

CHAPTER – II

REVIEW OF LITERATURE AND RESEARCH DESIGN

The chapter reviews the various empirical literatures available on the subject of externalities and common property resources. The literature on the subject is very large and it has been delimited to review some important literature to trace the core issues. On the basis of the identified issues, objectives were drawn to prosecute a fresh study in the study region.

Review of literature

The literature on the subjects of poverty and development is fairly large, while it is not so in the subject of poverty and environment which is a growing area of research. A few seminal contributions on the subject of study have been reviewed to identify the major trends and to venture into a new area of research.

Government of India's Rural Development and Poverty Alleviation Programmes have been evaluated by various Government organisations viz. Programme Evaluation Organisation of the Planning Commission, Concurrent Evaluations carried out by the Ministry of Rural Development with the help of reputed institutions located at the regional level, RBI, NABARD, IFMR, NIUA, NIRD and other organisations like Universities, Research Institutes, NGOs, and Individuals. Their approaches, conceptualisation and methodology laid their focus on the success and shortfalls in terms of performance, as measured by income and employment generation or assets creation. But they have not attempted to quantify the negative externalities of the programmes, as their conceptualisation (theoretical caveat) was limited in focus and was constrained by the immediate requirement of the policy makers.

Various studies undertaken by distinguished scholars have broadened the understanding of the related issues. For example, Hanumantha Rao (1994) interrelated the five themes viz., agricultural growth, rural poverty, environmental degradation, participatory rural development, and economic reforms in relation to agriculture. Both growth and poverty interact with environment in complex ways, each affecting the other. The author makes a critical appraisal of the participatory processes and also of some recent reforms – which have implications both for poverty and environment. A similar study carried out by Manikkumaran (1997) in the State of Tamil Nadu. He has examined last 30 years secondary data from 1960-1990 and found that the agricultural growth is inversely related to rural poverty and directly related to environmental quality in the State of Tamil Nadu.

Bina Agarwal (1997) analysed the interrelationships between gender, poverty and the environment in rural India, focusing especially on regional variations and temporal shifts over 1971-91. Briefly identifying the major factors underlying environmental degradation, the study traces why and how this degradation and the appropriation of natural resources by the state (statization) and by some individuals (privatization), tend to have particularly adverse implications for the female members of poor rural households. She further examined Governmental and community-initiated attempts at environmental protection and regeneration and computed an aggregate index GEP (V) to address those issues.

The relationship between poverty, environment and development is quite complex and not amenable for easy generalisation. There is a widely held view, particularly in the West; the poverty is the main cause of environmental deterioration, because the poor are not in a position to use natural resources sustainably (Duraippah 1996, Prakash 1997). The degradation in turn, it is believed leads to aggravation of poverty.

The poor in this view are perceived as having a short time horizon, discounting the future benefits from conservation rather heavily owing to the urgency

to make a livelihood and avoid hunger. Such a time horizon leads to unsustainable use of natural resources (M.V. Nadkarni 2000).

Poor farmers put in a tremendous amount of planning and labour into building and maintaining terraced fields, controlling soil erosion, nurturing tree species for fuel, fodder and soil fixing, and intricate soil and engineering mechanisms responsible for conserving, harvesting and distributing irrigation water (Prakash 1997). When the poor appear to degrade the environment, it is basically because of lack of incentives and appropriate institutions, including lack of clarity on property rights.

Jodha (1986) defines CPRs as “the resources accessible to the whole community of a village and to which no individual has exclusive property rights. In the dry regions of India, they include village pastures, common forests, waste lands, common threshing grounds, waste dumping places, watershed drainages, village ponds, tanks, rivers / rivulets and river beds, etc.” There are number of factors attributed for the marginalisation of the use of CPRs. (Jodha 1986 1985a, 1985b, 1990, Iyengar and Shukla 1999, Iyengar 1997, 1989, Chen 1991, Singh et al. 1996, Agarwal 1991, 1995, 1997, Beck 1994, Pasha 1992).

