CHAPTER – VIII

THE WATER WISDOM: A NEEM PERSPECTIVE

Both qualitative and quantitative researchers are concerned with the individual's point of view. However, qualitative investigators think they can get closer to the actor's perspective through detailed interviewing and observation. They argue that quantitative researchers are seldom able to capture their subjects' perspectives because they have to rely on more remote, inferential empirical methods and materials (Denzin and Lincoln, 2000).

The present study is conducted in the context of United Nations Organization's declaration of the era 2005 to 2015 as an international decade for action with the motto "water for life". The study seeks to highlight the mounting debate on water; especially the debate over water pricing and water commercialization. Opening up of developing economies to the liberalised and globalised world economy has intensified exploration, extraction and exploitation of unutilised natural resources of the third world. The rural-urban divide and the liberalised market commands have increased the stress on water resources of the rural-agrarian ecology. Thus the study focuses on the trends in national and international water demands and markets, rural agrarian well-being in the context of water commercialization, the ideological and theoretical drawbacks of the so-called economic valuation techniques, and search for a new paradigm that revitalises the multiple use nature of agrarian ecology.

8.1 NEEM IN POLICY PERSPECTIVE

While a human being may survive without food for several days, water deprivation can kill a person within a matter of hours. Water is a requirement for the most basic activities vital to sustaining human life, including agriculture, cooking, and sanitation. Yet while water sustains life, it can also bring death if

contaminated. Some of the deadliest diseases, which kill millions around the world each year, are carried in unclean water. Access to adequate amounts of clean water, for both consumption and sanitation, is a prerequisite for a healthy life. Thus NEEM generally works on three basic sustainable development pillars - social, ecological and economic - that concern water as a social good, an economic good and an ecological good. Rights on water - humans and ecological, equity on water - intra-generational and intergenerational, equity between species, and protection and management of water with basic precautionary, ecological and economic principles holds greater attention under NEEM. Therefore, it is to be recognised that NEEM can be a policy framework, if society takes a 'U' turn from ego-centric markets to radical socio-centric life styles. The basic principles, related institutional set and respective tools, identified on the basis of the foregoing chapters and NEEM assessments of micro-level experiences at Plachimada and Attappady are given in Table 8.1.

Table 8.1 NEEM's Ecological Policy Frame for Water Governance (pp. 376-77)

Principles	Signals from	Action and Policy Platform	Tool
Human Right to Water	Local Community	CAC Level Action National Policy	People's Participation, Education, Radical Socio-centric Ideology
Right to Use water	Individual	National Laws, CAC Programmes	Ethics, Education and Resource Democracy
Ecological Right to Water	Local Ecology	CAC Level Action National Policy and Laws	People's Participation, Ecological Awareness Programmes, Scientific Studies
Protection of Water	Individual and CAC Level	CAC and National Laws and policies	Communities Involvement, Experts advices and Scientific Studies

Principles	Signals from	Action and Policy Platform	Tool
Right to Govern Water	Local Community and CAC	National Laws and Policies	People's Participation, Scientific Knowledge about Ecology
Economic Good	International Market	CAC Policies, National Laws	EIA, People's Participation, Economic tools, Ecological Quotient
Social Good	National and CAC	CAC Policies and National Laws	CAC and Communities Involvement, Social Norms and Practices
Environmental Good	Local, CAC and National	National Policy and Laws	Education, EIA,
Development Device	Local, CAC and National	National and International Policies	Capacity-building, Education, International integration
Precautionary	Local ecology and Community,	National and International Policies and Laws	Individual, Education, Scientific Know-how
Polluter and User Pays	Local ecology and Community	CAC Policies and National and International Laws	Economic tools, social auditing, collective Action at International Level
Equitable and reasonable use	Local community, CAC Level	National laws, Individual Ethics	Integrated Socio-Economic-Ethical awareness
Ecological Integrity	Local Ecology	CAC Policies	Catchment Area Approach, Traditional Knowledge, Scientific Research

8.2. CONCISE APPRAISAL OF THE STUDY

The study accomplishes an extensive literature survey and works out field surveys and interviews to understand and analyse the research problem, thereby developing a new agrarian economic analytical method called NEEM. The concise conclusion of the study and its findings, limitations and policy implications are presented here within the framework of the respective research objectives.

Objective 1: To examine the features of cost-leading prices and its futility to social and ecological cost assessment of rural water resources.

The need for this objective recognized that, the fundamental economic theories have the lack of ecological underpinnings and treat ecology as an input and a sink for human market-centric industrial production. Environmental pollution tax, fee or other kinds of fines/penalties have no significance without an ecological awareness behind the consumer's demand for more and more goods and services according to his/her purchasing power. Moreover, a consumer or producer is fundamentally a utility maximalist or a profit maximalist; therefore the 'rationality' dictum becomes a cliché and works as a justification tool for any action against ecological well-being.

