

Conservation of natural resources and sustainable agriculture in Mendha-Lekha village.

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ABSTRACT

Natural resources are the gift of nature. Man's survival on natural resources can be judged based on its judicious use. Today's pattern of development to fulfil the need of burgeoning population for natural resources is unsustainable. There is an imbalance between the generation of natural resources and indiscriminate use. Sustainable development is not only limited to the conservation of natural resources, but also extend to sustain agriculture for generations. In this research manuscript, conservation of natural resources and sustainable agriculture practices by Mendha-Lekha villagers has been extensively studied. Mendha-Lekha village has got its international recognition as ideal village, innovative village, self-sustained village in Dhanora, Taluka of Gadchiroli District (M.S.) in India. A tribal village where people are indigenous lives with harmony of nature. Gramsabha, a village council (highest decision-making body) is the key to frame sustainable life by conservation of natural resources. In depth studies on natural resources viz., forest, water, soil, indicates innovative thinking and action by people to save forests and other resources for future generations. Climate change, can be correlated with conservation and preservation measures of natural assets by these people for their survival and national interest. Studies on sustainable agriculture is also a unique practice adopted by them to show their commitment to conserve forest and agriculture- ecosystems. Concept of Bhudan followed by Gramdan also is also becoming a part of sustainable agriculture.

Key words : Sustainable development, Mendha-Lekha, Gramsabha, agriculture- ecosystem, Bhudan Gramdan.

INTRODUCTION

Conservation of natural resources is essential in the present era for the existence of human beings and other living world [1]. Natural resources are under threats by the development model of countries. Conservation of natural resources with sustainability and equal sharing is the challenge for the nations. The future of natural resources is depending upon the combined endeavour of both developed and developing nations [2]. Global initiatives are now being employed to conserve natural resources. Nations can contribute to conserving natural resources at national, regional and local levels. Local sector is key to conserve natural resources as mere survival is intimately related to its availability in quality and quantity [3].

Mendha-Lekha (200 11' 55" to 200 14'48" N latitude and 800 15' 55" to 800 19' 26"E longitude) of Gadchiroli district, Maharashtra state is a village of Gond people serve as excellent example of implementing indigenous measures for conservation of natural resources. Their livelihood is based on forest and agriculture [4]. The present study focuses on the cultural practices of these people for conservation of natural resources to the continuous process of study to achieve sustainability in agriculture.

METHODOLOGY

Selection of the study area, collection of background information and primary information was done by following procedure mentioned in biomass studies [5]. Information in connection with the conservation of natural resources and agricultural practices was collected for seven years with discussion with people, on site observation to find real picture. Following observations with discussion could be seen as the ideal model for the world community to think, plan, initiate and implement in their parent countries for sustainability in use of resources.

RESULTS AND DISCUSSION

After attending a number of meeting and discussion with people irrespective of income, land holding it

was observed that simplicity and traditional way could change the life of people. During the British era and after that also an area of the Gadchiroli District was under the possession and control of Jamindar and Malgujars. Peoples' rights over natural resources were abolished. After independence Zamindhari areas in this region were merged in state government (M.P.). These areas were declared as protected forests and reserved forests under the Indian Forest Act, 1927 (XVI of 1927) [6]. In 1956 Nistar patrak was prepared for each village. Mendha-Lekha village got Community Forest Rights (CRs) which include Nistar rights (Rights to live), rights over 1800 hectares forest land for the benefits of local community [7]. Devaji Tofa-Local social leader, Mohan Hirabai Hiralal (Coordinator of Chandrapur-Gadchiroli NGO, Vrikshmitra and people, including women build a bridge of planning, microplanning of resource use for the people of the village to live sustainable life for them and their future generations. Forest land of 1800 hectares preserved, protected, conserved, managed and administered by this group of people with an assured and sustainable livelihood for the people is a milestone in the nation's efforts to curb greenhouse gases and key part of global efforts to minimise climate change effects.

Gramsabha the highest decision-making body in Medha-Lekha village formed a unique system of local governance. The people of this village sit together and discusses variety of issues by study circle, including conservation of natural resources, sustainable agriculture etc., They follow the pattern of Study - Decision - action - again study in a cyclic way [8]. Participation of women at each stage is a milestone in handling ethical, socioeconomic and political issues. The decision is taken only when all participants are accepted if any one member is not satisfied to accept the decision, then whatever he/she is saying is again discussed in Gramsabha and if individual decision is found correct and all of member are convinced then that decision is also accepted, showing the best way of deeply rooted ethics which is at present required to be followed by other villages for management, conservation and administration of natural resources.

