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FUNCTIONING OF RURAL INSTITUTIONS IN THE MODERNIZATION OF RURAL TANKS TOWARDS WATERSHED DEVELOPMENT

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Abstract:-Rural Tanks are traditional water storage systems mostly built in all semi-arid and tropical regions of India. These may be a small or large, system or non-system, governmental or zamindhari. They are estimated to be around 2,00,000 in the country. Rural tanks help to maintain ecological maintenance and improve environment. They are fed by their own watersheds but some have supplies augmented from neighbouring basins. Especially for the purpose of irrigation, domestic, flood management and drought mitigation. In some places rural tanks cater to afforestation, shelter for birds (birds sanctuary) and fisheries. But the rural tanks in all regions are situated for the purpose of ground water recharge.

Keywords:Modernization , tropical regions , poor maintenance .

INTRODUCTION :-

RITs are classified on the basis of activities, ayacut area, catchment inflow and the organizations which involved for maintenance. However, rural tanks have in two different classification. They are system tanks which receives the water from the river / canal and non-system tanks that depends on rain. These rural tanks have different type of problems of improper management of catchment area that leads to reduction in storage, poor maintenance of feeder channels, weakening bunds, drainage, water logging and sever encroachment. The solution to the problem for such rural tanks are the regular maintenance of the ecological zones, through the participation of their ayacut / users. The efficiency of rural tanks mainly depends upon organization of their beneficiaries. The organization on like the association / institution of rural tanks for each and every tank, especially for maintenance of first then the rehabilitation. The main aim of the association of rural tanks, users are to equitable distribution of water between the ayacutdars of the tank and to maintain the water structures with in the tanks.

The functions of the rural tanks users organization are:

Solving the problem between the users of a rural tank.
Equal distribution of water to the each and every landholding from the head reach area (HRA) and tail end area (TEA).
Conducting of periodical maintenance of water storage area, tank bunds, tank water channels and water regulators.
Motivation of users to participation in the rural tanks' rehabilitation / renovation works.
Mobilisation of resources for the various repairing works and management.
Removal of unnecessary encroachments in the tank fed area and the command area of the rural tanks. Also desilting and deweeding of rural bed area and the both the feeder and supply channels.

Hence the participation of the rural tank water users' association can faster diversified uses of tanks, such as irrigation, domestic use and fisheries.

2. Rural Tanks, Climate Change and Watershed Management

Climate is the long term pattern of weather conditions for a given area. Climate change is the most important global environmental challenge facing humanity with implications for natural ecosystems, agriculture and health. The perusal of general circulation models (GCM) on climate indicate that rising levels of green house gases are likely to increase the global average surface temperature by $1.5 – 4.5^{0}C$ over the next 100 years.

Climate change refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period. Climate change may be due to natural internal processes or external forcing, or to persistent anthropogenic changes in the composition of the atmosphere or in land use.

Watershed acts as a multi-purpose programme, which increases soil moisture conditions, improves and recharges the ground water creates economic water ways, enlarges command area, controls soil erosion, floods and concomitant recurring losses and also helps eco-system by extending greenery and plantation. Thus watershed development is the key strategy in rain-fed farming. Rain water conservation improved crop production technologies and income generating options are integrated into the watershed programmes. In this programme, supply of water is augmented and demand of water is to be managed through participation of the people. In order to have a holistic and sustainable development of vast rainfed areas. A National Watershed Development Project for Rainfed Areas (NWDPRA) was implemented, that emphasized on rain water harvesting, ground water recharge and integrated watershed management, so far it can enhance the water availability and proper usage of water in rainfed areas.

3. Modernization of Rural Tanks for Watershed Development

Modernization of RITs is an integrated attempt for the development of local water resources to promote agricultural and allied activities. The main aim of the modernization of RITs is to renovate the tanks in terms of excavation of tank bed and supply channels, raising the bunds repairing the regulators and surplus weirs, removing encroachments, on-farm development and organizing farmers organizations.

In order to conduct such type of modernization, the Rural Tanks water users Association (RTWUA) plays a very crucial role through its participation. The RTWUA conducts the following activities

for the modernization of rural tanks.

Organizing water users to participate in the tank maintenance as well as the modernization activities.
Solving the struggles and any disputes between the users during the water distribution.
Regulating of existing water distribution system.

The regular maintenance and the modernization of rural tanks helped to promote the watershed development in nearing and neighbouring regions of rural tanks. The watershed development through the modernization of rural tanks as follows.

Soil conservation measures
Construction of check dams
Regulation of water channels in both supply and feeder area
Development of flora and fauna in and around the RITs.
Increasing the ground water level which will be of helpful to lift the water for the irrigation and domestic purpose.
Promoting the water users groups / organizations and the groups of people who are benefited through the RITs.
Planting and developing trees and other plants in and around the RITs and their watershed.
Generation of employment activities in the promoted watershed areas of RITs.
Increasing various crop production of paddy, sugarcane, and some other horticultural crops of flowers, vegetables, etc.

4. CONCLUSION

Through the modernization of rural tanks, the watershed development has to be promoted that create a good climate in the form of more and normal weather conditions and enough rainy days to preserve the total environment system of the surroundings of which promote the sustainable rural development. It is therefore concluded that rural tanks after their modernization bring betterment in villages, through various advantages of the water for all living beings, crop cultivation leads to more food production, sustainable natural vegetation and ground water recharge. The government and NGOs concerned should create awareness among the water users of rural tanks, in order to regular maintenance and conservation, towards sustainable management of water resources that will leads to environmental sustainability.

5. REFERENCES

1.Devalatha.A. & Ambujam .N.K,(2011) Sustainable Agriculture Productivity Through Restoration of Tank Irrigation System with Stakeholders Decision-Case Study of Rural Tank Eco System, International Journal of Biodiversity and Conservation, Vol: 3(11), October.
2.Gurunathan. A. & Shanmugham. C.R., (2006), Customary Rights and Their Relevance in Modern Tank Management: Select Cases in Tamilnadu, International Environmental Law Research Centre , New Delhi.
3. Shah Esha (2003) Social Design: Tank Irrigation nTechnologt and Agrarian Transformation in Karnataka, South India, Orient Longman, New Delhi.
4.Sundar. A. & Rao P.S., (1982) Farmers' Participation in Tank Irrigation in Karnataka, WAMANA, Vol: 45, January – March.
5.Sharma, C.B.S.R (1998), Ecography of small water bodies: A Study of Five Irrigation Tanks in Tamilnadu and Pondicherry, Pondicherry University, Pondicherry.
6.Ludden, R., (1986), Ecological Zones and Cultural Economy of Irrigation in Southern Tamilnadu, South Asian Studies, XXII, June.
7.Harris, J., (1986), Rural Development: Theories of Peasant economy and Agrarian change, Hutchinson University Library, London.
8.Chambers, R., (1986), Rural Development – Putting the last first, Longman Publishing, New York.
9.Balamurugan, P., (2007), An Appraisal of Rural Tanks and their need for Modernization for Rural Development: A Study in Nallur Block, Cuddalore District, Tamilnadu. Unpublished Ph.D. Thesis, Annamalai University, Annamalai Nagar.