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GANDHIAN APPROACH TO THE MANAGEMENT OF FOREST AS COMMON PROPERTY RESOURCE
A CASE STUDY OF BINJGIRI HILL (ORISSA) INDIA

By

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INTRODUCTION

The economic well being of most countries is directly or indirectly related to the management and productivity of its environmental system. Gandhiji identified five elements ie; Philosophical Balance, Structural Balance, Environmental Balance, Technological Balance and Distributional Balance for Balanced Economic Growth. As societies evolve, population grow, land-use pattern change, the regulatory mechanisms that earlier maintained balance between man and the environment break-down, and the product use of renewable resources can no longer be effectively asserted. Management systems must be improved so that renewable resources such as forest can be restored and used on a sustained yield basis.

FOREST AS OPEN ACCESS RESOURCE

Management systems of Indian Forests have been reformed from time to time as per the requirement of society. Upto the close of eighteenth century, forests were treated only as a Open Access Resource. Certain trees, had been proclaimed "royal trees" by the rulers of the territories in which they flourished. With these few exceptions forests were free to all, although nominally they belonged to the ruler of the territory, throughout the country as a whole (Stebbing.E.P; 1922-27). The free availability to society has been misinterpreted by some modern environmentalists as Common Property Resource. 'Before the advent of the modern state, grazing lands, forest lands were mostly common property' (Agrwal Anil & Narain Sunita-1990). The main causes of adopting the open access resource system were - the large tracts of forests & relatively small population, which gave a wrong impression to the rulers and society, of forests being an inexhaustable resource.

British rule witnessed rapid exploitation of forest both by the people and the government as the ecological importance of forest remained unrecognised. The early administrators appear to have been convinced that this state of affairs could go on for an unlimited period (Stebbing E.P -1922-27). But due to increase in population and its diversified demands, it has been recognised that a greivous mistake had been made in allowing the forests to be used as 'open access resource'.

FOREST AS STATE PROPERTY

With this realisation, first step towards role of government in management of forest began in 1800 with appointment of commission to inquire into the availability of teak in Malabar Forests. In 1805 Forest Committee was constituted to enquire into the capacity of Forests and status of proprietary rights in them. (100 years of Indian Forestry-1961). But the first attempt in forest conservancy was failed due to policies of Captain Walton (first conservator of forests) who declared all teak trees on farm lands and homestead as the property of East India Company,

and the post of C.F. was abolished. The scattered efforts continued, but on All India basis, the systematic management of forests began in 1864, with appointment of first Inspector General of Forests. Simultaneously a decision was taken to convert the forests into State Property. The idea of allowing proprietary rights in forest to individuals was abandoned and all government forests were made inalienable (Lal J.B.-1989). The process of curtailing the unrestricted rights of people started with Indian Forest Act 1878. This Act provided for constitution of reserve and protected forests. In 'reserve' forests, all rights were extinguished but in 'protected' forests most rights were allowed to continue. Thus with this act, the process of conversion of forests into state property started. With the independence of country, the legal provisions of state property were extended to forest area of princely states and private forest areas.

FOREST AS COMMON PROPERTY RESOURCES

The status of recognition of people's rights on 'Forests - State Property' changed with time. The public benefit was the sole objective of First Forest Policy-1894. In revised forest policy-1952, the emphasis shifted from community needs to national needs.

The first policy of independent India, bypassed the importance of immediate needs of people and subsequently the role of people in management of forest, without realising the fact that State machinery can not manage such vast resource in isolation. The result was fast depletion of those forests which are free from legal provisions (unreserved forests) and not under the control of forest department and subsequently the axe of people's need also fell on reserved forests. The mistake was realised soon. In late seventies, a massive scheme was launched to involve the people through the Social Forestry Programme. The main objective of the scheme is to meet the need of people - fuel, fodder and small timber, locally.

In late eighties, few state governments have also realised the role of people in management of existing forests. Government of Orissa and West Bengal issued the Government Orders on 1st August 1988 and 12th July, 1989 respectively to involve the people in management of forests. The same philosophy has been reflected in National Forest Policy-1988: "The holders of customary rights and concessions in forest areas should be motivated to identify themselves with protection and development of forests from which they derive benefits".

