

Strategies for Safe Environment in Rural Areas

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INTRODUCTION

Environment determines the quality of life and well being of individuals in a society. It is also an integral part of the life supporting system of the earth. Today, every component of the environment is under strain due to man's meddling with nature. Environmental pollutions due to increasing industrial activity, automation, pesticides, disposal of garbage and waste material disturb the balance of ecosystem in numerous ways. Environmental conditions are the major determinants of the ecological balance and the well being of the people and it depends upon the proper and appropriate interaction of man and his environment. Sustainable development stressed not only economic well being of the present generation but also that of future generations along with the maintenance of healthy environment and life support system. It ensures clean water, air, surroundings and a better quality of life for the humanity. Ensuring environmental protection and control of environmental degradation will promote sustainable development. According to Swaminathan (2000), for effective sustainable agricultural development, the local bodies need to be empowered and their plans should incorporate mechanisms to prevent loss of ground water, loss of grazing lands, and to promote water harvesting, water management and sustainable life standards which are essential to maintain the ecological balance in rural areas. Gandhiji was a person of great foresight and advocated good environmental practices such as community cleanliness, tree worship, cowbreeding, vegetarianism, conservation of water, open air prayers, natural farming with use of cowdung' etc., for the conservation and protection of environment. He emphasized the need to protect environment. According to him, it should not be allowed to be degraded first and then cured. We need to reconcile ecology, economics and ethics in an integrated manner.

Although people are concerned about environmental degradation, studies are conspicuously absent on themes relating to environmental issues in village communities. The quality of life

for village community mostly depends upon having a clean, safe and hygienic environment in and around surroundings. Therefore, the need of the hour is to study the environment and its problems at the grassroot level.

AREA OF STUDY

Rural environment is relatively healthy and safe compared to urban environment. However, in recent years, the environmental issues have become highly prominent and cause concern in addition to economic hardships. The present paper addresses certain environmental issues as insanitary conditions, improper disposal of waste water, garbage and solid waste, unsafe drinking water etc. The environmental awareness and efforts of the rural people in the protection and preservation of the environment have been examined. For this purpose, the study is conducted in two villages namely Narsingapuram and Sirunaickenpatti of Dindigul district in Tamil Nadu. These villages are located at the foot of Sirumalai hills surrounded by mango and tamarind trees and dense forest. But the forest area has slowly decreased and has been destroyed of late due to slashing and felling of trees. The dense natural resources have been exploited and the village environment has degraded to become barren lands. Both the villages have no drainage system. In the absence of household toilets, the villagers practice open defecation. They dispose garbage and solid waste by dumping them in open spaces and allow the waste water to flow on the streets. Due to this, there is a spread of diseases, unhygienic conditions and contamination of drinking water.

METHODOLOGY

The sample for the study consisted of 100 respondents selected at random from two villages. There are 360 households in Narsingapuram village and 50 households (15%) were chosen for the study. In Sirunaikanpatty village the total number of households are 450 from which 50 households (12%) were chosen. The data for the

study were gathered through pre-designed field tested schedules from a responsible adult member in the household through personal interviews. Environmental data of the village community relating to sanitation, disposal of garbage, sullage, drainage system and people's participation in environmental protection were obtained through focused group discussions. An Environmental Awareness Test (EAT) constructed and standardized for the purpose of the study measured the knowledge of the rural people on various environmental issues. Field observations were also carried out to elicit data on environmental conditions in two study village and to find out the involvement of local leaders, members of Mahila Mandal and Self Help Groups in environmental protection. Frequency distribution and percentages, descriptive and narrative procedure and the 't' test were employed to compare the environmental awareness scores of respondents from the two villages and to explain the various environmental issues.

RESULTS AND DISCUSSIONS

The present study observed that the rural communities face a lot of environmental problems. Poor sanitary conditions, absence of drainage systems, water logging, improper disposal of garbage and solid waste etc. are the major environmental problems noted in the study villages. Sanitation is a composite and comprehensive expression covering personal hygiene, domestic cleanliness, favourable environmental conditions, disposal of human excreta, solid waste and waste water disposal. Poor sanitation conditions in household is a major cause for polluting the village surroundings. According to the Central Statistical Organisation in (1993), about 75.7 million people in cities and 563.6 million people living in rural areas do not have access to toilets of any type regarding sanitation aspect. In these two study, villages 90.27 per cent of respondents are still practising open defecation in the absence of household or community toilet facilities. Therefore, the sanitation in the rural communities needs immediate attention in order to improve environmental conditions and prevent the incidence of diseases. The main sources of water pollution are domestic sewage, industrial effluent and agricultural runoff. About 75 per cent of the waste-