Tony Beck and Madan G Ghosh (2000) estimated roughly that the CPRs currently add some US \$ 5 billion a year to the incomes of poor rural households in India, or about 12 % to household income of poor rural households. In Pani (water) panchayats (R.S. Deshpande and Ratna Reddy: 1990), every rural household has an equal share in irrigation and water resources. The water rights are tradable, so that even the landless labourers gain from the irrigation resources generated. Grass roots democracy is used to integrate environmental regeneration and rural development to alleviate poverty.

Less favoured lands are extensive in the developing world. These lands are characterised by lower agricultural potential, often because of poorer soils, shorter growing seasons, and lower and uncertain rainfall, but also because past neglect has left them with limited infrastructure and poor access to markets. Population size continues to grow in many less favoured areas, and this growth has not been matched by increases in yields. The result is worsening poverty and food insecurity problems,

which in turn is contributing to the widespread degradation of natural resources (e.g. Mining of soil fertility, soil erosion, deforestation, and loss of bio-diversity) as people seek to expand the cropped area (Trudy Owens and John Hoddinott 1999).

According to a report prepared by the Technical Advisory Committee of the CGIAR, marginal and sparsely populated arid lands account for 75 % and 85% respectively, of the total agricultural area in Asia and Sub-Saharan Africa (CGIAR 1998). Their shares in total agricultural production are lower but still large. Peter Hazell and James Garrett (1996) estimated that less favoured lands in China and India account for about one third and 40% of total agricultural output, respectively.

Shenggen Fan and Peter Hazell (2000) have made an empirical analysis of Rural India with particular reference to less favoured areas. They concluded that the poverty, food security and environmental problems of many low potential areas are likely to remain serious in the decades ahead as population continues to grow.

The discussion above points out that the studies on poverty focussed on a single theme that is one of measuring the impact of poverty alleviation programmes in the country adopting different methodologies. The yardsticks employed by the researchers have helped only to quantify the positive impact of various developmental programmes. They have neglected the negative externalities in their exercises. Thus the available literature on development and environment as well as the view of policy makers of various national and international organisations lead towards a new conceptualisation and consequent policy framework. In view of this development all over the world, policy makers have of late turned their attention towards environmental issues, in achieving faster economic development. The time has come now to review all the developmental projects from totally a different perspective. It warrants reconceptualisation of various developmental projects, and evolving of a suitable methodology for adoption.

The studies above point out that the access to CPRs by the poor is diminishing due to various factors. CPRs have been and still remain crucial resources and provide substantial benefits to the poor. It could be listed some shortfalls of the Govt. They

are: a) lack of suitable policy to manage the common property resources, b) the resources accessible to the whole community of a village and to which no individual has exclusive property rights, c) lack of incentives and appropriate institutions, d) the Govt. policies of population, food, natural resources, etc. are not well integrated, they obstruct the optimal use of the local resources and e) less favoured areas have not been paid much attention and deserve to earmark more funds to solve the problems of poverty, food insecurity and environment.

The complex relationship in between poverty, environment and development has to be identified, zone-wise and activity wise. The present project intends to give certain specific policy directions to conserve the local resources and to provide a better security of livelihood to the poor. This leads to drawing up objectives for prosecuting a fresh study in the micro setting of the seven selected villages in the State of Tamil Nadu.

Objectives

From the perspective provided by the authors discussed above, the present study is made with some specific objectives. The objectives of the study are as follows:

1. To probe into the conceptual deficiencies of the existing poverty alleviation Programmes and their strategies from environmental perspective.
2. To take stock of the Common Property Resources available in the village and their level of utilisation and to examine how to build on poor people's capabilities such as their ability to utilise the available local resources in an optimal way.
3. To identify the nature of relationship in between poverty, environment and development.
4. To assess the dose efficiency of the total assistance and subsidy provided by the Government on various schemes in environmental perspective.