Even the control mechanism of government tries to exclude the people from management of forests, but the people of Orissa were aware that the government alone can not manage the forest. They have started managing the forests as Common Property Resources about 30 years back.

VILLAGE
COMMUNITY &
COMMON PRO-
PERTY RESOURCE
MANAGEMENT

Common Property Resource Management is not a new concept to India. Village communities have been the main strength of this country. 'THEY SEEM TO LAST WHERE NOTHING ELSE LASTS. DYNASTY AFTER DYNASTY TUMBLES DOWN; REVOLUTION SUCCEEDS REVOLUTION;..... BUT VILLAGE COMMUNITIES, REMAIN THE SAME. THIS UNION OF VILLAGE COMMUNITIES, EACH ONE FORMING A SEPERATE LITTLE STATE IN ITSELF,HAS, I CONCIEVE, CONTRIBUTED MORE THAN ANY OTHER CAUSE TO THE PRESERVATION OF PEOPLE OF INDIA' (Sir Charles Metcalfe-1830). Indian village community has developed their own administration system from ancient time itself. "The smallest unit of local administration was the village or grama with its head known as gramani, gramika or gramapala..... There were other officers as well in each village, their number being five according to sabhaparvan of Mahabharatha. There was also a council of village elders to advise the headman" (Chopra, Puri & Das).

The village administration has been managing the common resourc also from ancient time - "The village assembly or local body was known as the Sabha or Mahasabha which managed temple endowments, irrigation works and agriculture. As a body, the sabha controlled a number of committees looking after village administration".(Chopra, Puri & Das).

GANDHI AND
VILLAGE
COMMUNITY

I am sure that this historical background could have been one of the major factors, responsible for Gandhiji's theory of Village Swaraj. In the July 26, 1942, issue of the Harizan, he gave an outline of Village Swaraj as follows:- "My idea of Village Swaraj is that it is a complete republic, independent of its neighbours for its own vital wants and yet interdependent for many others in which dependence is necessity Non violence with its technique of Satyagraha and non-cooperation will be the sanction of the village community. There will be a compulsory service of Village gaurds who will be selected by rotation from the register maintained by the village..... Since there will be no system of punishment in accepted sense, this Panchyat will be the legislature, judiciary and executive combined to operate for its year of office. The law governing every villager is that he will suffer death in defence of his and his village's honour. Subsequently he observed in the article in June, 1947 issue "Thus, every village will be republic or Panchayat having full powers. It follows, there fore, that every village has to be self sustained and capable of managing its affairs even to the extent of depending itself against the whole world. Life will not be a pyramid with apex sustained by bottom. But it will be an oceanic circle whose centre will be the individual, always ready to perish for the village".

In the first draft of Constitution of Independent India, no mention was made of the Village Panchayats. Mahatma Gandhi deplored this omission. Accordingly, a directive principle was embodied in the Indian Constitution (Article 40, Part IV).

**INSTITUTIONAL
REFORMS &
COMMON PROPERTY
RESOURCE
MANAGEMENT**

The traditional informal authority of village elders or sabha, has been disturbed by some institutional reforms of independent India. The new institutional arrangements have totally failed in their role towards management of Common Property Resource. " Panchayat System (elected village councils) undermined the traditional authority of village elders and replaced the formal authority of feudal landlords in some cases. But panchayat have failed to fulfill their responsibilities towards CPR..... The dependence of panchayats on Community Votes, compelling them, to avoid unpopular steps like enforcing CPR user obligations and their domination by the influential with little interest in CPRs, make these institutions ineffective" (Jodha 1985, Gupta 1987, Stewart 1989). Panchayat Systems have not only failed in their role towards management of CPR but it has also shattered the Gandhiji's dream of Village Swaraj. Government of India introduced a three tier Panchayat Raj System with the objective of decentralisation of power. The three tiers are district level, block level and village level. In number of states ie; Uttar Pradesh, Madhya Pradesh, the lowest tier (village) consists of village panchayat and gram sabha. Gram sabha is normally consists of one or two villages. The village headman (gram pradhan) is elected for each gram sabha. This process has induced political groupism in almost all the villages. Fortunately government of Orissa has not introduced the system of gram sabha. There the last tier consists of only village panchayat. Every panchayat consists of 10-20 villages, while in U.P - 1.5 & M.P- 3.4. Thus the groupism has not infiltrated to the level in which it exists in the states where gram sabha is in existence. At the same time, there is no body to look after the individual village affairs while in case of other states it is in the form of gram sabha.

