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Community Participation in Natural Resource Management in Madurai District-TN INDIA

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Keywords: *NRM, watershed, government organization, NGOS and community participation.*

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Abstract- This paper basically deals with the dynamics of natural resource management in Madurai District. According to Singh and Singh (2007) Natural Resource Management is usually a group action programme involving the entire population of the watershed. The ninth five year plan document also stated that development programme could be implemented successfully only with the involvement of people. It is imperative to ensure people's active participation in all, phases of planning and implementing the programme. But there is no universality acceptable measure or index of people's participation the necessity of developing scales in view of its importance. The following questions were posed while taking up this study - whether NGOs are superior to the GOs in enlisting the people's participation imparting knowledge and to adoption of technologies..Secondly what type of participation is more effective for planning and implementation of the programme and finally what are the attributing factors for high performance of an organization. To explore suitable and concrete answer to three questions, a study was needed. Besides an effort was also made to identify the perceived constraints in participation and reason for the non-adoption of recommended integrated watershed technologies selected personal and social psychological factors, their relationship, relative importance, their direct and indirect efforts as participation, knowledge and adoption levels were the other aspects of the study. Finally the suggestion perceived by the beneficiaries for effective participation and adoption of practices in watershed areas were also enumerated. This research reviews the role of Community including panchayats in environmental governances and critically examines ways to balance empowerment of panchayats without compromising the participation of the community. Degradation of Natural Resources and Impacts Health Impacts: Management and conservation of natural resources is important for the maintenance of health in addition to the needs of food production and ecological considerations. Water pollution due to untreated sewage contributes to high coliform counts resulting in high infant morbidity and mortality. Economic Impacts: Loss of availability of natural resources for the population, which is dependent on them for their livelihood. There could also be loss of productivity or reduction in crop production due to pollution or closure of industries to comply with air quality standards. EcosystemImpacts: Contamination of ground aquifers, land degradation due to water logging, intrusion of seawater into ground aquifers, loss of water bodies etc, Displacement Impacts: Environmental degradation and non-availability of natural resources forces dependent livelihoods to migrate in search of alternate subsistence living.

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I. Introduction

Natural resources are the foundation from which rural poor can overcome poverty. Poverty is still very much a rural problem. One in five of the world's inhabitants – some1.2 billion people – live in extreme poverty and 75 per cent of these live in rural areas. Their livelihoods depend on natural resources, their capacity to use and manage them effectively, and the institutional environment in which natural resource management strategies are designed and implemented.

Rural poor people are not just 'the poor'; they have faces and names. They are real people: poor farmers, poor fishers, poor nomads and poor women producers. Overcoming poverty means individual and collective empowerment, strengthening productive and income generating capacities and increasing opportunities. This requires a clear understanding of the activities of poor people and of the natural, social, economic and political environment in which they live. It also requires supportive policies, institutions, services and investment. The last two decades have witnessed a paradigm shift in conservation and Natural Resource Management away from costly state-centered control towards approaches in which local people play a much more active role. These reforms purportedly aim to increase resource user participation in Natural Resource Management decisions and benefits by restructuring the power relations between state and communities through the transfer of management authority to local-level organisations. Yet, the reality rarely reflects this rhetoric.

Three quarters of the world's poorest people live in rural areas, and their livelihoods depend on farming, pastoralism, forestry, and artisanal fishing – all of which can be subsumed under the term "agriculture". Support to agriculture is well recognized as essential for poverty reduction and for securing people's right to food. Agriculture is also recognized as an engine of pro-poor growth (OECD, 2006; World Bank, 2007; Oxfam, 2009). According to OECD DAC, "Agriculture connects economic growth and the rural poor" but "its importance goes beyond incomes and reduces poverty by lowering and stabilizing food prices; improving employment for poor rural people; increasing demand for consumer goods and services, and stimulating growth in the nonfarm economy" (OECD, 2006). Secure access to

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natural resources and their sustainable management is, in turn, key for agriculture-based livelihoods. Today, this is particularly important as climate change and growing competition over scarce resources (notably land and water) affect the natural resource base for agriculture and for rural poverty reduction (Brunori, *et al.*, 2008; World Bank, 2007; Nelleman *et.al*, 2009). Moreover, secure access to natural resources is at the core of poor rural people's entitlements as Community, as rights over resources are often linked to membership in social organisations, recognition of collective identities, and access to services.

