, which still believes in the theory of culture and tradition of a male-oriented society, contrary to traditional belief that a working mother is not a good mother or a good wife, a working mother can be a better mother and a better wife. A working women police mother, especially the one with a good family can balance her home and work and enjoy the stimulation that a job or career provides.

## 7. Upgradation

Women Police is expected to perform police services despite their gender. They must perform duties as compliance of the public and the government. Women police constables must be working in a proactive, positive and powerful way as per the job. Women police constables feel they are facing more challenges which create more mental pressure and depression than non-working women or women working in other fields. The police must have an upgraded knowledge about technology and then they can accomplish their task, easily by reducing their working hours and concentrate their family and achieve work – life balance. Updating knowledge requires training. Good training session will enable the women police to learn the latest developments and to solve the new crimes. Separate training programs are to be organised for women constables to deal with the criminals, to meet the new challenges and to meet the media persons. This would help them to have a better work-life balance.

## 8. Recommendations

- Flexible working hours and work load reduction will significantly improve employee morale, reduce absenteeism and help them to spare the time with family. Marital status of the women police constables is an important factor to be focused.
- Woman police constable once they get married counselling sessions must be conducted for both women police constables and to their husbands.
- Long working hours disturb the family of women police constables. This could be avoided when they live joint family systems, as the other members in the

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family may carry out tasks even absent women police constables.

- Women police must share information about work load in job and job nature with their husbands, children and family members to provide and maintain a common understanding.
- Continuous Education is required as the nature of job is linked with information technology. Good knowledge and logical thinking is essential to solve problems.
- Job rotation will help the women police to have good work-life balance.
- Meditation and yoga sessions are to be reduced the stress of women police.
- Motivation speeches from the superior officers must have good work-life balance.

## 9. Conclusion

The work-life balance may vary at different stages in the life cycle of an individual's career life. Hence organisations are expected to have flexible and open-minded approach for ensuring the right balance. Today's workplaces are finally waking up to the importance of hiring women and offering special privilege packages to encourage them into the workforce. To provide a pro-diversity and equitable environment as well as enable female employees to meet the gender-specific challenges, organisations are proactively providing flexi-time options, pregnancy-friendly work conditions, maternity leave, child support, pick up/drop for women working in night shifts, protection against harassment and so on. Working women need flexibility and support to meet their varied commitments and the empowering concessions help simplify the stress and imbalance. When those work-life balance problems prolonged with no relevant measures which may turn as serious mental health problems such as depression, anxiety and stress. Mental health is nurtured by emotional, psychological, and social well-being. The reasons behind those mental health problems can be divide into personal and organisational factors. Personal factors include fatigue, lack of understanding from family and friends about work, working alone at night, feeling like always on the job, over time demands, not enough time available to spend with friends and family, work related activities on off days, limitation to social life and shift in work.

**A STUDY ON INDUSTRIAL AND URBAN WASTE MANAGEMENT IN INDIA**

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### 1. Introduction

The management of municipal solid waste (MSW) in the country has become a serious challenge as the country's population grows, not only because of environmental and aesthetic considerations, but also because of the massive amounts generated every day. According to the Central Pollution Control Board, India generated 1,27,486 TPD (tonnes per day) of MSW in 2011. Only 15,881 TPD (12.45%) of the total trash generated was processed or handled, while about 89,334 TPD (70%) was collected (CPCB, 2013). Waste segregation at the source, collection, transportation, treatment, and scientific disposal were all unsatisfactory, resulting in environmental damage and low quality of life. This study is largely concerned with concerns about MSW management. The following are the major factors that affect proper MSW management:

- Primary collection is limited at the curb.
- Reluctance to take ownership in public.
- Lack of necessary money; lack of access to appropriate technologies; and unscientific MSW disposal at dump sites.

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According to CPCB estimates, the country's class I1 cities and class II2 towns generate roughly 38,254 MLD of sewage, of which only 11,787 MLD (31%) is treated and the rest is released untreated (Ref). The main problem with sewage collection, treatment, and disposal at the national and state levels is a lack of sewage treatment facilities, which is one of the leading causes of water contamination in the country.

According to CPCB estimates, around 7.66 million metric tonnes (MT) of hazardous waste is generated annually in the country from 40,000 industries, with landfillable waste accounting for 3.39 million MT (44.26 percent), incinerable waste accounting for 0.65 million MT (8.50 percent), and recyclable hazardous waste accounting for 3.61 million MT (47.13 percent). (CPCB, 2010)

Hazardous waste disposal mechanisms are not properly enforced, resulting in abandoned hazardous waste landfills. Heavy metals and other toxic substances, some of which bio-accumulate via the food chain and pose long-term health hazards, have the potential to contaminate soil and groundwater at these abandoned dumping sites. Industrial wastewater treatment capacity is 1/6th (142 MLD) of total generation. The total amount of industrial wastewater generated might be estimated to be roughly 850 tonnes.

In 2011, India's municipal garbage generation rate was 127458.1 T/day. The per capita trash generation rate of 0.356 kg/day was calculated by dividing this by the then-urban population. Waste generated per capita is expected to rise at 1-1.33% every year. (Pappu and colleagues, 2007). As shown in the table, daily trash generation in cities is anticipated to increase by over 146% by 2051.

### 2. Policy Structure

Solid waste management is a development indicator since it is linked to issues such as sanitation and public health. When developing national policy, one of the top priorities should be the management of solid waste generated in a country. However, India's solid waste and sanitation condition has long been debatable. Economic expansion, migration from cities, unplanned land use, and, most crucially, a lack of

adequate solid waste management regulations are the main culprits, particularly in urban areas.

Hazardous waste (Management & Handling) Rules, 1989, were one of the most important waste management legislations, followed by Bio-Medical waste Handling Rules, 1998. The standards for waste management duties and responsibilities, as well as the procedure to be followed in municipal trash collection, segregation, processing, and disposal, were, however, missing. City cleanliness standards fell short of expectations. It was seen that rubbish from all throughout the city was frequently deposited on the outskirts. It was discovered that waste from across the city was frequently deposited in low-lying areas, which ultimately became populated slums and unlicensed colonies for the collection of recyclable rubbish. It was a major hazard to public health because the waste was not segregated and contained bio-medical, industrial, and e-waste. In 1996, a public interest litigation (PIL) was launched in the Supreme Court against the Government of India and municipal corporations in charge of solid waste management, and a committee was formed to investigate the situation. The committee's final proposal was submitted in 1999. Following that, the Ministry of Environment and Forestry was asked to act on the recommendations and draught rules for MSW management. (Zhu, Asnani, Zurbrugg, Anpolsku, & Mani, 2008).

### 3. Implementation Framework for Institutions

In India, the framework for solid waste management is separated into three tiers: national, state, and local government (UBL). The major job of the central government is to enact laws and regulations, formulate policies, provide financial assistance, and develop guidelines and manuals. The state is to put the center's rules, legislation, and directives into effect at the state level. ULBs are to carry out the strategy and preparing plans for solid waste collection, transportation, treatment, and disposal (Bharat & Jaiswal, 2013)

Even though government agencies and urban local governments bear the majority of the duty for MSW management, other stakeholders play an important role. Households, businesses, industries, the informal sector, non-governmental organisations (NGOs), community-based organisations (CBOs),



self-help groups (SHGs), secondary schools, and college students are among those that are affected. To plan for solid waste management, these stakeholders must be involved. The regulations and policies are set at the national and state levels, while the actual execution is done by the ULBs. Other stakeholders, such as private partners, CBOs, NGOs, and informal garbage collectors, carry out various parts of waste management, such as waste collection and processing.

#### 4. Challenges

Non-segregation of trash at the source is one of the main issues in establishing efficiency in the waste management sector at the national level; ULBs lack money and cannot handle the existing identified waste management concerns. The institutional setup is inadequate, and there is no community engagement in trash and sanitation management. The ULBs cannot reclaim user fees from households for the provision of solid waste services.

To address these issues, some have suggested that informal arrangements between rag pickers and NGOs/CBOs be strengthened for effective door-to-door collection, that state guidelines be followed when acquiring land for projects, and that SWM solutions be developed under regional needs and constraints.