It seems due to this system of Panchayati Raj, the traditional informal committees have been successful to continue their existence in the state of Orissa. The presence of these informal village committees provides the very strong organization for management of common resources. The committees are managing number of common resources i.e. village water ponds, protection of agricultural fields, temples and their property, village gardens etc. The government of Orissa has also strengthened the capabilities of these committees for managing the common property resources by some provisions i.e. establishment and management in early stages of upper primary, primary and middle school by villagers themselves.

The sustenance of informal Village Committees and management of Common Resources by them, is definitely some achievement in fulfilling the dream of Mahatma Gandhi. In this success, some modern social leaders who pursue the Gandhian philosophy of Non-violence and Trusteeship have also played a vital role.

MANAGEMENT OF
FOREST AS
COMMON PRO-
PERTY RESOURCE
IN ORISSA

Due to the increased control over reserve forests, the pressure increased over unreserved Khesra Forests. The result was the degradation and depletion of these forests. The situation became grim and people in rural Orissa realised that it would become worse if corrective measures are not taken. The result was that they organised themselves and started managing the forests as COMMON PROPERTY RESOURCE. Seeing results, process is even extended to reserve forests also. According to a preliminary survey* approximately 1200 patches comprising approximately 1,80,000 Hect of forest land (it is approximately 3% of total forest area) are being managed by villagers as common property resource. (Annex.-I) A visit to different places of Orissa and comparison of existing common resource management instances with the list in the survey report gives a rough idea that total area must be around 10% of forest area which is being managed as common property resource.

Even though the management of forest as Common Property Resource is highly concentrated in 4 districts - Dhenkanal, Koraput, Mayurbhanj and Sundergarh, but not only the every district, even every group of villages presents its own management system. Villagers have organised themselves in informal and formal organizations. The informal organisations are - 'Group of villager Elders', 'Village Forest Protection committee', 'Village Committee' and formal organisations are - 'Village based Voluntary Organisation' and 'Village Youth Club'.

* 'Enumeration of Forest Patches Protected by Villagers in Orissa and Mechanism and Motivation Behind Such Protection'
A study conducted by Projects Private Consultant (Pvt) Ltd.
Bhubeneshwar.

Case Study : Management of Binjigiri Forest As CPR

General Information -

Location

Binjigiri hill is located at a distance of 14KM South East of Nayagarh, a sub divisional head quarter of Puri District in Orissa state (Map 1). The hill is surrounded by villages - Kesharpur, Nagamundali, Binjigiri, Gamei, Punia, Angisingi Badagorada and Sangorada. The total area is approximately 930 acres and altitude is approximately 300 mts.

Forest

The hill has Northern Dry Mixed Deciduous Forest (SB/c2 - Champion and Seth Classification). The common species are - *Madhuca indica*, *Emblica officinalis*, *Acacia nilotica*, *Dalbergia peniculata*, *Angle marmelos*, *Bahuinia purpurea*, *Diospyros melanoxylon*, *Bridelia retusa* & *Butea monosperma*.

Legal status of forest is of Protected Forest, locally known as Khesara Forest. The local people have rights for self consumption of wood ie: agricultural implements, house construction, fuel wood etc.