It is reported that India is currently losing between 5 to 7 Mil. Hectares of food lands every year due to soil degradation. Among the poor people about 3.7 per cent in the world. Among the poor people about in India out other 329 million hectares (mi. hec) of geographical areas, only 264 million hectares has potential for agriculture production. Land degradation has taken place on 175 Mil hectares that is water erosion on 111 Mi. Hectares, wind erosion and acidity on 39 Mil. Hectares and associated special problem on 25 Mil. Hectares (Ashokaman et.al. 2997 and grenal, 1997). It is estimated that about 6000 million tons (mi. Tonns) of soil is eroded annually (Swamination 1996. In India more that 70 per cent of the population depends on agriculture and rarely three fourth of the total area land depends on rain. The forty millions of farmers in India are cultivating at dry land is linked with the vagaries and mercy of the monsoon, it was reported that the Natural Resource Management through Integrated watershed development programme (IWDP) were launched during the late Seventeen the and Eighties.

Borrini-Feyerabend et al. 2004 in his book throughout the islands of the Caribbean, initiatives are underway to engage communities in co-management of natural resources. The stated rationale is often that community involvement can help to reduce the degradation of marine and terrestrial biodiversity, address resource use conflicts, improve the community's quality of\life and provide opportunities for economic activity. Other goals include improved governance through building stronger community institutions and increased community capacity, empowerment and voice, which can in turn provide a vehicle for strengthening local governance in other spheres of social and economic development.

The issue of control over natural resources is considered closely linked to issues of power or good governance, in particular within resource-rich African countries. "Access and control over resources in Africa is considered the major governance issue, especially for rural people, and is the bread and butter issue on which democracy must deliver. NRM [Natural Resource Management] is central to good governance and increasing enfranchisement of rural peoples", argues a 2002 USAID report (P-3).

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The objectives of the study are

1. To study the socio economic background of the respondents.
2. To measure the extent and types of participation of beneficiaries in different stages of planning of Natural Resource Management programme in Government and Non-Governmental organization.
3. To compare the knowledge level of beneficiaries on different components of Natural Resource Management programme of the Governmental and Non-Governmental organization and
4. To determine the adoption level of different Techniques of Natural Resource Management by the beneficiaries of the Government and Non Governmental Organisations.

II. Research Methodology

Various methods are available to collect for a study. It is the responsibility of the researcher to select the appropriate method for collecting adequate, accurate and reliable data. Especially in case of primary source of information the researcher adopt interview method as a best method of data collection. This study hence adopted interview method with help of structured interview schedule for the collection of data from respondents. This approach in data collection helped the researcher in many ways. Initially, most of the respondents were cynic to answer to the questions relating to Natural Resource Management, but one to one approach resulted in providing a room to clarify their doubts. However the researcher spent enough time to elucidate the mission of the study. The researcher also adopted focused group interview method (FGD) with help of semi-structured interview to elicit information from the general public about the community participation on Natural Resource Management.

The researcher always stayed with the respondents during the data collection. It enabled the researcher to build the rapport with the respondents and got ample opportunities to collect the data and information from the field, moreover it had been the participatory rural appraisal (PRA) method.

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III. Hypotheses Set Forth for the Study

In order to test the background of postulated relationship of attributes as per the review of literature and based on the objectives and assumptions underlying the present study, the following hypothesis were framed.

1. There will be no difference in the extent of participation of beneficiaries in different activities of Natural Resource Management between the governmental and N G O Natural Resource Management projects.
2. There will be no difference in knowledge level on Natural Resource Management project components among the beneficiaries of governmental and N G Os Natural Resource Management activities.
3. There will be no difference in adoption level of Natural Resource Management practices among the beneficiaries of the governmental and N G Os projects.
4. There will be no relationship in personal and socio-psychological characteristics of beneficiaries on their extent of participation, level of knowledge and adoption of Natural Resource Management components between the Natural Resource Management beneficiaries of the governmental and N G Os.

IV. Conceptual Framework for the Study

This section provided an insight to develop the theoretical frame work which served as a guidance to identify the independent variables for the present study. Some of the variables were also identified after discussion with extension scientists and extension staff in the study area. Based on this, a conceptual model has been dveloped and represented in figure-1.