The social and environmental state of rag pickers and garbage collectors in the informal sector was examined in a 1997 study by the National Plastic Waste Management Task Force. In the same year, as part of the clean city programme, the Ministry of Urban Affairs and Employment explored the scientific establishment of garbage recycling facilities. Following this, the Ranganath Mishra Committee on Plastic Waste Disposal proposed in 2001 that the plastic industry retrieve packaging for disposal.

The Indian government has acknowledged that active engagement of all stakeholders, including environmental NGOs, is required for national sustainable development. For sustainability, development projects must take place at the grassroots level. One example is the Trash Minimisation Circle (WMC), which ensures maximal resource recovery from industrial waste (planning commission, 2012). Sustainable Habitat Mission was created as part of the National Action Plan for Climate Change in the Eleventh Five Year Plan (FYP). One of the mission's goals is to establish effective solid waste management.

The Twelfth FYP has suggested for a more effective waste management system. This includes the creation of a National Waste Management and Recycling Program that will primarily focus on creating a more organised framework for waste management and recycling, the creation of recycling industry guidelines synchronised with existing waste management rules, and the creation of industry and sector specific recycling standards.

The proposals also urge that the public-private partnership (PPP) model for waste management be promoted. The suggestions also call for the adoption of the public-private partnership (PPP) model for waste management and technology development. Swachh Bharat Mission and AMRUT, both recently started projects, are examples of methodical approaches to the problem. Because garbage is not separated

at the source, waste processing systems are forced to deal with mixed waste, which not only raises the cost of waste processing but also results in low quality products (e.g. compost contaminated with heavy metals). Such items cannot be offered on the market at a competitive price, affecting the project's financial sustainability. When mixed garbage is combusted, it causes wear and tear on waste management equipment as well as the release of harmful contaminants.

Due to the lack of land and financial sustainability of the projects, efficient waste treatment cannot take place in isolation of the ULBs. The state government plays a critical role in coordinating state ULBs and supporting a regional waste management strategy. In Box 1, the state government of Gujarat is shown to have had a significant influence in improving the state's waste management status.

#### 5. Lessons Learned from International Best Practises

This section discusses solid waste management best practises from around the world (Brazil and Europe). These case studies and lessons learned might be useful to policymakers in India as they develop strategies for MSW management.

*Brazil:* The following are the precise goals of the Brazilian national solid waste management policy and the law: The waste hierarchy - a) reduce, b) reuse, c) recycle, d) environmentally friendly disposal of processed solid waste - must be encouraged.

Industries must be encouraged to employ recycled materials. Clean technology must be used, developed, and improved to reduce environmental consequences.

Green procurement is defined as acquiring recycled and recyclable materials, commodities, services, and other items that support social and environmental sustainability. (al, 2013) In 2014, the Brazilian government declared that all unlicensed landfills must be closed. Individuals or businesses who violate rules and cause environmental harm must reimburse the government for the costs of remediation.

*Europe:* European governments have also implemented several steps to guarantee the safe disposal of solid waste to promote sustainability. Some steps taken include increasing the efficiency of waste treatment and disposal facilities, diverting bio waste from landfills to reduce greenhouse gas (GHG) emissions, substituting organic fertilisers (compost) for mineral fertilisers, and improving the output of recycling units to reduce natural resource consumption.

In the Netherlands, Austria, and the United Kingdom, biodegradable waste management (BMW) systems focus on developing specialised collecting methods, such as particular bins, that eventually lead to BMW treatment systems. Several economic instruments such as Pay-As-You-Throw (PAYT) and an organic waste tax have been employed as an incentive to encourage households to recycle. Another effort of the UK government, the Landfill Allowance Trading System (LATS), gave local governments the freedom to manage trash more effectively.

#### *Mechanisms of Financing*

It is critical to comprehend the financial side of the solid waste management plans being established to assure their practicality and long-term viability. In India, ULBs are typically in charge of implementing SWM projects. The ULBs get funding from both the federal and state governments. Other sources of funding include internal earnings from taxes, loans, and private partnerships. A thorough grasp of the process is required when planning for solid waste management expenditures. All components of SWM must be considered by planners, including collection, segregation, transportation, and disposal, employee salary and other hidden costs.

When planning a long-term project or building a facility, future population growth and waste volume must be considered. These expenses are mostly covered by government grants, taxes, and user fees (in only small fraction of cases). According to studies, there is room for improvement in the administration of money set aside for waste management. The majority of the monies available are spent on staff pay. Street sweeping receives 70-75 percent of the revenue, collecting receives 25-30 percent, and disposal receives 0-5 percent. The majority of costs must be spent on waste treatment and disposal in an effective waste management system. Finance availability and needs for successful solid waste management are discussed in the sections below.

Grants from the state/federal government: ULBs rarely have sufficient finances to satisfy the financial criteria of solid waste management programmes. The federal and state governments pay funding to ULBs to help them implement initiatives. Here are several examples: Central funds

- Finance Commission Grant
- JnNURM-UIG grants
- JnNURM-UIDSSMT grants State funds
- State Finance Commission grants

In 1993/94, the centrally supported mega city programme for Mumbai, Calcutta, Chennai, Bangalore, Hyderabad, and Ahmedabad was started. The programme was developed to improve the city's municipal infrastructure, including water, sanitation, sewage, and solid waste management. The central government and the different state governments each contributed 50% of the funding. Market institutions contributed the remaining 50% of the funding.

The government allocated INR 2500 crore to the ULBs in the 12<sup>th</sup> Finance Commission for developing waste management infrastructure and services. (Ministry of Finance, Department of Economic Affairs, 2009). That indicates that solid waste management received 50% of the funding granted to class I cities (Rs 5000 crores). Even the 13<sup>th</sup> Finance Commission makes a recommendation. That indicates that solid waste management received 50% of the funding granted to class I cities (Rs 5000 crores). Even the 13<sup>th</sup> Finance Commission mandates that solid waste management should get 50% of the funding allotted to ULBs.

FYP 2012-2017, according to the planning commission report. In 2010, the Indian government established the National Clean Energy Fund. This fund is projected to raise INR 10,000 crore, which would be spent in initiatives and programmes that support renewable energy technology, including waste management. 2012 (planning commission)

The Sustainable Habitat Mission emphasises solid waste management and building energy efficiency and greener transportation technology. The mission has been sanctioned for INR 1000 crore, of which 50 crore was spent in the Eleventh Five Year Plan and the rest INR 950 crore would be spent in the Twelfth FYP. 2012 (planning commission).

## 6. Government or Other Financial Institution Loans

If low-interest loans are necessary for project finance, ULBs can contact commercial or governmental banks. Housing and Urban Development Corporation Limited (HUDCO), Infrastructure Development Finance Company Limited (IDFC), Infrastructure Leasing & Financial Services Limited (IL&FS), National Bank for Agriculture and Rural Development (NABARD), and Indian Renewable Energy Development Agency Limited are some of these financial institutions (IREDA), JICA (Japan International Cooperation Agency) loaned the Indian government 3,584 million yen (INR 6,254 crore) for the 'Kolkata solid waste management Improvement Project' in March 2006. The project's goal was to build a sustainable regional solid waste management system, including sanitary landfills, in Kolkata to promote healthy and hygienic living conditions.

*Financial assistance for solid waste management has difficulties:* The financial situation of Indian municipalities is dire. Taxes, particularly property taxes, are the most important source of revenue for municipalities. To minimise public outrage, property taxes are intentionally maintained low. The property tax collecting technique is suspect. There are several flaws in the existing collection system, and the taxable property is frequently undervalued. ULBs are forced to rely heavily on government funds. Another significant difficulty in the solid waste business is how the revenues collected are used. In an ideal world, the bulk of the share would be spent on garbage treatment and disposal, but the reality in India is different. The majority of the money are spent on personnel pay (Zhu, Asnani, Zurbrugg, Anapolsku, & Mani, 2008). Private enterprises might be encouraged to use CSR (corporate social responsibility) funds to create waste management solutions or to support research. ULBs to carry out certain selected projects in the municipalities. According to a study released by the HPEC, the total expenditure required for urban infrastructure from 2012 to 2031 is INR 31 lakh billion. Solid waste management has been allocated INR 48582 crore, or 1.6 percent of the overall investment, in this estimate. The cost of investing in solid waste management per capita is Rs 391 while the cost of operating and maintaining the sector per capita is INR 155.