5. To study the positive and negative externalities of the programmes activity-wise in the State of Tamil Nadu.
6. To evolve a holistic model to address the issues of poverty, environment and development.
7. To suggest ways to reorient Rural Development Programmes, to be effective instruments for poverty alleviation, from environmental perspective.

Justification and Relevance

The first objective focuses on the issue of conceptualisation on Rural Development Programmes. The present project reviewed the program concepts since inception and its components from environmental perspective. The questions are: i) why there is persisting mass poverty in India? ii) Has there been any attempt made into the past to focus the issue of environment, while the policy makers were conceptualising the rural development programmes.

The second objective highlights the importance of CPRs in the villages. The Government aims to build as well as to restructure the CPRs in the villages through various Development Programmes. In this context, the present project probed into the following questions. a) Are there any deficiencies in the programme formulation? b) Why the resources have been under utilised or over utilised? c) Who will maintain the common resources and their quality? d) Whether the Govt. has build capabilities of rural poor to utilise the local resources? e) What about the property rights of common goods?

The third objective examines the relationship between poverty, environment and development. This relationship is not common in all regions. The question is why the relationship varies among the regions. This analysis gave some specific policy directions to safeguard the environment and thereby pave way to achieve development.

The fourth objective explores the possibilities to enhance the total assistance and subsidy provided by the Government through various developmental

programmes. The aim of the present analysis is whether the assistance is enough to offset the negative externalities of the development programmes.

The fifth objective gives a comprehensive picture and its impact on both positive and negative aspects. This holistic analysis would help us evolve suitable programmes to a particular region and enables to control the negative externalities.

The sixth objective attempts to evolve a model to address the issues of poverty, environment and development. These variables are interrelated with one another. Hence this proposed model facilitates to make a holistic analysis. Besides, the technical issues around aggregation and weighting of the components of poverty / environment / development, will be addressed by the scholars.

Methodology

In probing into the issue of externalities of Rural Development Programmes, this project appreciates the regional differences in their endowment of natural resources. Hence it follows the classification of Tamil Nadu as Seven Agro-climatic zones and prosecutes the study.

At the first stage, the project team identified the districts on the basis of programme coverage, performance of financial and physical achievements, special features of the district to identify the positive and negative externalities arose from the Rural Development Programmes. Accordingly, the project team arrived at seven districts in the seven agro-climatic zones. For identification of the districts, the evaluation team made a visit and consulted the district officials in implementation of the programmes. The details of the villages identified are given below.

At the next stage, the team identified one block in each district, providing a comprehensive coverage of both Centrally and State sponsored programmes. Such coverage, it was thought, would present a holistic picture of the programme impact.