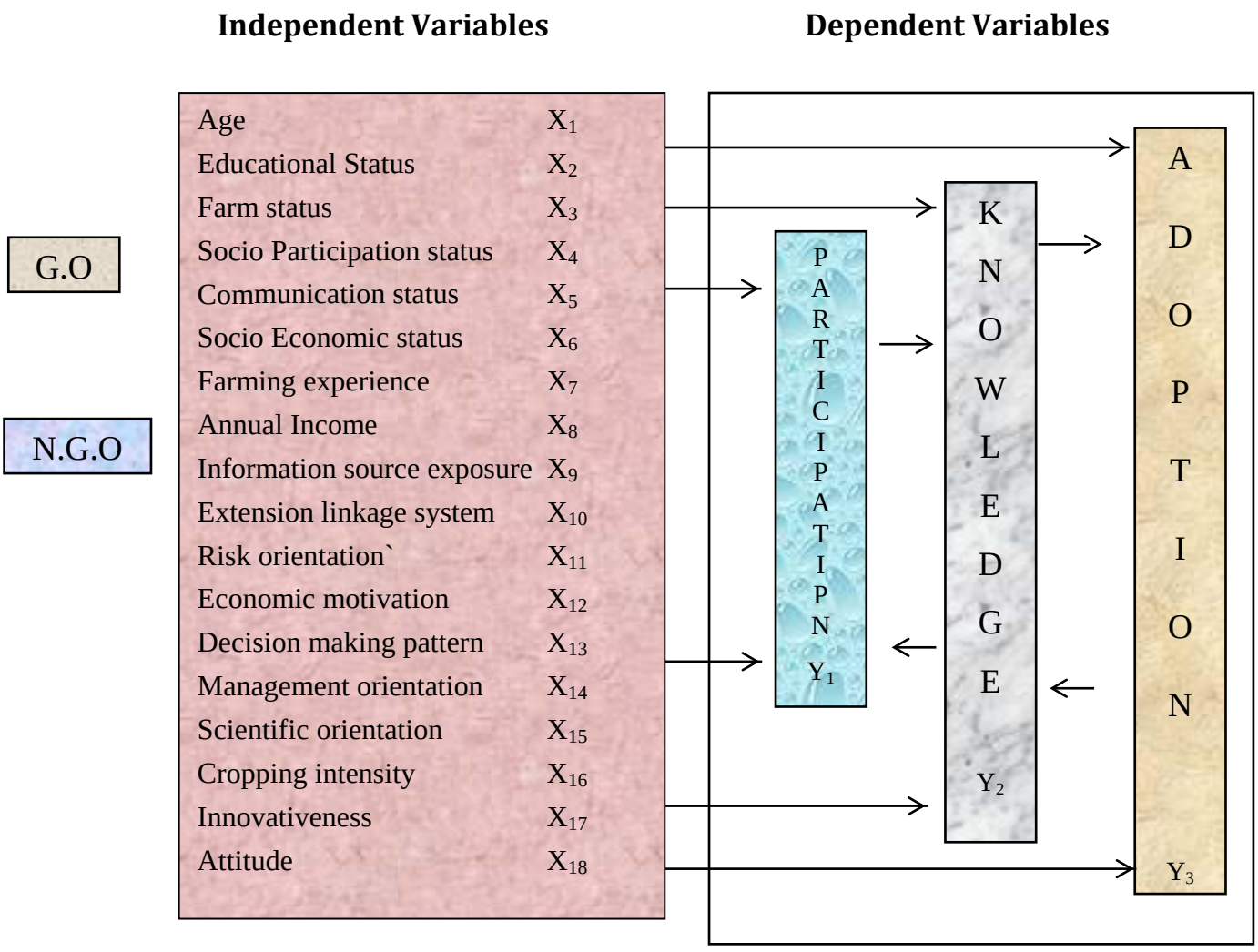


Figure 1: Conceptual Model

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Age

The age of the respondents signifies the level of maturity and to what extent they are liable to their family /social commitment and performing home chores. In general the middle aged is more committed than the young this productive aged group is equivalent to farming functions and its other activities. In the present study, the age among the respondents are categorized as below 35 years, 36 yrs to 45 years and 45 years and above age wise classification as shown in Table-1.