The urban market is dependent on the agrarian economy for its industrial production, and these linkages are attracting farmers to exploit the potential of land and other natural resources. The recent development of water markets has regularised these linkages and penetrated into the agrarian ecology that directly extracting and marketing water to the urban needs. The bottled water and soft drink industries are locating in water rich agrarian-ecology. The cost-benefit analysis and other valuation methods are found to be quite weak in addressing the issues of agrarian trade-offs visible in the form of rural poverty, ill health, unemployment and ecological disasters such as deterioration of agriculture, soil and water. Water scarcity in the rural agrarian economy not only affects the

drinking water availability, but has a spiralling effect on rural life that cannot be solved through the WTA/WTP principles. Besides, the supporting argument is that existence of human life completely is completely dependent on based on the agrarian ecology and thus the WTA/WTP-dependent ecological and social cost assessments are becoming futile. Therefore, the study re-asserts the multiple use nature of rural water bodies and subsequently develops case studies.

The cost assessment of water by conventional economic tools considers only the service and operation costs of water but the study recognizes the extensive meaning of social cost and economic cost of water through literature surveys of case studies and subsequently develops a concise analytical frame for the proposed case studies of Plachimada and Attappady. These case studies, furthermore, have served to understand better the other costs of water, often subdued by the quantitative analytics. Such costs are linked to human and animal health, agriculture, ecology, social opportunity of individual, employment and self esteem, aquatic life as well as infant's survival costs and reproduction costs of man-house and nature-house.

Objective 2: To understand water as a 'public-commercial' good.

Objective 3: To identify "water for life" as one of the indicator of development.

The increasing demand and dwindling supply of water, world-wide, has forced the international business economy to propagate water as an economic good. The agenda was brought to the forefront and discussed extensively at the Dublin Conference 1992 and became the fourth Dublin principle that says "water has an economic value in all its competing uses and should be recognised as an economic good, taking into account affordability and equity criteria".

The perception, "water as an economic good" causes an international debate and confusion over the utility, significance and nature of water and raises subsequent

questions such as - whether water is a private good or public good; economic good or social good; can we price water or what is the real value of water; who is the custodian of this life-good; how to distribute and exchange water among various needs and increasing demands; how can equity, affordability and accessibility be ensured among various socio-economic strata of society etc. Thus, the study conducts a detailed survey on related literature, especially on micro level case studies and ecosystem management case studies that reveal the public good as well as ecological good nature of water rather than its commercial use. Besides, the study observes the local club nature and its local management, conservation and governance practices, and recognizes water as a local public good with all its ecological functions. Furthermore, it examines the hydro-political arena that helps to investigate the third objective over a wider perspective.

The study recognizes water as a development device in the rural agrarian ecology; the income of the people is directly dependent on water which ensures employment opportunities, good health and ecological sanitation. For other human needs such as bathing, cooking and washing of utensils etc., the rural people depend on rural water sources like streams, ponds, lakes and rivers. The scarcity of water, thus, causes the collapse of agriculture that consequently affects the quality of life, raises community conflicts and erodes social harmony. Therefore, the study recognises the water scarcity-driven vicious circle of poverty and presents the plight of Plachimada as evidence. On the other hand, the AWCECOP experience is an example for water driven development momentum and the study examines the challenges as well as potentials of both the case study areas in its institutional and ideological perspective.

The quest for the second and third objective of the study began with the thorough understanding of micro-level experiences of water commercialization at Plachimada and ecosystem restoration at Attappady. The subsequent observations directed the study to its new theoretical conclusion called NEEM, an eco-logical

design for economic analysis, where the fourth objective of the study is examined in detail.

Objective 4: To examine issues related to sovereignty, livelihood and gender equity on water.

The study finds violations of human rights and ecological rights in rural-water allocation, and a lack of 'natural resource democracy' in the rural-agrarian economy. While the industrial clusters enjoy an autocracy in the form of 'special economic zones' the rural agrarian ecology has no such sovereignty over its resources. The fertile agriculture lands are converted to industrial blocks, expelling the rural people from their avocations and livelihoods. The lack of good policy frames worsens the conditions. In order to address these issues, the study proposes a catchment area constituency model for the protection of human and ecological rights and economic and social means that seek to ensure sound policy frames for the conservation, production, management and governance of ecosystem goods and services.

Gender inequality persists in rural areas even today. The study observes that fetching water, collecting fire woods and 'home' making are the primary and pre-assigned jobs for women and girl children in rural agrarian society. Water scarcity, thus, deeply affects the leisure time of the women, eroding away the time for child care. The consequent ill health, illiteracy and insufficient education, psychological imbalances, mental stress and anxiety of the child and mother affect the entire society and future social community life. These are brought out very clearly in Plachimada.

Objective 5: To analyse case studies in support of the above stated objectives.

The subject matter of the study - commercialization of water, water-related development issues and ecological concerns - have been examined in detail

through two case studies those were well-representative to come out with a rural-agrarian ecological assessment method called NEEM. The literature survey, secondary data and regular visit to the fields - Plachimada and Attappady - helped the study to raise ontological alternatives of analysis of due to the uniqueness of water in that nobody can produce water, and that no one can deny its essentiality to the survival of life. Those insights shaped the NEEM constructs. The pentagon constructs of NEEM viz. philosophical, ecological, social, economic and institutional constructs comprehensively analysed the impacts of water commercialization at Plachimada and eco-restoration project of Attappady with radical-socio-centric ideology. The quest for the first four objectives shaped the frames of NEEM which was subsequently developed as an assessment method with the support of primary-observatory data collected from the case study areas. NEEM was, therefore, tested in these case study areas and its viability as a rural-agrarian-ecological analytical method was sufficiently proven.