### *Utilisation of Technology*

As illustrated in Figure 1, organic waste accounts for 55% of total garbage created in India, 15% waste, and the remaining 30% is residual waste (Zhu, Asnani, Zurbrugg, Anapolsku, & Mani, 2008).

Figure 1: Composition of MSW

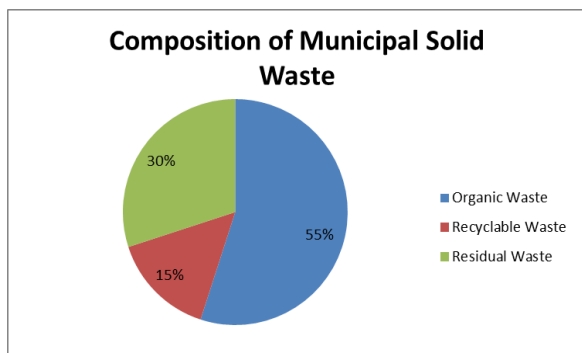


Figure 1. Composition of MSW in India. (Zhu, Asnani, Zurbrugg, Anapolsku, & Mani, 2008) This trash composition suggests that the garbage produced in India has a considerable potential for treatment and reuse. Compostable trash and recyclable garbage can both be utilised for material recovery. This means that just 30% of garbage produced in India must be disposed of in landfills. However, as said, rather different. Only 12.45% of garbage produced is handled; the rest is deposited into landfills without treatment or goes uncollected. Improving garbage collection efficiency and creating waste segregation, transportation, treatment, and disposal technologies might help solve this challenge.

**Collection:** barely 70 percent of the total solid waste created in India gets collected. The leftover garbage is dumped in the streets, resulting in filthy living conditions. This necessitates involvement in India's collecting system. Primary and secondary garbage collections are the two most common waste collection. Primary collection is the collecting of garbage at the source, such as from homes, businesses, and marketplaces. Secondary collection is when garbage is collected from storage locations such as bins and then transferred to processing units or disposal sites.

In India, primary collection is normally done door-to-door from families utilising pushcarts, tricycles, motorised vehicles, or compactors, depending on the locality. Less prominent regions with small roadways, such as slums, are frequently excluded from collecting campaigns. This results in unclean living conditions in cities. Recycling Material recovery from trash is an essential part of waste management. This minimises waste volume while also preventing over-exploitation of natural resources. In India, the most recycled waste goods are paper and plastic. Other components of municipal garbage, such as metal scraps and glass, can, however, be repurposed. Box 3 is an example of effective recycling of paper waste. Plastic accounts for 1-10% of total municipal solid garbage. India generates around 8 million tonnes of plastic every year, according to the CPCB (CPCB, 2012). Bottles, carry bags, wires, pipelines, and tea cups are examples of plastic garbage. Recycling is the most effective way to deal with plastic trash. Virgin plastic can only be recycled 2-3 times. Every recycling cycle reduces the strength and usability of plastic. Plastic may be disposed of safely. It can be utilised in building polymer mixed bitumen roads or converted to fuel via plasma pyrolysis or liquid fuel. Composting is the biological breakdown of organic waste. Composting is a practical practise in India since the bulk of garbage produced is organic.

**Windrow composting:** This method of composting involves stacking organic waste into windrows. To enhance air

exposure, the windrows are piled. Mechanical turners are also used to continually turn them. With a C/N ratio of 20:1 and a moisture level of 30 to 35 percent, the end product is high in organic matter and nutrients. **Aerated static pile composting:** The garbage is deposited directly on top of a system of pipes connected to blowers. This improves aeration, reducing fermentation time and the fuel used on mechanical turners (in windrow composting). **Composting trash in a closed vessel such as a drum, silo, digester bin, or tunnel is known as in-vessel composting.** Airflow, moisture content, agitation method, and temperature are all controllable variables. This enables for faster decomposition of greater waste. Smell and leachate output can be decreased with careful management.

**Decentralized composting:** Because organic waste decomposes quickly, it is preferable to treat it at the source rather than wasting time collecting and transporting it. Composting is done decentralizedly at the community level in boxes with capacity of 3-5 tonnes or at the home level in bins. **Vermi composting is composting biodegradable trash using earthworms.** The nutrient-dense compost that results can be utilised as a soil conditioner. The vermin-compost beds should have a moisture content of 30- 40% and a temperature range of 20-30 C to be effective.

**Energy from waste:** Waste that cannot be recycled or composted must be used in waste-to-energy plants. Waste for waste-to-energy facilities has a low moisture content and a high calorific value. Waste separation is required for optimal plant performance. Refuse derived fuel is the most widely utilised waste-to-energy technique in India (RDF). Pyrolysis and gasification are two other waste-to-energy methods. RDF comprises non-recyclable MSW treated to produce trash with a high calorific value. The goal is to use this separated trash as a source of energy to create electricity or any other useful energy. RDF projects are governed by the MSW Rules of 2000 and the Electricity Act of 2003. Permission and regular monitoring by respective SPCBs is necessary for RDF plants.

## 7. Conclusion

Greening the trash industry should result in significant economic, environmental, and social advantages. They include: 1) conservation of natural resources and energy; 2) development of new enterprises and jobs; 3) compost production to support organic agriculture; 4) waste-to-energy production; 5) lower GHG emissions; and 6) contributions to equality and poverty alleviation. Improved health, averted health expenditures, prevented water pollution, and the cost of alternate water supply as a result are all key benefits.

Though numbers for job creation in the green industry are unavailable for India, analogous experiences in other developing nations suggest that the activity does result in higher-quality jobs. Brazil has almost half a million garbage pickers, and the country has close to a million to 2,400 companies and cooperatives involved in recycling and scrap trading (UNEP 2008).

About 40,000 rubbish scavengers in Buenos Aires have an annual economic effect of US\$1.78 million, or around 0.05 percent of the city's GDP (Medina 2008). According to some estimates, India has at least a million garbage scavengers,

while China has up to ten million employees engaged in recycling activities (UNEP 2008). Scheinberg et al. (2010) investigated informal recyclers in six cities: Cairo, Egypt; Cluj-Napoca, Romania; Lima, Peru; Lusaka, Zambia; Pune, India; and Quezon City (part of Metro Manila), Philippines, and discovered that over 75,000 individuals and their families recycle about 3 million tonnes of waste per year, worth over US\$ 120 million.

The state of solid waste management has unquestionably improved. However, there is still more to be done. Rather of using the traditional end-of-pipe approach, waste management must be approached holistically, with a focus on waste reduction from the source.

The waste management system is clogged at the collection stage, which is inefficient and wastes significant money and time. Rather than fighting against the informal sector, it is critical to acknowledge its relevance and integrate it into the formal garbage collection system. Waste management and disposal should be given more strategic and financial weight. To decrease the land required for trash disposal, it is necessary to increase resource recovery from waste and waste recycling.

In MSW and other urban waste streams such as e-waste, construction and demolition debris, collaboration between various stakeholders such as ULBs, private formal and informal waste managers, waste generators, and regulatory agencies must ensure that waste management is carried out efficiently. India's ULBs are running out of money. It is necessary to improve the present procedures for raising cash for trash management. Towns must recognise that they can no longer "supply" all waste management services on their own. The components of waste management that municipalities can efficiently handle must be recognised, and private companies must be given the opportunity to manage the remainder.

The government must change policies to stimulate private sector investment, establishment, and operation in the waste management industry. The following are some of the most important waste management initiatives for greening the waste sector.

*Waste reduction initiatives include:* Trash reduction tactics include reducing waste output at the source and employing alternative materials that produce less hazardous waste than typical materials. The trash generating process must be decoupled from the expansion of the economy and population. There are several ways to accomplish this:

- a) Alternative packaging - instead of standard polythene bags, which are difficult to collect and recycle, use fabric or jute packaging (reviving of jute sector).
- b) Creating items with a longer shelf life, such as mobile phones and other electronic goods, so they reach the waste stream later.
- c) Creating items that can be disassembled and the majority of their components recycled at the end of their useful lives.
- d) Creating remanufacturable items to extend their lifespan.