Conservation of forest

Trees are protected and conserved in this village because of culture, spirituality, traditional way of living. People follow ethics that their god lives on trees so some identified trees such as Mahua (*Madhuca longifolia* and *Terminalia alata*) are not cut during its lifetime. Forests of Mendha-Lekha village have been divided into 78 different landscape elements. Each landscape elements have its characteristic features so management practices also have been planned to achieve sustainability of each landscape element. Mendha-Lekha forest is enriched with a variety of herbs, people use it when require to treat diseases. Village medicinal herb practitioner (Pujari) make use for treating diseases of people with due care to assure future availability of the herb in the forest. Mendha-Lekha village manage forest by Joint forest management. People fulfil their demand of wood by collecting dry wood and twigs if wood is required for construction, he has to take permission from Gramsabha. Forest comes up naturally in spite of that Gramsabha has prepared a nursery jointly by forest department where trees of Mendha-Lekha forest is grown and planted in rainy season. Gramsabha has decided to provide Gobar gas plant (Biogas plant-Deenbandhu Model [8]. to villagers with vision further to ease burden on forest. (A study conducted on the energy consumption pattern of biogas user and non-biogas user clearly indicates the precious saving of wood (more than 100 kgs/person/year) by biogas users. A villager after getting training from reputed organisation helps to construct and operate biogas plant for smooth functioning. Biogas generation potential can be enhanced by putting the inlet feeding pipe away from outlet pipe. [9]. Villagers cultural practice for conservation of bamboo is unique in which old bamboo is removed without disturbing future growth of bamboo. Cutting fruits bearing trees are banned. Research on mapping of Mendha-Lekha forest by quadrat method reveals the adequate availability of wood for people for 100 more years which indicate sound sustainable use of wood for different purposes. Recently a Mendha - Lekha village have obtained A TP (Transit Pass) after communication with the government to sell bamboo by auction in a sustainable manner. The amount received through bamboo sale is used for forest conservation, education and health of people. Non-destructive method of honey extraction is

a classical example of protection of honey bees in which honey is extracted without killing honey bees. Van Suraksha Samiti formed set of rules by which each individual is committed to protect forests from fire, encroachment, exploitation.

Conservation of Indigenous seeds

People have preserved and conserved varieties of seeds, especially of rice since olden times. The seeds are stored in such a way to protect from insect attack.

Conservation of water

Gadchiroli district receives rainfall between 800-1200 mm each year. Natural percolation of water is adequate for ground water recharge. The village has enough dug well and borewell to fulfil the demand of water for drinking. Gramsabha routinely use bleaching powder to disinfect drinking water prior to its use. A unique system of use of water for agriculture is adopted by which each person has got equal right to use water for agriculture so water is shared equitably for agriculture. The village has constructed Vantalab (Forest water pond) which is a source of water for wildlife and domestic animals also. A slogan dig a pond and eat fish is popular in the village. Gramsabha with forest department jointly have constructed check dams by locally available stones for conservation of water and soil.

Sustainable agriculture

Agriculture is a cultural practice in villages. Present agricultural practices in most of the villages are not following sustainable path. Indiscriminate use of fertilisers and pesticides have destroyed agro ecosystem. Mendha-Lekha village has been following sustainable agriculture practices by using cow dung and pig manure since ages. Now a days decomposed cow dung slurry from the Gobar gas plant is applied in agriculture Research studies in agriculture field indicate a healthy population of microorganisms. The people of this village have the opinion that natural agriculture does not disturb the ecological balance of the forest but coexist with forest processes. Sustainability in agriculture cannot be achieved only by using natural implements, but also providing equal opportunity to other landless to practice agriculture. At present most of the land is recognised as private property. Mendha-Lekha village is following the

concept of Vinoba Bhave (Social leader of Bhudan movement). A simplified Gramdan in which owner is asked to gift his 5% land to landless. He will surrender ownership over the rest of the land to the Gramsabha [10]. He would cultivate the original land and after his death land will be transferred to his generation, so private ownership would come to end. Village land would be protected to go in private hand in future. Sustainability in agriculture can be realised by such decision.

CONCLUSION

Conservation of natural resources and sustainable agriculture pattern is based on self-innovated local governance based and equality in the distribution of resources, combined responsibility to protect, preserve and conserve resources for future generation. Mendha-Lekha village is an ideal village where each individual born has access to natural resource with a deep rooted sense of ethics of conservation of natural resources through Gramsabha.

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