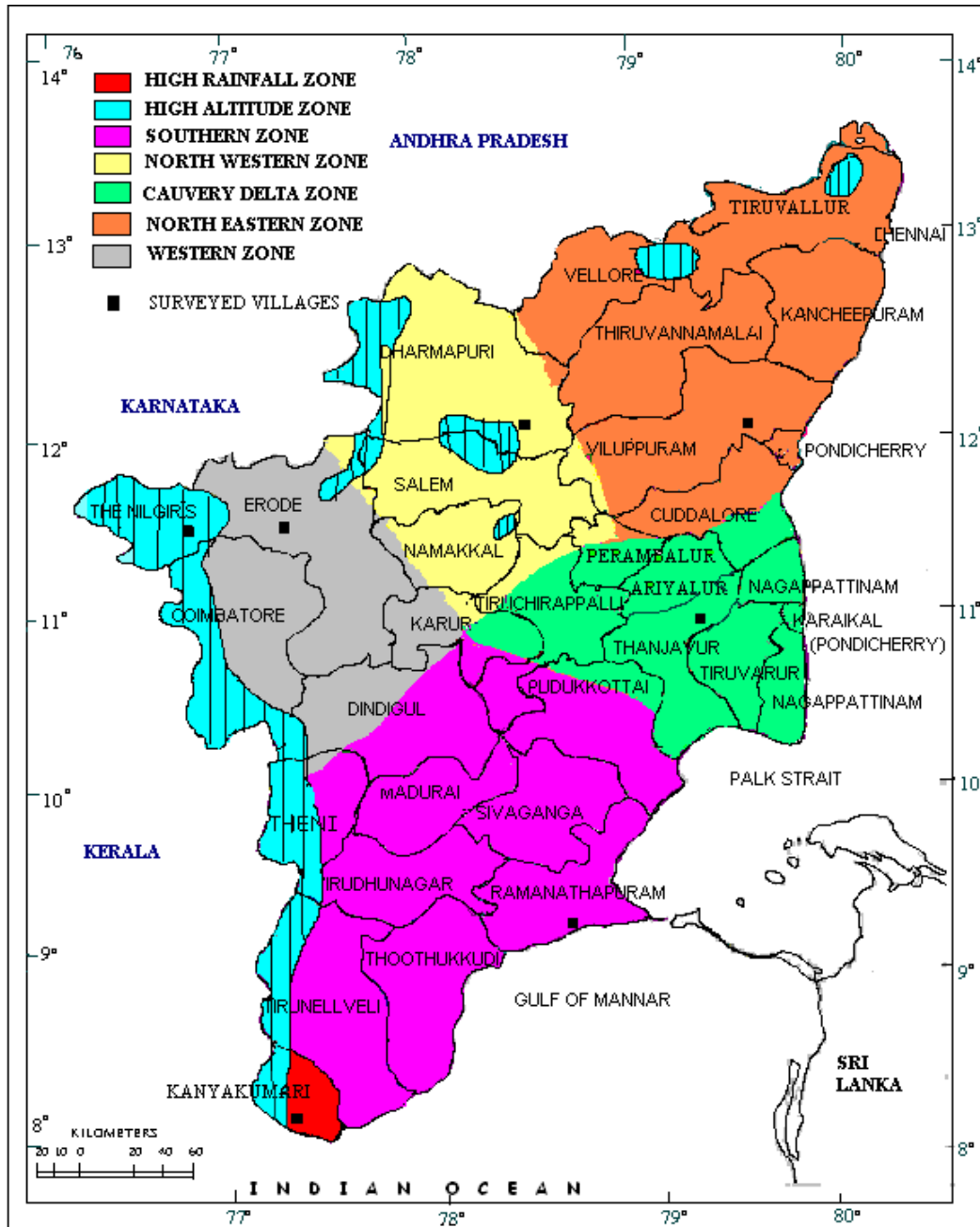
Agro Climatic Zone, District and Block of the Study Villages

Agro-climatic zone	Districts	Blocks	Panchayat Village
Cauvery Delta Zone	Thanjavur	Kumbakonam	Patteswaram
North Eastern Zone	Villupuram	Vikravandi	Ayyur Agaram
Western Zone	Erode	Bhavani	Odathurai
Northwestern Zone	Dharmapuri	Pappireddipatty	B-Pallipatti
High Altitude and Hilly Zone	The Nilgiris	Coonoor	Hubathalai
Southern Zone	Ramanathapuram	Tiruppulani	Kanchirangudi
High Rainfall Zone	Kanyakumari	Killiyur	Mullankinavilai

At the third stage, the team identified one Panchayat village in each selected block of the district. The criteria followed in identification of the Panchayat village are as follows:

- The selected Panchayat village should depict the major features of the agro-climatic zone.
- The village should have implemented the Centrally sponsored and State sponsored RD programmes, particularly AMT (Anna Renaissance Scheme). Through the programme AMT, the State government created various common property resources like schools, concrete road, black topped road, overhead tank for water supply, Primary Health Centers, school toilets, computer facilities, culverts, etc. It is expected that these activities apart from the other core programmes in the State would have created various impact on the area and to the population.
- Emphasis should have been given to the Self Help Group activities. The groups would have been received revolving fund or economic assistance for their group activities. The activities of some groups are unique in nature. On the other hand, one notices that there are some problems in the formation of SHG and proceeding further to pursue economic activities. The survey has been designed to accommodate both types of cases. This throws light on what to do and what not to do, in regard to SHGs.