*Waste Inventory:* Without a dynamic waste inventory, long-term waste management planning becomes difficult.

Each municipality should have a full database for its waste management operations, including trash generation (daily data), waste characteristics (monthly data), and processing facilities installed and operational and their performance (monthly data) and final disposal in a sanitary landfill (monthly data).

*MSW To Composting:* Excessive use of chemical fertilisers and the associated runoff pollutes soil and water bodies, making it a major non-point source of pollution. Over watering depletes organic carbon in the top soil, affecting soil fertility. As noted, MSW in India contains around 50% organic or food waste with a high moisture content. Food waste, agricultural leftovers, and other garbage can be composted aerobically or anaerobically. This procedure not only fixes the garbage by diverting it from landfill (saving money on disposal), but it also enriches the top soil with organic carbon, which is essential for soil fertility.

When opposed to open garbage dumping, which results in uncontrolled methane emissions, the technique is a net GHG saver. Wherever possible, decentralized, community composting methods should be investigated (away from residential areas to avoid community conflicts).

*MSW to Energy:* The feasibility of extracting landfill gas from 'open but soon to be closed waste dumps' and creating energy from MSW (woody waste, agricultural leftovers, food waste, waste papers and plastics) can not only clean trash but also give renewable energy to 'energy needy' cities. For digesting such trash, technologies such as anaerobic digestion (which produces both electricity and compost), refuse derived fuel, and landfill gas will be investigated.

These procedures would also be net GHG savers when compared to open garbage disposal, which results in uncontrolled methane emissions. Decentralized biomethanation systems, like as those installed in Pune, should be investigated for other cities. According to the Ministry of New and Renewable Electricity (MNRE), waste processing in the nation has the potential to generate roughly 2500 MW of energy.

*Material Recovery and Recycling:* According to reports, India salvages and recycles over 70% of MSW, albeit the majority is collected and processed by the informal sector using primitive methods. According to reports, roughly 15-20 million individuals in developing nations participate in garbage recycling activities, accounting for 2% of the population in some areas.

In India, around 1 million people work in the garbage recycling industry. It is also believed that the informal sector (trash pickers) removes roughly 10-15 percent of waste from the streets every day and is critical to any city's solid waste management system. The informal sector should be institutionalised, and recycling methods should be modernised. As proven by Stree Mukti Sangathan in Mumbai, informal trash recyclers may be educated to collect garbage from households, perform decentralized waste processing (composting or biogas), and sell recyclable waste.

Increased investment must meet the aims of greening the waste sector. Upstream modifications to product design and production processes must reduce waste creation.

Downstream recovery, remanufacturing, recycling, and ultimate treatment all need new or upgraded facilities of existing facilities. Investment is also needed to train the labour force in the sector and to formalise the informal sector.

In India, cities often spend more than half of their trash budget on collection (mostly on labour and fuel), although waste collection rates are poor and waste transportation is inefficient. Other waste management chain parts, such as proper treatment, recovery, and disposal technologies and infrastructure, are often underfunded. Greening the industry begins with increased investment in basic collection services, trash transportation, and dumpsite clean-up. Investing in strategies like route optimization and transfer stations, for example, can help reduce the capital and operating costs of delivering garbage services.

Taxes and fees, recycling credits and other types of subsidies, deposit-refund, and standards and performance bond or environmental guarantee fund are all popular incentives in the trash industry. Volumetric landfill levies are simple to administer and can stimulate trash reduction. However, their efficacy depends on the tax rate per tonne of garbage and the presence of suitable monitoring and enforcement procedures. It's also crucial to make sure the fee doesn't encourage unlawful dumping rather than encouraging the 3Rs.

Another method of reducing garbage output is to PAYT. However, precautions against unlawful garbage dumping and the abuse of recycling facilities are required. The waste management infrastructure must be funded, and significant public awareness must rise is necessary.

PAYT encourages people to recycle more. PAYT, for example, raised recycling rates from 7% to 35% in Portland, Oregon, and from 21% to 50% in Falmouth, Maine, after only one year of implementation (Shawnee Kansas 2009).

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Using a disincentive for goods like plastic bags can also help to reduce waste. In April 2009, Nagoya, Japan, allocated a fee for plastic shopping bags following significant consultation with retailing enterprises and two years of trial. 90 per cent of the shopping market agreed to the proposal. As of December 2009, the project had decreased the use of plastic bags when shopping by 90%. Between October 2007 and October 2009, about 320 million bags weighing 2,233 tonnes were saved (Environmental Affairs Bureau 2010).

The following are critical enabling conditions:

*Finance:* Investing in the greening of the waste sector necessitates significant financial resources for both capital and operational costs. Private investments and foreign finance are two sources of such funds. 3) user cost recovery; and 4) additional novel finance techniques.

*Economic Incentives and Disincentives:* Economic incentives and disincentives encourage consumers and companies to minimise waste creation and appropriately dispose of garbage, resulting in increasing demand for greening the waste sector.

*Institutional Arrangements Between Formal and Informal Sectors:* to create local markets and small and medium formal recycling firms, it is critical to formalise informal sector enterprises and support them through incentives. Formal recycling actions should be rewarded. Providing microfinance and market access might aid in the formalisation of the informal sector. Increasing knowledge of the social and health benefits of formalisation may aid in comprehending the significance of intangible benefits.

## THE PROBLEMS AND DIFFICULTIES OF SELF HELP GROUPS: A TAMILNADU STUDY

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Keywords: Self-Help Groups, Community Based Organisations, Socio Economic Back Ground

### Abstract

A Self Help Group (SHG) is a small, self-contained group of fewer than twenty people from the same socioeconomic background. They have the option of being registered or unregistered. They band together to solve their common problems through self help and mutual aid. SHGs are emerging as an important strategy for empowering people and alleviating poverty. In India, the SHG movement has grown into the world's largest and most influential network of similar community organisations. The biggest challenge that the country's SHG activity is facing is a lack of quality. The primary goal of this research is to focus on the challenges that SHGs face in Tamil Nadu and to propose solutions to those challenges. The research is based on qualitative approach.

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## 1. Introduction

India also has the same financial system that includes both an informal and official financial sector. The poor and low-income individuals are frequently excluded from the official financial system. The absence of availability to the official financial sector is owing to a lack of collateral necessary due to the dangers associated with lending, but it is also due to the high expenses due to the small financial services and inadequate regulatory enforcement (Ray 1998). Banks have long been hesitant to service the impoverished, particularly those who lack assets and cannot provide protection (Sayanant Bera, 2008). The rural poor considered official institutions strange and unreachable. Inadequacies in remote access to formal finance and the exorbitant conditions of informal loans for the poor, provide a great demand for, and considerable opportunity for, creative methods to serving the financial requirements of impoverished families in countries such as India.

SHGs have transformed the lives of the underprivileged in rural regions by serving as a vehicle for change. Recognizing that issues cannot be handled alone either by a governmental contract, small volunteer groups band with each other to protect their interests, skills, and aptitude to improve their lives. SHGs bring together the poor and disadvantaged to work together to solve issues, and the technique has been employed extremely successfully more by government and non-governmental organisations to achieve a variety of aims. SHGs, as a type of enterprise, play the function of collaborative banks and enterprises, ensuring improved access to low-interest loans for start-ups and microenterprises.

In India, which has a population of over 1.3 billion people, especially in rural regions where over half of the population live in extreme poverty. The SHG concept has huge potential to give new and unique approaches for such a society to overcome rural poverty. The SHG-Bank linkage initiative, then known as the Indian Microfinance Model, was launched in February 1992 in response to a set of instructions provided by the National Bank for Agriculture and Rural Development (NABARD) and the Reserve Bank of India (RBI).

Various pilot research and studies have been conducted throughout the last two decades, but since initial conception of such a pioneering microfinance model, to explore the multidimensional significance of the SHG-approach, which has offered a major impetus to the nation's sustainable rural growth. However, the SHG still faces several concerns and

obstacles, and a thorough understanding of them is required before efforts can be made to mitigate them and assure effective financial inclusion.