Table 1: Age-wise Distribution of the Respondents

S.No	Respondents	The age			
		Below35years (young)	36 years to 45 years (middle)	Above 45 years (old)	Total
1	Marginal farmers	201	37	9	247
		(81%)	(15%)	(4%)	(48%)
2	Small farmers	119	30	21	170
		(70%)	(18%)	(12%)	(33%)
3	Large farmers	75	7	21	103
		(73%)	(7%)	(20%)	(20%)
Total		**395**	**74**	**51**	**520**
		(76%)	**(14%)**	**(10%)**	**(100%)**

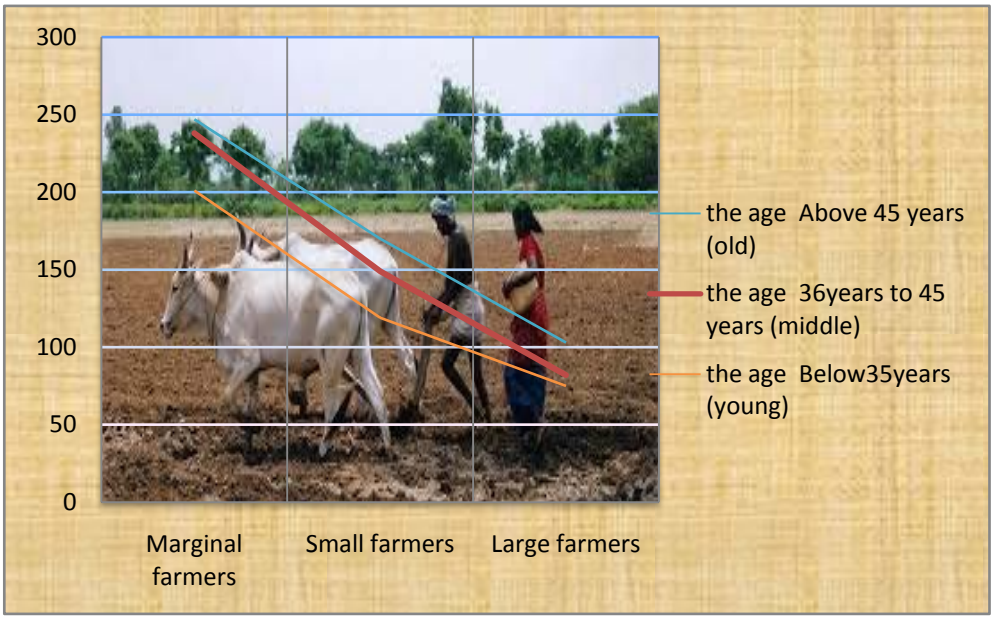


Figure 2: Age-wise Distribution of the Respondents

Age is one of the demographic factors especially in the farming field. At present, the adults are unwilling to involve in the farming activity. The researcher made its open- ended for the lower age limit and upper age limit.

The details relating to the age of the respondents provided in the above table indicates that 247 (48 %) respondents are marginal farmers, 170 (33%) respondents are small farmers and 103 (19 %) respondents are large farmers among 520 farmers. In the marginal farmers 64 (26 %) of the respondents are at the age of below 35 years, 73(30%) respondents are of between 36 to 45 years old and a majority of 110 (44%) respondents are of above 45 years old.

At the small farmers 47(28%) respondents are at the age of below 35 years, 36 (21%) respondents are of 36 years to 45 years old. A majority of 87 (51%) respondents are in the age of above 45 years old.

In the category of Large farmers a majority of 52(50%) respondents are in the age group of above 45 years old.35 (34%) respondents are in the age between 36 years to 45 years that is middle aged and 16(16%) respondents are below in the age of 35 years that is young aged. The mean age of respondents is 37 years.

V. Literacy Level

Education represents the formal education that the respondents have had. Since the level of education

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is one of the important factors which determines the level of understanding of the characteristics of the sample responders. Further the higher education of respondents helps to empower faster than lower grade education. The level of education is grouped in to illiterates, can sign (knowing only signature putting), primary level, Secondary level and graduation. The level of education among the respondents is illustrated in Table- 2.