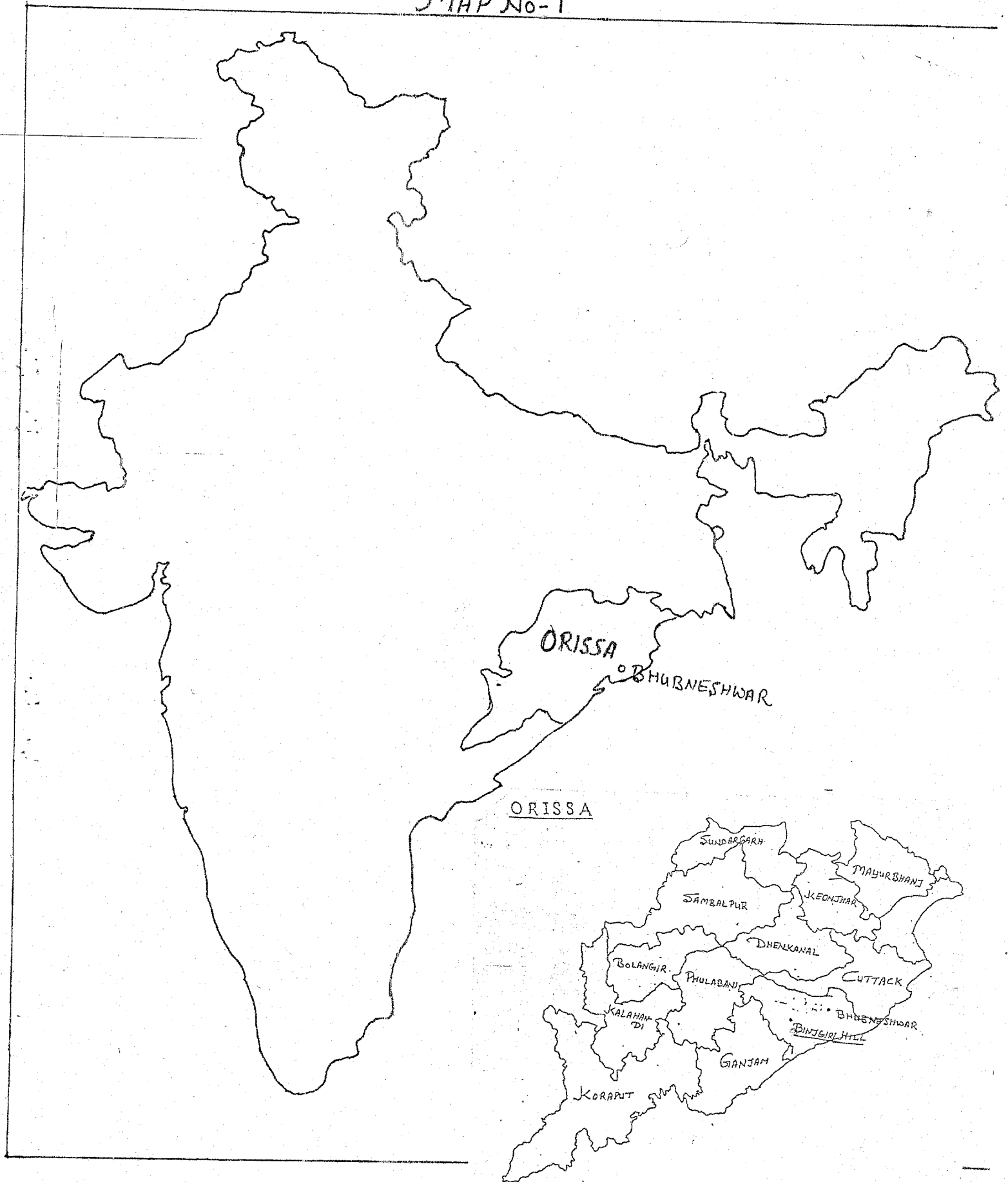
History of Forest Management

Binjigiri was under the Nayagarh Estate. During the period of king Nayagarh, no scientific management of forest was done. Main function of forest officials during the Kingdom was only protection. There was one forest guard who was looking after the protection of this hill also. The first working plan was drawn for period of 1930-40 for the whole State. After this the forests of this area are managed on the basis of working plans. But in the state of Orissa, only reserve forests are brought under the working plan. No management system is prescribed for protected forests.