Map: Agro Climatic Zones and Surveyed Villages in Tamil Nadu



Having fulfilled the criteria above, the survey has adopted the disproportionate stratified sampling method used to identify the beneficiaries. This would enable in view of making a programme wise comparison among the zonal villages, it was thought. Further, the number of hamlets and households varied among the villages. It varied in between 1195 to 2900 households as per 1991 census. Accordingly, in each village 270 households were identified and gathered information. In aggregation, the total sample population reached 1890. To avoid confusion and to instill confidence in the minds of beneficiaries, the schedules were prepared in the local language Tamil. Pilot studies were carried out in all the Regions and the exercise helped the researcher to improve the content of the schedules, for eliciting right, relevant and comprehensive information from the households. The English version of the schedule is appended in the project report for reference and record.

Externalities - a Conceptual Discussion

The theory of externalities, first suggested by Pigou, has central importance in environmental analysis (see for instance, Baumol and Oates, 1988, 1988; Pearce and Turner, 1990; Cropper and Oates, 1992; Tietenberg, 1994; Verhoef, 1999). The Rural regions are particularly vulnerable to negative externalities due to the presence of CPRs – absence of markets as in the case of CPRs being a principal cause of externalities.

The presence of CPRs is a characteristic feature in many rural regions. Formerly managed efficiently by the community, these CPRs are now threatened by the erosion of traditional institutions as well as by the population growth, which makes them vulnerable to “Tragedy of Commons” referred to by Hardin.

Although the concept of external effects is widely used in economics, there seems to be some confusion about its exact definition and interpretation. It is commonly recognized that externalities are an important form of market failure. Furthermore, it is generally accepted that the source of externalities is typically to be found in the absence of well-defined property rights (see Baumol and Oates, 1988, p.26).

In this project an attempt has been made here, to quantify the externalities created through Development Programmes. Rural Development Programmes constitute a major activity in the country, involving huge amount of money aiming at alleviation of poverty and reduction of inequality among the rural people. The Government of India as well as the State Government restructured the objectives and approaches of various programmes like employment, income and asset creation, area development, etc. with an environmental perspective. The programmes made their impact on the people and the rural life in several ways. The external and internal impacts comprised the environmental, social, economic and political dimensions.

Through this programmes, the Government was expected to create various Common Property Resources for the benefit of the people. The nature of CPRs and the benefits vary among the regions. To assess the impacts from a holistic angle, the programmes are classified from the viewpoint of individual beneficiaries and community asset beneficiaries. Various queries were made with the beneficiaries to assess the perception of social, political, economic life and its impact on rural environment as to the changes occurred in them.

The theme has been developed from the perspective of environment, sometimes; Government may act both as a gatekeeper and poacher. These programmes may create some negative externalities, due to the political interference in the administrative activities, non co-operation of the public, communal tensions prevails in some regions, policy makers sometimes could not understand the social and cultural traits, inadequate programme funds, lack of well defined CPRs for the preservation and management, etc. Given this backdrop, the present project attempts to quantify the positive and negative externalities of the Rural Development Programmes.

Delimitation

The project has delimited to review the Centrally and State sponsored programmes with the available aggregated and disaggregated data at the State level. Within the stipulated time, the project team gathered relevant data related to the impact of various Rural Development Programmes implemented in the State and assessed the positive and negative externalities.