water produced is from domestic sector, but the sewage treatment facilities are conspicuous by their absence in rural India. Sullage and drainage of wastewater is another acute environmental problem, which is causing concern in village community. Most of the studies reveal that in rural areas sullage is generally discharged into street drains. It pollutes the atmosphere and contaminates the water sources in surrounding areas. Waste water spillover spreads water borne diseases in village and children get affected by water borne and other dangerous diseases. The present research investigated the disposal of sullage and drainage systems and found it to be very poor in study villages. Nearly 95.56 per cent of the households dispose of the waste water into the street due to the lack of drainage. In addition, the drains get choked and the waste water is logged around the households and neighborhoods. The stagnant pools of waste water prove to be the breeding sites for mosquitoes and flies spreading various diseases.

Garbage and solid waste disposal is yet another environmental hazard in villages. In the two study villages, nearly 65.67 per cent of the respondents disposed the garbage mostly in manure pits outside the village and 34.33 per cent of the respondents simply throw it out into the streets. This is due to lack of knowledge and poor responsibility with regard to disposal of garbage and solid wastes.

Provision of safe drinking water is essential for survival, for it helps as a preventive measure against a number of water borne diseases. But today about 200 million people in India do not have access to safe drinking water. Only 78 per cent of rural and 85 per cent of urban inhabitants have access to drinking water. About 143,000 villages still have acute water problems and many more have unreliable water supply. In rural India, one fifth of the people do not have any source of safe drinking water within a reasonable distance. According to Ministry of Rural Development about 1.5 million children under 5 years die each year due to water related diseases and the country also loses over 200 million person days of work a year because of diseases due to the use of contaminated water. Water borne diseases are widespread in villages and is the primary cause for infant mortality and spread of epidemics.

Particularly diarrhoea, tetanus, malaria and other killer diseases are caused by unsafe drinking water and poor sanitation habits. Better water supply and sanitation facilities can considerably reduce illness and death due to water related diseases. Both study villages have overhead tanks to supply drinking water to people through connected taps. Village people collect the water in neat and clean containers, pots and vessels and preserve it for their daily use. The water is chlorinated and in general the people are well aware of water pollution and waterborne diseases in these two study villages.

ENVIRONMENTAL AWARENESS

Environmental awareness refers to the knowledge and consciousness created among the people for the protection and preservation of environment. Environmental awareness among the people in the two study villages has been analyzed. For this purpose, the responses on environment awareness test were taken. The response were scored using the standard scoring key and a frequency distribution of environmental awareness scores was prepared. The mean and standard deviation have been worked out for the sub samples of the respondents from two villages. The mean difference was tested for significance applying the 't' test and the details of the analysis are presented in table 1.

Table 1: Environmental awareness among the respondents from two study villages.

Village Name	N	$\bar{X}$	SD	MD	SE	't'
Narasingapuram	50	160.5	1.2	28.5	4.61	6.18*
Sirunaickanpatti	50	141.0	5.13			

*Significant at .01 level

The comparison of the mean scores on environmental awareness of the respondents from two study villages showed higher valid for Narasingapuram. The mean difference in environmental awareness scores of the respondents from the two villages is 28.5 statistically significant at .01 level. It is found that the people in Narasingapuram village have achieved a marginally higher awareness mean score of 160.5 on environmental issues against the score of 141 of Sirunaickanpatti village. People in Narasingapuram were found better in environmental awareness

which has been proved by statistical analysis. Narasingapuram is one of the service village of Gandhigram Rural Institute (GRI). The university has launched a number of environmental protection and sanitation programmes in this village. The Krishi Vigyan Kendra of Gandhigram Institute has also supplied seedling to the needy farmers of this village. These are some of the steps taken by the Government and other non-governmental agencies to improve the forestry cover of this village. They are well aware of the need for improving the ecological condition of Narasingapuram village.

Actual Commitment: To measure what a person actually does in relation to environmental pollution issues?

Verbal Commitment: To measure what a person states? What is he willing to do with reference to environmental pollution issues?

Affect: To measure the degree of an individual's emotional state related to environmental pollution issues.

It is generally thought that women population is the most affected by environmental problems. Hence, they should possess more favourable environmental attitudes than the male population. Rural women have to play a pivotal role in protecting and preserving the environment. They can definitely direct the use and management of natural resources as they are responsible for organising the basic need of their families. The gender-wise comparison in table 2 reveals that female population have a relatively higher degree of commitment than the male population. This fact was supported by the analysis and there is a significant difference in verbal commitment and affect aspects for males and females. It is reported that the women were willing to help a great deal for environmental protection in the villages.