## 2. Review of Literature

Micro finance is described as such offering of small-scale savings, loans, and other economic goods and provision of other financial products within rural, semi-urban, and metropolitan areas to enhance their standard of living, according to NABARD (2001).

Women's income increased after joining SHGs, per the Puhazhendi & Badyata (2002), and they had greater opportunities for non-farm and off-farm occupations, along with social empowerment.

According to Rajagopalan, 2005, women gained a great deal of mobility, self-confidence, access to services, the capacity to build their own resources, experience in public affairs, and a stronger position at home and in society.

In her study, Sudha Menon (2007) stated that main issues include a surplus of financing services available, along with overworked NGO and government workers, resulting in insufficient instruction and support of group members.

Tanmoyee Banerjee (Chatterjee) (2009) published "Economic Importance of Self Groups: A Case Study" in the Journal of Rural Development.

The role of such NABARD in developing and linking SHGs to the financial system was examined by Jitendra Ahirrao (2009). He that most of village women aged 61 who participate in SHG activities had achieved empowerment. He came to the opinion that financing programmes should be promoted as a key tool for reducing poverty and empowering women.

Females are still not as powerful as they should be, according to Sahoo (2010). The goal of this research is to look into the role of SHGs in promoting economic growth in Tamil Nadu.

According to Sushil kumar Mehta and Harigovind Mishra (2011), the SHG-Bank Linkage Program has greatly enhanced rural poor access to financial services and has had a major beneficial influence on the socioeconomic situations and poverty reduction of SHG and their households.

The key restraints of SHG, according to Dr. Subaida Beevi and Dr. V. Girija Devi (2011), include mobility, working capital, and so on. The other barrier concerns management ability.

The obstacles and prospects of SHG, according to Dr. Amrita M. Patel (2011). She emphasised the importance of training that leads to income-generating activities and the long-term viability of self-help organisations.

In their study, Vanitamani M. R. and Menon S. Sandhya (2012) emphasise the relevance of training programmes for SHG members and show a favourable correlation across organisational competency and training.

According to Das, the efficiency of groups in the designated Development Blocks is rather low when compared to other blocks or states (2012). The fact also that sample was picked at random might be one reason. The group grades correctly reflect the broader atmosphere, particularly in component and popular perceptions of the state's condition of the SHG movement.

The two primary areas of research for SHGs are micro-finance and microenterprises. Since the late 1990s, several studies on financing have been undertaken. The growth of microbusinesses is a relatively new phenomenon. 2012 SHGs, as per M. Kunhman's research, can aid the development of msms, particularly in rural areas.

Similar to Mohanty, Das, and Mohanty (2013), rural Odisha women's outcomes and ability building via participation in Several Schemes and microenterprises.

The major indicators that determine the impact on members of SHG and its involvement in larger social issues should be peripheral or core components of SHG quality indicators, according to Das Sanjay Kanti and Chanu A bemcha (2014).

### 3. Objective Of the Study

The study's major goal is to examine the problems and challenges that SHG encounter in Tamil Nadu. In addition, the research sheds insight on:

- 1) To summarize the current situation of SHGs in India.
- 2) To highlight the current situation of Tamil Nadu's SHGs.
- 3) To address issues encountered by Tamil Nadu's SHGs.

### 4. SHG

Microfinance and Microenterprises are the 2 main areas of research for SHGs. Some research on microfinance has been conducted since the late 1990s. Microbusiness development could be a relatively recent phenomenon. Consistent with M. Kunhman 's research, 2012 SHGs can help develop microenterprises, particularly in rural regions. A SHG is atiny low non-profit organisation made of 10-20 persons who are already registered or unregistered who come from similar socioeconomic backgrounds. They gather together to resolve their common difficulties via self-help and mutual assistance. The SHG encourages its members to avoid wasting money in a very bank. SHG members have a spread of

economic demands and services, including savings, bank line, production credit, insurance, and remittance services, which are addressed through group inter-lending and bank loans that include related services. All loans inside the corporate and from banks include little paperwork and no collateral. Small, frequent, short-term, and low-interest inter-loans between SHGs for recreational and productive reasons are common. The groups meet daily to preserve and record all transactions in their ledgers. After five years of operation, the SHG is eligible for a loan to ascertain a brand-new business. Each group develops a democratically managed flexible structure of operating and managing pooled resources. They also elect a President, Secretary, and Treasurer as office bearers of their organisation through a democratic process. The program's main goal is to create the women's collective ability and encourage them to house socioeconomic issues in their lives.

### 5. SHG in INDIA

SHGs were first founded in India in 1985 through Mysore Rehabilitation and Enhanced Focus facilitated Personality Affiliation Teams, from whom over 2 million self-help groups were formed across the country (NABARD 2005-2006). Myranda 's initiatives in 1986-87 included over 300 SHGs et al. that sprung out of the collapse of huge cooperatives because of a scarcity of confidence in leadership and poor administration. The first push in India to push SHGs began within the late 1990s, whenever the Indian government introduced the Swarnjayanti Gram Swarozgar Yojana (SGSY) , a considerable rural development initiative centered on the group concept. The SGSY concept was to encourage rural poor people to make SHGs and to start successful businesses as microenterprises assisted by local subsidies and bank loans (Tripathy 2004). Since 2000, the Indian government has included this SHG policy in every yearly plan. The Indian Banks Connection, state Level Bankers Boards, District Consultative Advisory boards, Host Companies, and therefore the commercial bank for Agriculture and Rural Development (NABARD), yet as supporting NGOs and nominated research teams and research institutes, assist SHGs with follow-up. Self-help manuals for SHGs in India are prepared and are now freely available on the web.

### 6. SHG in Tamilnadu

SHGs are rural poor individuals who have volunteered to form a gaggle to alleviate the poverty of its members. They comply with set money aside on an everyday basis and invest it in an exceeding group market - the Group corpus is valued. The members of the organisation conform to put this common money to good use, further as any extra funds received as a unit through a standard administration. The group will be built using the subsequent general guidelines: Typically, a SHG consists of 10 to twenty members. This number could range from 5 to twenty in difficult environments like deserts, hills, and areas with a dispersed and sparse population, also as minor irrigation and handicapped persons. The State wide SGSY Board must identify the problematic regions, and only in those areas will the membership relaxation be permitted. All members of an organisation should originate from low-income backgrounds. If applicable, a maximum of 20% and, in extreme cases, up to 30% of a group's members could also be recruited from marginally above-the-poverty-line families who reside near BPL households and who trust the BPL

group members. Agricultural labourers, marginal farmers, and craftspeople, for instance, could hitch the SHG despite being barely above the poverty level or having been excluded from the BPL list. Members of the APL, on the opposite hand, will never be eligible for a subsidy under the plan. BPL households must participate actively in administration and decision-making, which mustn't be limited to APL families. Members of the APL SHG aren't permitted to act as office bearers (Group Leader, Assistant Group Leader, or Treasurer). The group should create an ethics code to stay itself together (Group management standards). This could take the shape of frequent (weekly or fortnightly) democratic contacts that give an open exchange of ideas and member engagement within the decision-making process.

### 6.1. Government Schemes in Tamil Nadu

#### *Mahalir Thittam, centrally sponsored scheme*

Mahalir Thittam Mahalir Thittam organises SHGs among the agricultural poor at the state level. State Corporation for Development of girls Ltd implements Mahalir Thittam, a socio-economic empowerment initiative for girls. Since 1.4.2000, the Madras Women Development Project, called "Mahalir Thittam," has covered all rural and concrete areas of the whole state, except the six city corporation areas, with state support. The primary announcement in 1996, which involved a serious duplication of the TNWDP to hide about 10 lakhs underprivileged women within the state, may also be considered a game-changer. Through a network of SHGs developed with the active help of NGOs, this plan aims to push economic development and social empowerment of the poorest women. Under the businesses Act 1956, the state Corporation for Development of ladies Ltd. was established on December 9, 1983. Its registered office is in Chennai, and its spot encompasses the entire state of Madras. TNCDW's immediate goal is to make sure that within the next three years, all poor women, notably widows, destitute, and marginalised women, are enrolled in SHGs. TNCDW's mission is to make strong and self-sufficient SHG federations at the village panchayat, block, and district levels across the state.