8.3 MAJOR FINDINGS

The study passed through five stages viz. problem learning, theory development, methodology development, application of methodology to the problem, comprehensive analysis and problem solving. The major findings of the study are presented here sequentially as follows:

- Water commercialization practices are mounting world-wide.

- MNCs are penetrating the agrarian-ecology and diverting the natural resources in general and water in particular.

- Globally, there is a water trade nexus, international organizations like WTO, WB and other bilateral agreements frame policies; international think tanks like WWC, GWP, WCW, IPWA ensure public communication that water is

an economic good; and the IMF, USAID, ADB etc. are giving financial aid to the MNCs to commercialise water.

- The international hydro-political arena is worsening with increasing number of water disputes between nation states. This implies that resource politics and diplomacies are becoming imminent global urgencies.

- Water sources are facing large scale pollution all over the world and the consequent demand-supply gap and inequality in the water sector is causing regional water conflicts.

- Water borne-diseases, gender inequality in water collection, water related-livelihood issues are increasing all over the world.

- The existing money-centric consumerist economy cannot provide a feasible solution on water issues. Rationality of the individual has become a practical cliché in the market. Besides, the existing economic pricing methods and valuation techniques are incapable to solve the water commercialization issue.

- The neo-classical environmental valuation techniques revolve around WTP/WTA principles and environmental economics deals with pollution issues.

- There are no qualitative methods of assessment of ecosystem services. The economics pedagogy is very weak to suggest ways on management and conservation practices of ecology.

- The study finds that the tools of ecological economics are an amalgamation of ecology and economics, where ecology as conservation and management advisor and economics as allocation advisor, are more appropriate and reliable for ecosystem management.

- NEEM is the outcome of this study that has five constructs checking the behavioural pattern of the individual, social and economic well-being of the society, ecological healthiness and the co-ordination of man-house and nature-house under the supervision of an ecological-vigil rational civic institution.

- The NEEM proves its viability in the rural agrarian sector. The model has concludes that Plachimada has experienced ecological, ethical and institutional failures that has caused a huge environmental crisis, subsequently throwing the region into the abyss of socio-economic de-development.

- The NEEM considers the AHADS experience on Attappady with AWCECOP as clear example for ecosystem management.

- Identifying water as a tool of socio-economic ecological well-being, the study recognizes the multiple use nature of rural water bodies.

- With radical-socio-centrism as its underlying ideology, the NEEM finds the people of Attappady to be more ecological conscious than Plachimada community.

8.4 LIMITATIONS

The social and ecological cost assessments of economics arrives at the 'end results' in terms of money but the present study does not provide such a quantitative conclusion. Assessment of the micro-level, minute water linked characteristics needs more time and personnel which constrained the present study. Technical and scientific accounts of the regional ecology are indispensable in order to conduct such a study but, the case studies areas are very poor in such data availability and compilation. As a result, such information is managed with the help of people's traditional knowledge.

The study follows the participatory research methodology as its core of data collection. But to some extent, the data collection from Plachimada is de-limited by political factors. The poor education level of people of both the case study areas was a constraint, thus necessitating a more rigorous effort to collect the data. The questionnaire method was found to be impractical for the case study, so that the researcher opted for open-end casual conversation with the members of sample households, duly noting and filing the information. Overall, it can be claimed that the regular visits and camping in the case study areas (more than 60 days for each case study) since 2003, and participation in their community activities and intervention in the regional ecological politics has made the study significantly informative.

8.5. IMPLICATIONS OF THE STUDY

The study aims at the rural-agrarian-ecology conservation, management and governance by the rural civic society. The ideological basis of the study seeks to help policy makers to think of ways to make the rural-life more productive within the frame of NEEM. The study would prove more helpful to voluntary organizations working among peasants, on natural resource management, water issues and gender issues. The proposed CAC model seeks to help avoid water-related conflicts at the national level. The economic development indices and growth accounts can be made more genuine with the help of NEEM assessment.

As an academic venture, the study seeking a place in heterodox economics, and is a criticism of conventional closed economic models. However, the study believes in paradigm co-existence and invites the supportive knowledge of other normative and positive sciences.

8.6 FURTHER AREAS OF RESEARCH

The present study opens further avenues of related researches in the field of ecological economics. NEEM needs a general applicability option rather than its water-linked agrarian-ecology features. It can be extendable to other ecological

issues viz. land, forest, air and other community-based ecosystem assessment like fisher folk's ecosystem issues, assessment of a particular crop based community like cotton farmers, sugar cane farmers, wheat or rice farmers etc.

The study opens further researches in NEEM and CAC to furnish as a quantitative ecological economic model and can be developed as an indicator to check the ecological quotient of the people and community and also capable to design an indicator of ecological well-being. CAC also has scope for further modifications. The foremost important question is how to make it possible to apply these concepts within policy frameworks on a regular basis.