References

- Agarwal, B. "Social Security and the Family: coping with Seasonality and Calamity in Rural India" in E. Ahmad et al (eds), *Social Security in Developing Countries*, Oxford: Oxford University Press, 1991.
- Gender, Environment and Poverty Interlinks in Rural India: Regional Variations and Temporal Shifts, 1971-1991. *UNRISD Discussion Paper 62*, Geneva, 1995.
- "Environmental Action, Gender Equity and Women's Participation", *Development and Change*, 28 (1997): 1-44.
- Beck, T. "Common Property Resource Access by the Poor and Class Conflict in West Bengal", *Economic and Political Weekly*, 29:4(1994): 187-196.
- Beck, Tony. Madan G Ghosh. "Common Property Resources and the Poor: Findings from West Bengal", *Economic and Political Weekly*. 35:3 (January, 2000): 147-153.
- Chen, M. *Coping with Seasonality and Drought*, New Delhi: Sage, 1991.
- Consultative Group on International Agricultural Research, Technical Advisory Committee, *CGIAR Study on Marginal Lands*, Washington DC: CGIAR, 1998.
- Deshpande, R. and Ratna Reddy, "Social Dynamics and Farmers' Society: A case study of Pani Pandhayats", *Indian Journal of Agricultural Economics* 45:3(1990): 356-61.
- Duraippah, A. "Poverty and Environmental Protection: A Literature Review and Analysis", *CREED Working Paper Series* No.8, International Institute for Environment and Development, London, 1996.
- Fan, Shenggen and Peter Hazell. "Should Developing Countries Invest More in Less-Favoured Areas? An Empirical Analysis of Rural India", *Economic and Political Weekly* 35:17(April, 2000):1455-1464.
- Iyengar, S. "Common Property Land Resources in Gujarat: Some Issues in Size, Status and Use", in Jyoti Parikh and Sudhakar Reddy (eds) *Sustainable Regeneration of Degraded Lands*, Delhi: Tata McGraw Hill, 1997.
- "Common Property Land Resources in Gujarat: Some Findings about Their Size, Status and Use", *Economic and Political Weekly*, (1989): A67-77.
- Jodha, N.S. "Population Growth and the Decline of Common Property Resources in Rajasthan, India", *Population and Development Review*, 11:2(1985a): 247-64.
- "Market Forces and Erosion of Common Property Resources", in *Agricultural Markets in the Semi-Arid Tropics, Proceedings of the International Workshop at ICRISAT Centre, India, October 24-28, 1993*; 1985b.
- "Common Property Resources and Rural Poor in Dry Regions of India", *Economic and Political Weekly*, 31:27(1986): 1169-81.
- "Rural Common Property Resources: Contributions and Crisis", *Economic and Political Weekly*, (June, 1990).

Manikkumaran, P. *Agricultural Growth, Rural Poverty and Environmental Degradation in Tamil Nadu*. Annamalai University, Unpublished M.Phil dissertation, 1997.

Ministry of Rural Development, *Concurrent Evaluation of IRDP and JRY: Reports of first four rounds*. New Delhi: Government of India, from 1992 to 1996.

----- *Guidelines: Swarnjayanti Gram Swarozgar Yojana*, New Delhi: Government of India, 1999.

Nadkarni, M.V. "Poverty, Environment, Development: A Many Patterned Nexus", *Economic and Political Weekly*. 35:14 (April, 2000): 1184-1190.

Owens, Trudey and John Hoddinott, "*Investing in Development or Investing in Relief: Quantifying the Poverty Tradeoffs Using Zimbabwe Household Panel Data*", Washington DC: IFPRI, 1999.

Pasha, S. "CPRs and Rural Poor: A Micro Level Analysis", *Economic and Political Weekly*, (November 1992).

Rao, C.H. Hanumantha. *Agricultural Growth, Rural Poverty and Environmental Degradation in India*. New Delhi: Oxford University Press, 1994.