#### *Mahalir Thittam - current status*

- 3,58,251 SHGs
- Membership - 57,56,026 women
- Total savings - Rs. 161569.03 Lakhs
- 628 NGO partners

#### *Projects under Mahalir Thittam*

The following are several main projects and schemes under Mahalir Thittam:

- Bangaru Ammaiyaar Ninaivu Mahalir Thittam
- Entrepreneurship Development Programme
- Vocational & Skill Development Programmes
- IFAD assisted TN Women Development Project

IFAD Assisted TN Women Development Project This project is, without a doubt, the assets. Initially conceived as an agriculture and land-based project in 1989, it's evolved into a movement for women's economic empowerment through

the event and careful nurturing of SHGs with the help of non-governmental organisations. During nine years, Indian Bank has partnered with us to produce loans to over 1,20,960 women in 5207 SHGs, totalling over Rs.800 million. On day, 1998, the project ended. However, post-project activities like the distribution of Capital Development Fund (CDF) assistance, loans to unaided organisations (with a subsidy), and sustainability training are still underway. As seen by the evaluation reports included below, many SHGs have made significant progress. IFAD SHGs, the bulk of which became self-sufficient, are a monument to the ground-breaking work of NGOs, the state government and the Indian Bank.

Bangaru Ammaiyaar Ninaivu Mahalir Thittam Based on the success of the IFAD-supported state Women's Development Project (TNWDP), the government declared within the 1996-97 Budget that the project will be phased get into rural areas of all districts (excluding Chennai). Since its inception in 1996, the project has grown year after year, eventually covering all 28 of Tamil Nadu's rural districts.

Entrepreneurship Development Programme This corporation's main goal has been to assist economically disadvantaged women. The Board of Directors, on the opposite hand, believed that strict adherence to poverty criteria would be unsuitable for the event of entrepreneurship among women and inspiring them to start their own businesses. The corporation will finance entrepreneurship programmes receptive all potential female entrepreneurs, with a preference for first-generation women. The EDP initiative, which began in 1998-99, was gone by an industry and commerce group in Chennai and Madurai for DeW. We held a follow-up session and were pleased to discover that the ladies had started their own businesses and —had received financial assistance from banks. Vocational & Skill Development Programmes the following Vocational and Skill Development Programs are implemented by the corporation. Education programmes are funded by the government. The subsequent are important considerations for interested Training Institutions and Non-Governmental Organisations

#### *Centrally sponsored scheme*

Top SGSY has been operating as a serious anti-poverty scheme for the agricultural poor since April 1999, organising them into SHGs, providing skill development training and assisting them in obtaining credit from financial institutions, still as providing infrastructure and marketing support for the products they produce. The prices are split 75:25 between the Indian government and therefore the regime.

Mahalir Thittam: Mahalir Thittam Mahalir Thittam organises SHGs among the agricultural poor at the state level. State Corporation for Development of girls Ltd implements Mahalir Thittam, a socio-economic empowerment initiative for girls. Since 1.4.2000, the Madras Women Development Project, called "Mahalir Thittam," has covered all rural and concrete areas of the whole state, except the six city corporation areas, with state support. The primary announcement in 1996, which involved a serious duplication of the TNWDP to hide about 10 lakhs underprivileged women within the state, may also be considered a game-changer. Through a network of SHGs developed with the active help of NGOs, this plan aims to push economic



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#### *Vocational & skill development programmes*

The following Vocational and Skill Development Programs are implemented by the corporation. Education programmes are funded by the government. The subsequent are important considerations for interested Training Institutions and NGO.

### **7. Issues and Problems**

- 1) Ignorance of Members/Participants: Despite the authorities' efforts to lift awareness among group members about the programmes that benefit them, the overwhelming majority of the group is unaware of the programmes available to them.
- 2) Inadequate Training Facilities: The training provided to members of SHGs in specific areas like product selection, quality, manufacturing processes, management skills, packing, and other technical knowledge cannot compete therewith provided to strong units.
- 3) Material Issues: Normally, each SHG obtains raw materials from suppliers on a private basis. They buy raw materials in lower quantities; thus, they cannot benefit from large-scale purchasing benefits like discounts and credit. There's no systematic plan in situ to accumulate raw materials in large numbers and adequately store them. There are not any ties to significant staple sources. The bulk of SHGs is unaware of the main

staff suppliers' terms. This contributes to the high cost of raw materials.

- 4) Marketing Issues: Marketing could be a crucial aspect of SHG operations. However, they encounter a range of challenges in promoting their own products.

The following are the foremost serious marketing issues.

An insufficient number of orders.

- a) a scarcity of connections with marketing firms.
- b) Inadequate advertisement strategies.
- c) the shortage of a long-term marketplace for SHG products.
- d) Lack of a correct name.
- e) Awful/unappealing packing system.
- f) Poor product quality thanks to the utilization of old technology, leading to a bad market,
- g) Tough rivalry from other large vendors.

A well-defined and well-knit distribution system lacks marketing.

- 1) Instability and disunity especially in women's SHGs : it's discovered that there's no stability of the units in women's SHGs since many married women cannot escort the group thanks to a change in their place of residence. Because of personal issues, there's no unity among the feminine members.
- 2) Exploitation by strong members: it's also been noticed that in many SHGs, strong members attempt to profit disproportionately from the group's profits by exploiting the group's ignorance and illiteracy.
- 3) Poor financial management: it's also been discovered that the profits from certain units aren't appropriately invested within the units and the money is diverted for other personal and domestic objectives like marriage, house construction, and so on.
- 4) Low Return: Inefficient management, excessive manufacturing costs, a scarcity of quality consciousness, and other factors make the return on investment unappealing to certain groups.
- 5) Inadequate Financial Help: it's been discovered that the financial assistance offered by the agencies concerned cannot fulfil the particular needs of the SHGs. Even to satisfy the labour cost criteria, the financial authorities don't seem to provide appropriate subsidies.
- 6) Financial Institutions' Non-Cooperative Attitude: When it involves giving funding and other assistance, financial institutions don't take SHGs seriously.
- 7) Inadequate Line Department Support: The group members must approach the road officers for assistance and support. The road cops, on the opposite hand, don't seem to cooperate with the SHGs. This may jeopardise the schemes' entire purpose.

### **8. Suggestions to Minimize the Problems Faced by SHGs**

- a) Locally accessible materials and their different applications should be provided to SHGs. To form unique things using these materials, they must lean sufficient support and training. Surveys at the panchayat level may be administrated under the auspices of local

- authorities to ascertain content about material availability.
- b) instead of specializing in a particular region, state level organisations should spread their operations across the state to handle the varied difficulties facing SHG marketing.
  - c) Various SHGs functioning in an exceeding single panchayat region can create a cooperative society. This society is also tasked with marketing the products of multiple SHGs under one brand. The society can engage in sales marketing efforts and buy rare raw resources for the advantage of member SHGs.
  - d) NGO's can aid women entrepreneurs by providing basic education, motivational training, and financial assistance, among other things.
  - e) SHG members might not all be of the identical calibre or level of experience. NGOs can identify ineffective members of a bunch and offer them the required training to assist them to become competent. For this aim, short-term training programmes can be organised.
  - f) the agricultural Development Department may host regular awareness camps to boost awareness of the support programmes available to SHG participants.
  - g) Finally, financial institutions may create arrangements to supply enough financial assistance to SHGs based only on their real performance, no matter caste, politics, or other variables.
  - h) Emerging changes in SHG members' beliefs and attitudes are a transparent expression of socio economic empowerment programmes that provide significantly faster benefits. The socio economic programmes complement each other and encourage the holistic development of youngsters, women, households, and communities.

## 9. Conclusion

SHGs are quickly gaining traction as a major social instrument for the socio economic empowerment of India's rural poor. Often, they need to improve their members' socio economic circumstances by having a favourable impact on income, savings, and self-confidence. SHGs are a wonderful thanks to getting women out of the house by improving their communication skills. SHGs are small institutions with an enormous impact.