Table 2: Mean value of environmental awareness of male and female population in study village

Domain	Male	Female	't' value	Significance
Actual commitment	12.75	14.3	1.235	0.05
Verbal commitment	18.27	16.43	1.466	0.05
Affect	21.46	19.24	1.769	0.05

PEOPLE PARTICIPATION

The success of any development activity depends on people's participation. The participatory approach to environmental protection depends on the willingness for cooperation in and active participation of the local people. Further, this can be strengthened through decentralized planning which provides opportunity for the rural communities to effectively participate in the developmental process. It is very essential for local communities to maintain bio diversity, and safeguard their natural resources in village surroundings.

Kumarappa (1995) has stated that environmental protection is possible only through effective people's participation. Any conservation effort without the involvement of the people would be futile. The local communities can play an important role in the context of forest conservation and they are able to evolve and implement plan strategies and participate in programming for creating environmental awareness and protection. Rathore (1994) warns that unless the people are at the core of any development activity, the relationship between environment and development ceases to exist. The enumerators' observation on awareness among the participation of respondents in environmental protection camps are presented in table 3.

With regard to participation in the environmental camp, 62% of respondents reported to be the participating in camps. It may be stated that on the level of awareness about the environmental protection and roles and responsibilities of the respondents showed little variation in the two villages.

Table 3: People's participation in environmental protection

<i>Observation</i>	<i>Narasingapuram Village</i>	<i>Sirunaickanpatti Village</i>
Participation in environmental awareness camps	32	30
Awareness about the environmental protection	8	12
Awareness of roles and responsibilities	10	8

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- Constructions of low cost sanitary latrines and educate the rural people dissuading them from open defecation practice.
- Proper waste water management is highly essential. It can be recycled or disposed properly through drainage system.
- Improve environmental sanitation through effective media communication.
- External intervention efforts to promote disposal of garbage and solid waste.
- Environmental awareness camps with people participation should be organized jointly by government and non governmental organisations to create knowledge pertaining to protection, preservation, and conservation of rural environment.
- Intervention through environment friendly technologies, reuse and recycling of water, in rural areas.
- Involve and provide information to local people in water management, and initiate water conservation awareness campaigns.
- Encourage vermicompositing so that the organic matter of solid waste is fed to earthworms and the excellent nutrients can be used as fertilizer for agriculture.
- Environmental problems must be discussed in panchayat and gram sabha meetings and appropriate auditing and monitoring strategies should be evolved to promote 'safe environment'.
- Appropriate environmental values and attitudes should be developed among the rural people, through Eco and Nature clubs in the villages.

CONCLUSION

In several respects, India is a unique country. Its environmental problems are also very complex with its varied bio-geographical and cultural diversity. At the current rate of development in rural India, the basic minimum needs of the people are very essential. In addition to potable water, the rural communities should have clean air, health care, primary education, fuel for cooking, sanitation and social security. If not managed properly these basic needs of the rural masses may have negative environmental impacts. Sus-

tainable rural development can be achieved only through the conservation, preservation and protection of the rich environmental heritage in rural India. Therefore, the need of the hour is to study the environmental conditions and environmental problems at the grassroot levels and evolve strategies for safe environment in rural areas. This is needed in order to fulfil Gandhi's vision villages are the soul of the nation. In broader sense the country's existence depends on the welfare of the village.

KEYWORDS Environment. Environmental Awareness. Sanitation. Sustainable Development.

ABSTRACT Environment is an integrated life support system. It determines the quality of life. Deforestation, industrialization, urbanisation etc. have been the major causes for environmental degradation. Man is the causative agent for many ecological crisis such as global warming, ozone depletion, global climatic changes and so on. Unless the eco-system is properly managed the world's resources will be depleted very soon. Then the future generations have to face problems related to environment. Although there is a concern about environmental degradation in and around, But, studies are conspicuously absent on themes like environmental conditions and its issues in village communities. In this context, the present paper addresses the issues-sanitary conditions, disposal of waste water garbage and solid waste and examines the

environmental awareness among rural people and efforts of the rural people for protection and preservation of the environment in rural areas. The study found that the situation in two selected villages is deplorable. The study, however, observed that the rural people's level of awareness and participation is quite satisfactory with respect of environmental endeavours. This is a highly encouraging silverline for sustainable rural development.

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