Table 2: Literacy Level of Respondents

Sl No.	Respondents	Illiterates	Primary education	Secondary education and above	Total
1	Marginal farmers	216 (87%)	28 (11%)	3 (1%)	247 (48%)
2	Small farmers	98 (58%)	56 (33%)	16 (9%)	170 (33%)
3	Large farmers	23 (22%)	38 (37%)	42 (41%)	103 (20%)
Total		**337 (65%)**	**122 (24%)**	**61 (11%)**	**520 (100%)**

Source: Primary Data

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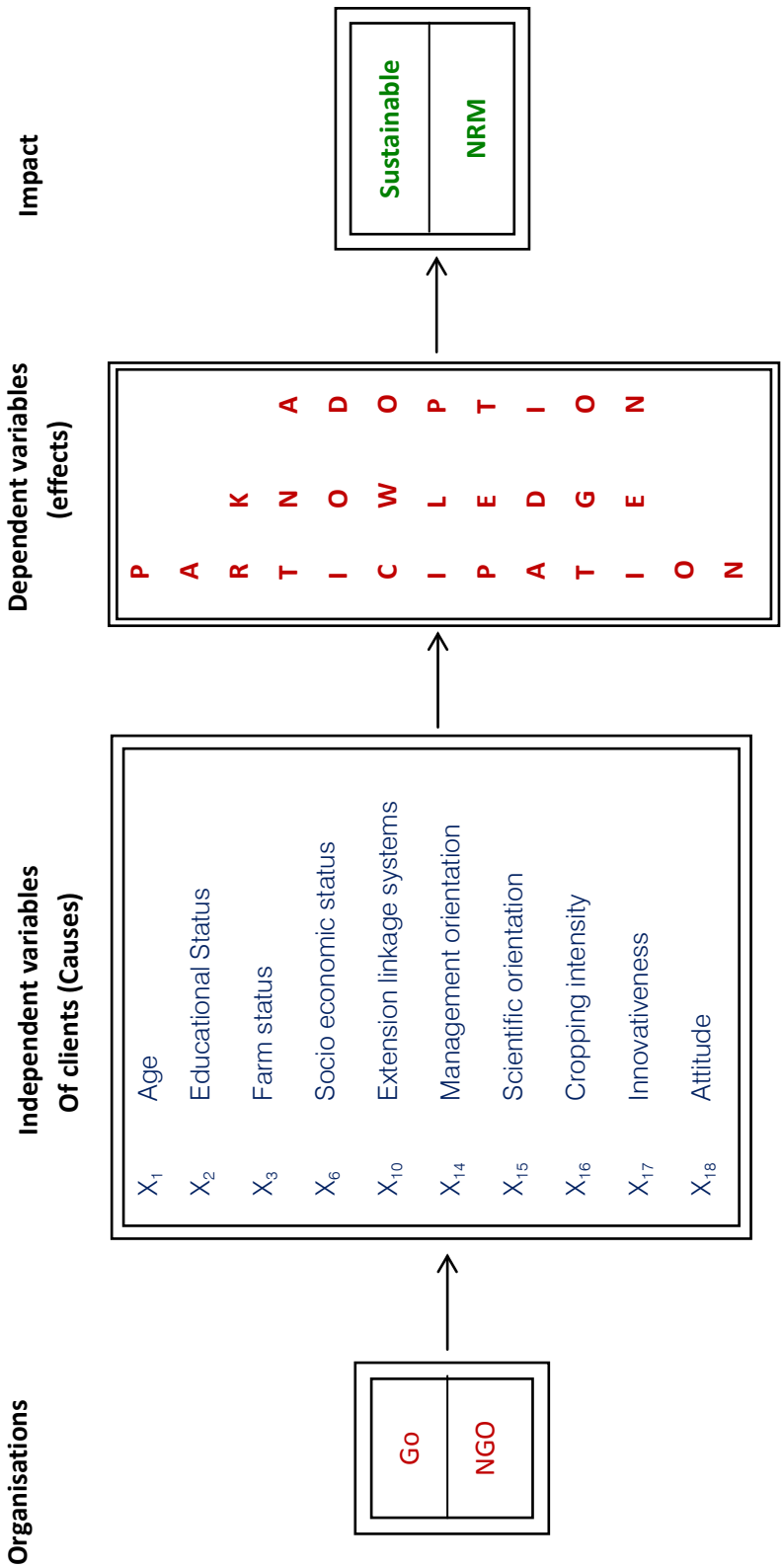


Figure 3: Literacy Level of Respondent

At the high performing NGO NRM project, a maximum percentage of farmers were observed in functional, consultation information giving, material incentives or interactive participation types and very negligible percentage was observed in non-participation. The farmers also indicated similar types of participation. The reasons might be that High Performing N G O established its familiarity, rapport and credibility among the farmers. NRM project had been initiated based on local needs and problems with better

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solutions, conducted more educational programmes, planned and implemented with the beneficiaries and this might have influenced towards higher types of participation on NRM project.