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## AN EMPIRICAL ANALYSIS OF DOMESTIC WASTE IN CHENNAI CITY

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Keywords: Waste Management, Household waste, Disposal Management

### 1. Introduction

Municipal or household wastes, generated from several sources with variable human activities, and from different socioeconomic areas all over the world, are highly heterogeneous (Miezah et al., 2015; Valkenburg et al., 2008) having variable, source-dependent physical characteristics (e.g., food waste, yard waste, wood, plastics, papers, metals, leather, rubbers, inert materials, batteries, paint containers, textiles, construction, and demolishing materials), which makes their utilisation as raw materials challenging. Domestic waste is waste generated because of the ordinary day-to-day use of a domestic premise and is: collected by or on behalf of a local Government as part of a waste collection and disposal system. Domestic waste has become one of the most significant causes of severe damage to the rural eco-environment because of the large amounts of waste discharged and improper disposal (Wang and Lu, 2006). To eliminate contaminations from domestic waste, a waste management system including waste collection, transportation, and treatment have been established. First, a waste treatment and disposal plan were made to restrict improper disposal and clean-up of existing piles of waste near canals, roads, and houses. Second, a domestic waste treatment collection network, including certain numbers of waste collection sites and transfer stations was built in big villages and counties. Third, waste reclamation technologies, such as methane fermentation, composting, and the production of compound fertilisers were developed and applied.

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### 2. Domestic Waste - Global Perspective

Globally millions of tonnes of municipal solid waste are generated every day. Urban waste management is drawing increasing attention, as it can easily be observed that too much garbage is lying uncollected in the streets, causing inconvenience, environmental pollution, and posing a public health risk. The problem of solid, liquid, and toxic-waste management in Africa has come with urbanisation in the developing world. An important feature of the urbanisation of the developing world is the rapid growth of cities and metropolitan areas. The high rate of urbanisation in African countries implies a rapid accumulation of refuse. Social and economic changes that most African countries have witnessed since the 1960s have also contributed to an increase in the waste generated per capita. Municipal waste management constitutes one of the most crucial health and environmental issues facing managers of African cities.

Proper waste management is a public benefit and obligation. Improper waste disposal by one individual affects the entire citizenry, so, as a policy, countries have tasked every individual, establishment or institution to contribute significantly to keeping their communities and environment clean.

Across India, existing systems for the collection, transportation and disposal of solid waste are mired in chaos. The problem is more acute in the urban areas, where rapidly growing populations generate increasingly larger quantities of solid waste that urban local bodies (ULBS) cannot manage effectively. Improper management of solid waste poses risks to the environment and public health

### 3. Review Of Literature

According to Lindani Koketso Ncube Over the years, the world was not paying strict attention to the impact of rapid growth in plastic use. This has led to unprecedented amounts of mixed types of plastic waste entering the environment unmanaged. Packaging plastics account for half of the global total plastic waste. This paper seeks to summarise the use, disposal, and regulation of food packaging plastics. Demand for food packaging is on the rise because of increasing global

demand for food due to population growth. Most of the food packaging are used on-the-go and are single use plastics disposed of within a short space of time. The bulk of this plastic waste has found its way into the environment contaminating land, water and the food chain. The food industry is encouraged to reduce, reuse and recycle packaging materials. A wholistic approach to waste management will need to involve all stakeholders working to achieve a circular economy. A robust approach to prevent pollution today rather than handling the waste should be adopted especially in Africa where there is high population growth.

According to Kumar. M, Nandini. N community participation directly affects effective solid waste management. Investigation on community attitude, perception and willingness towards solid waste management was carried out in Bangalore city. Households' data was collected randomly based on their socioeconomic status using focus group discussion and structured interviews. On an average 63% of the households will participate for the better management, 97.8% households are preferred daily collection and 82.5% of the households are preferred to segregate the waste into different bins; once the bins are provided by Government /Non-Government Organisations. The majority of the households about 71% will use the recyclable products which they were using to carry vegetables, grains etc. from whole shops/markets, as they have aware about reduce, recycle and reuse (R3). Greater level of community engagement in reduction of waste at the source through campaigns in a scientific manner is needed.

According to Dr. Kafeel Disposal of solid wastes is a stinging and widespread problem in both urban and rural areas in many developed and developing countries. Municipal solid waste (MSW) collection and disposal is one of the major problems of urban environment in most countries worldwide today. MSW management solutions must be financially sustainable, technically feasible, socially, legally acceptable and environmentally friendly. Solid waste management issue is the biggest challenge to the authorities of both small and large cities. Valorisation of food organic waste is one of the important current research areas. The conventional landfill, incineration, composting, and ways of handling solid wastes are common as mature technologies for waste disposal.

Traditionally, the most commonly used technologies for the treatment and valorisation of the organic fraction of MSW are composting and Anaerobic Digestion (AD). The generation of organic solid waste (OSW); worldwide; is dramatically increasing each year. Most of the OSW's comprise agricultural waste, household food waste, human and animal wastes, etc. They are normally handled as animal feed, incinerated or disposed to landfill sites. OAW's comprise materials rich in proteins, minerals, and sugars that could be used in other processes as substrates or raw materials.

#### 4. Objectives

- 1) To analyse the socioeconomic conditions of the respondents.
- 2) To examine the impact of domestic waste.

#### 5. Methodology

Primary data is collected directly by the respondents. A well-structured questionnaire is adopted to collect information. Secondary data is collected from the published sources like books, Journals, Magazines and the Media.

#### 6. Garbage

India has over 1.5 million subsistence informal waste pickers and including them into the formal waste management system represents an opportunity for ULBS to streamline their operations, while provide the waste pickers with better income opportunities.

India seems to drown in garbage. From Delhi to Mumbai to Bengaluru, mini hills of untreated organic and inorganic waste can be found even outside high-end shopping malls, tech parks, and eateries. Piles of plastic, paper, bottles, fruit peels, and more accumulate every day on the side of the road, too.

The local corporations have adapted different methods for the disposal of waste – open dumps, landfills, sanitary landfills, and incineration plants. One of the important methods of waste treatment is composting. Open dumps refer to uncovered areas used to dump solid waste of all kinds.

Hazardous waste can be treated by chemical, thermal, biological, and physical methods. Chemical methods include ion exchange, precipitation, oxidation and reduction, and neutralisation. Among thermal methods is high-temperature incineration, which not only can detoxify certain organic wastes but also can destroy them.

#### 7. Health Problems

Household air pollution causes noncommunicable diseases including stroke, ischaemic heart disease, Chronic Obstructive Pulmonary Disease (COPD) and lung cancer. Close to half of deaths due to pneumonia among children under 5 are caused by particulate matter (soot) inhaled from household air pollution.

Direct handling of solid waste can result in various types of infectious and chronic diseases with the waste workers and the rag pickers being the most vulnerable. ... Uncollected solid waste can also obstruct storm water runoff, resulting in the forming of stagnant water bodies that become the breeding ground of disease.

Human Immunodeficiency Virus (HIV) and hepatitis viruses spearhead an extensive list of infections and diseases documented to have spread through bio-medical waste. Tuberculosis, pneumonia, Diarrhea, tetanus, whooping cough etc. are other common diseases spread due to improper waste management. sharps-inflicted injuries; toxic exposure to pharmaceutical products antibiotics and cytotoxic drugs released into the surrounding environment, and to substances such as mercury or dioxins, during the handling or incineration of health care wastes;

The World Health Organisation (WHO) has stated that improper disposal of medical waste can cause these diseases:

- Parasitic Infections.
- Lung Infections.
- Skin infections.
- HIV and Hepatitis B and C Viruses.
- Candida.
- Meningitis.
- Bacteremi.
- Diarrhea.
- Dysentery.
- Typhoid.
- Jaundice.
- Hepatitis.

#### 8. Major Findings

Four areas of North Chennai have been divided into three categories. Those are 20 high-class family, 46 middle-class people and 34 lower class people it based on their family standards.

Awareness on pollution in the study area: 38 percentage of people have awareness and 62 percentage of people are unaware.