Background

Till almost 1945, the Binjigiri was abounding in flora and fauna. Leopards, bears, bores, sambars were common. The Malati creeper was growing in abundance. Streams used to flow and dance on its lap. Then came independence in 1947. People's fear of government considerably lessened. Population grew. There was attack on the environment. Trees were felled and forests were denuded. Hunters had a free day to play with fauna. The green Binjigiri became bald and

MAP No-1



brown. Agricultural fields were covered with soil and pebbles from the hill. There was acute shortage of fuel. Mr. Narayan Hazari, Reader in Public Administration, Utkal University, Bhubaneswar, resident of Village Kesharpur who saw all this change from his childhood to young age was moved by all this destruction. The concern for environmental conservation grew in him. He started writing letters to his villagers since last sixties, about the importance of environmental conservation and whenever he visited the village, he explained the importance to his villagers. This gradually had some impact on some of the perceptive villagers. Mr. Joginath Sahu, Head Master, ME School, got involved and started environmental campaign in his own unique way.

Nonetheless the effort was sustained. In 1976 the masses of Village Kesharpur took a decision to protect the part of forests and to rejuvenate the beauty and bounty of the hill. From 1978 the Kesharpur villagers met the challenge of deforestation as one man. They devised number of innovations in human engineering - Thengapali. (Hazary Narayan and Hazary S.C.).

As regeneration came up from the left out roots, the external pressure in form of threat of pilferage by other villages around increased. Mr. Narayan Hazary went round the villages surrounding the hill, and explained to them the need of conservation and sought their cooperation. The people realised that he is working for common cause. The idea caught the attention of neighbouring villages too. Since 1980 or so, seven other villages which are on periphery of hill - Nagamundali, Binjiri, Gamei, Puania, Angisingi, Badagorada and Sanagorada started the protection ie the first step in management of Binjiri forest as Common Property Resource.

In 1981 Mr. Narayan Hazary went round the villages and found that management measures were half hearted. He decided to use The Gandhian tool - 'Fast' to convince the people about their role in Management of Forests as Common Property Resource. He fasted in SANAGORADA, BADAGORADA, ANGISINGE, PUANIA, GAMEI, BINJIRI, NAGAMUNDALI. In the mean time some measures for management of the younger sister of BINJIRI hill - Malati were also started in 1978 by the villagers of MANAPUR. Mr. Naraya Hazary and his close associate Mr. Joginath Sahoo were worried about the role of other villages which were just next to the peripheral villages, on improving the condition of forest of Binjiri.

Keeping this in mind, they were trying to evolve a methodology to get involve the other villagers in the process. In February, 1982, a workshop was organized under the auspices of National Social Service Organisation in 3 villages - Gamei, Nagamundali, and Kesharpur. From 22

villages, at the rate of 4 each village, participants came and debated the issue of Forest Management. The 'BRUKSHYA O JIVAR BANDHU PARISHAD (BOJBP) - friends of trees and living beings - was set up after the workshop to carry on the work of Forest Management.

Out of 22 villages, eight villages were actively involved in management of BINJGIRI. The remaining villages were associated to support the management in terms of not attacking the BINJGIRI forest, on improving the condition and taking up the Forest Management in the hillocks if available in the village. The outcome was eight villages started Management of Forest area in their vicinity as Common Property Resource. The remaining six villages have started giving their moral and non-attacking support to the management of Forest. Details are given in Table 1. The location of 22 villages with regard to Binjgiri is given in Map-2.