The types of participation in of Low Performing-N G O NRM programme, one-third (33.50%) farmers did not participate in NRM activities, whereas, nearly one-fifth farmers were observed in consultation, information giving and passive types of participation.It is found that scientific orientation and attitude acted as important variables in influencing the participation level in High Performing-NGO NRM programme. Favourable attitude and more scientific knowledge would induce the farmers to analysis the technology in a scientific manner to suit to their farm situation. This might have influenced the farmers to participate in the NRM programme.It indicates that a unit's increase in risk orientation, scientific orientation, innovativeness and attitude, ceteris paribus would result in increase in participation level to the extent of 7.12, 6.69,18.97 and 7.39 units respectively. Similarly, a unit of increase in educational status would result in reduction in participation by 11.46 units. The farmers with risk bearing capacity, innovativeness, and favaourable attitude and oriented towards scientific methodology might have enhanced the involvement in activities to attain higher profitability form the dry land technologies. Educational status probably hindered the participation because the farmers were able to acquire the relevant information without involvement thorough other communication media

VI. Conclusion

Based on the results, the following implications are derived which could be used to plan the future extension strategies in a better manner. The scale developed to measure the extent of people's participation in different stages of planning and implementation of NRM would serve as a useful tool for operational level NRM programme staff. This will be useful to detect the exact weakness and due attention could be given to overcome deficiencies and ensure better involvement of people in the programme. Secondly, the higher the level and type of participation, more will the knowledge and adoption of technologies which indicates that to increase the knowledge and adoption of practices, the beneficiaries should be involved in planning and implementation activities of the programme. Thirdly,the high performing groups used various participatory approaches to enlist the people's participation. It indicates that more thrust can be given to participatory approaches for successful implement-tation of development programmes in general and NRM in particular. Fourthly, Educational status, extension system linkage scientific orientation, innovativeness and attitude do play significant role in participation and adoption of NRM technologies. The implementing agency has to give more importance to educate people, to increase scientific knowledge and develop the favorable attitude by using different extension teaching methods.

Fifthly, as the government NRM programme beneficiaries expressed lack of knowledge about programme as constraints in participation, the awareness has to be created about programme by using different media and methods before planning and implementation. Sixthly, the availability of funds for N G Os is a major stumbling block to implement programme, hence the Central and State governments should provide necessary finance based on the activities and performance of N G Os in NRM. Seventhly, while implementing NRM technologies in any community and public lands, emphasis should be given for community empowerment and involvement and finally the NRM can be implemented jointly with collaborative action of G Os and N G Os so that both can attain the benefits and complement and supplement each other thereby the beneficiaries stand to gain.

a) Strategic mechanism for effective planning and implementation of NRM programme

For effective and efficient planning and implementation of NRM programme, both the G O and N G O should have a common modus operandi. Both at orgaisational and field level they should have co-operation and collaboration so that both can complement and supplement each other. NRM programme could be implemented jointly so that both the organisations can gain benefits. The G O can utilize the services of dedicated N G Os workers to ensure people's participation, whereas N G Os can utilize the services of technical expertise and funds available from GO for effective planning and implementation of Natural Resource Management programme.

For effective planning and implementation of NRM project the following strategies are worth considering.

- Consistent and effective policies are needed for the protection, conservation and maintenance of soil and water resources.
- Development of NRM technologies that are technically and environmentally sound, economically viable, socially and culturally acceptable and which may lead to sustainable land use.
- Create awareness of land degradation and encourage adoption of technologies through the use of different media and extension teaching methods.
- Establishment and strengthening of linkages among researchers, extensionists and farmers for effective and efficient transfer of technologies.

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- adoption levels of NRM practices, the implementing agencies should encourage and initiate Self–Help groups, NRM associations, credit management groups in NRM areas for effective planning and implementation of programme.
- NGOs were found better in enlisting the participation; the government orgaisation should involve local N G O or private organisation for effective planning and implementation of NRM programme and to induce higher participation level of local people.
- For effective and efficient execution of the programme the planning should be based

Suggested model

For effective planning and efficient implementation of NRM programme both G O and N G O can undertake programme on collaborative and Co–operation basis. While execution, the implementing agency has to be considered as the clientele felt – needs and their characteristics, which will enhance participation and adoption of NRM technologies ultimately leads to sustainable development.

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