Awareness on environmental threats: Discharging of sewage, solid waste, delay in garbage collection and human excreta are the major environmental threats in the study area. 26 percentage, 31percentage, 31percentage and 9 percentage of the respondents have awareness on environmental threats

Sources of Environmental Threats: Excessive consumption behaviour, Cultural values, Lack of education and Laziness are the basic sources of environmental threats in the study area.

##### *8.1. Impact Of Improper Disposal of Domestic Waste (High-Class):*

38.88 % of high-class people (respondents) are suffered with Diarrhea, Dysentery, Typhoid, Jaundice and Hepatitis in the Thangal area. In Rajakadai area, 16.66% respondents are suffered with Diarrhea, Dysentery, Typhoid, Jaundice and Hepatitis. 22.22% respondents are suffered with Diarrhea, Dysentery, Typhoid, Jaundice and Hepatitis in Thiyagarayapuram area. 22.22% of the respondents are suffered with Diarrhea, Dysentery, Typhoid, Jaundice and Hepatitis in Thiruvottiyur area.

### 8.2. Impact Of Improper Disposal of Domestic Waste (Middle-Class):

50% percentage of middle-class people (respondents) are suffered with Diarrhea, Dysentery, Typhoid and Jaundice in Thangal area. 18.75% respondents are suffered with Diarrhea, Dysentery, Typhoid in Rajakadai areas. 12.05% respondents are suffered with Diarrhea, Dysentery, Typhoid in Thiyagarayapuram area and 33.33% respondents suffered with Diarrhea, Dysentery, Typhoid, Jaundice and Hepatitis in kaladipet.

### 8.3. Impact Of Improper Disposal of Domestic Waste (Low-Class)

31.25% percentage of low-class people (respondents) are suffered with Diarrhea, Dysentery, Typhoid and Jaundice in Thangal area. 21.87% respondents are suffered with Diarrhea, Dysentery, Typhoid in Rajakadai area. 28.12% respondents are suffered with Diarrhea, Dysentery, Typhoid in Thiyagarayapuram area and 18.75% respondents suffered with Diarrhea, Dysentery, Typhoid, Jaundice and Hepatitis in kaladipet.

## 9. Suggestion

*Household Waste Generation and Composition:* Solid waste management (SWM) is a major problem for many ULBS in India, where urbanisation, industrialisation and economic growth have resulted in increased MSW generation per person. Effective SWM is a major challenge in cities with high population density.

*SWM Rules:* Waste segregation at source is mandatory. Households must separate waste into three streams - Organic or Biodegradable waste, Dry waste (such as plastic, paper, metal and wood), and Domestic Hazardous waste (diapers, napkins, mosquito repellents, cleaning agents). Further, bulk waste generators such as hotels and hospitals are expected to treat organic waste either onsite or by collaborating with the urban local body.

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## Methods for Waste Management

- *Recycling*– Above all the most important method is the recycling of waste. This method needs no resources. Therefore, this is much useful in the management of waste. Recycling is the reusing of things scrapped of. Recycling is further converting waste into useful resources.
- *Landfills*– Landfills is the most common method for waste management. The garbage gets buried in large pits in the ground and then covered by the layer of mud. The garbage gets decomposed inside the pits over the years. In this method elimination of the odour and area taken by the waste takes place.
- *Composting*– Composting is the converting of organic waste into fertilisers. This method increases the fertility of the soil. It is helpful in more growth in plants. It the useful conversion of waste management benefiting the environment.

## 10. Conclusion

The key to efficient waste management is to ensure proper segregation of waste at source and to ensure that the waste goes through different streams of recycling and resource recovery. Then reduced final residue is then deposited scientifically in sanitary landfills.

Achieving sustainable development within a country experiencing rapid population growth and improvements in living standards is made more difficult in India because it is a diverse country with many religious groups, cultures and traditions. Despite development in social, economic and environmental areas, SWM systems in India have remained relatively unchanged. The informal sector has a key role in extracting value from waste, with approximately 90% of residual waste dumped rather than properly land filled.

**DURING THE COVID-19, REFLECTION ON HEALTH AND WEALTH***RENUKA S - Assistant Professor, Government Law College, Trichy, Tamilnadu, India*

Keywords: Entrepreneurship, Students, Economic Growth

**1. Introduction**

Health is wealth which clearly signifies wealth only not about the money. Here the real wealth about the habits such as exercise, balanced diet, regular sleep, and such other things, included in it. The world health organization which commemorates the annual celebration of World Health Day on April 7, to create an awareness among the people about health and cleanliness around us. Each and every human are running mainly for wealth, the basic element to get a prosper wealth is health so without the support of health we can't get the enough wealth. In our laws, they gave most important to health. In our Indian constitution also, they discussed about it in tremendous way. Governments also initiated policies for Indian. Part V of the Indian Constitution deals with Directive Principles of State Policy. Actually, this part of Indian Constitution was borrowed from the Constitution of Ireland, actually that too Copied from the Spanish Constitution the Directive Principles of State Policy mainly discussed the Socialistic Principles. These principles aim at providing social, economic, justice and set the path towards the welfare of the state and people. Under various Articles they direct the state to provide health. It mainly secures citizens' rights relating to adequate means of livelihood for all citizens. As well as, it preserves the health & strength of workers & children against forcible abuse. It also provides the opportunities for the healthy development of children. Through the policies, the Government provides schemes to citizens relating to raise the level of nutrition & the standard of living of people to improve public health. The principles based on Gandhian ideology used during the national movement, by prohibiting the consumption of intoxication drinks and drugs injurious to health also included in Directive principles of state policy.

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**2. Impact of Directive Principles of State Policy in Health**

Government initiated steps to implement the schemes and policies through the part V of Indian Constitution Arts. 39 and 47, which plays a major role in protecting the health of citizens. Through these schemes, the government provided nutritious food from primary schooling. For school students state governments are providing basic needs for nutritious foods. And, via, rationing initially government providing many nutritious rich food products. Through the directive principles of state policy, the Government successfully did its work.

**3. During Covid**

The present Covid -19, Pandemic situation which compelled the public to concentrate upon public health. The Post Covid situation makes the peoples to concentrate mainly upon the food habits and its cleanliness around the surrounding. Now, after the pandemic situation the new thing added in public health is vaccination. In India, the government goes with convexity to protect the health of people from covid-19. Governments spread the awareness among the people through the awareness among the people through lots of advertisement that includes TVs, road signals, Mobile ringtones etc., Here they concentrate upon the hygiene among peoples and it includes healthy foods, sanitizing the surroundings, wearing masks, vaccination etc. Through lots of vaccination camps, the death of people came to little control.

**4. Crucial Role of WHO**

International Organizations have a crucial role to play in the global response & also carry out essential tasks to ensure co-ordinate reopens to meet health targets. At an international level the world health organization (WHO), a specialized body of the UN, announces public health measures and monitors the international scenario. In Covid-19 has opened the implementation of several initiatives by WHO & by way of its co-operation. International Health Regulations mandate the implementation of public health measures should not be burdened with trade barriers. In April 2020, the WHO launched the access to Covid -19 Resources, it's a global collaboration that includes the WHO, CEPT and GAVI, among others to accelerate the development, manufacturing, and distribution of new covid-19 therapeutics and vaccines. It also emphasized that for the global supply of the Covid-19 vaccine, coordinated national efforts should be planned. They only lead the covid-19 vaccine facility.

**5. Conclusion**

Resolving pandemic crisis have been the primary concern for all those being the primary crises has been the primary concern for all those involved in identifying solutions. The importance of public health during covid-19 is directly and indirectly evolved in crucial manner. Developing a collective and coordinated effort for vaccines, medicines, medical infrastructure, and such other thing which enhance their availability and accessibility under the WHO is an important development. The WHO'S leadership is critical in collaborating the individual nations to provide access to technologies and to participate in it.

It's time for the WHO to bring the suitable amendments to regulate the international health regulations. The urgent need for access of technologies is what demands a need to focus on ways to enable the public health. Implementation of national legislative regards to health emergencies not only supports public health but also provides opportunities for co-operation in a cross-country context. The current contort provides a compelling need to relook at the importance of public health.