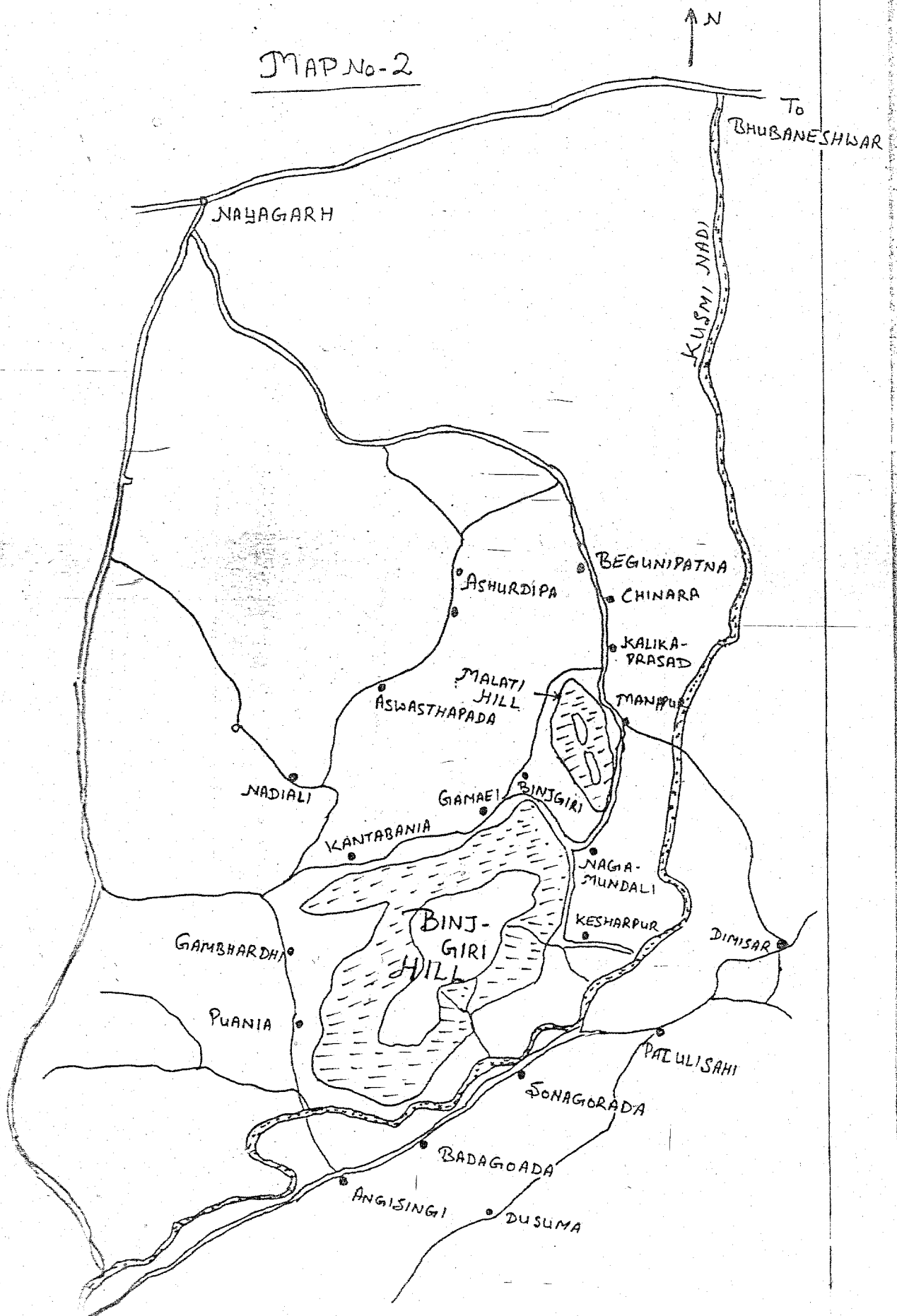
TABLE-1

CATEGORY WISE LIST OF VILLAGES

Villages which are managing Binjgiri Forest as CPR	Villages which are managing Forest area in their vicinity as CPR & restraining themselves from Binjgiri	Villages which do not have Forest area & restraining themselves from Binjgiri
1.Kesharpur	1.Manapur	1.Kantabania
2.Nagamundali	2.Kalikaprasad	2.Hingolgadia
3.Binjgiri	3.Dusuma	3.Ashurdhipa
4.Gamaei	4.Gambhardhi	4.Adacher
5.Puania	5.Nadiali	5.Dimisar
6.Badagorada	6.Chinara	6.Patulisahi
7.Sonagorada	7.Aswasthapada	
8.Angisingi	8.Begunipatna	

BOJBP is playing a role of catalytic agent in management of Forest as CPR. The organisation is based on Gandhian Philosophy and is using the Gandhian Tool ie. PADA YATRA, FAST and SATYAGRAHA for averting the threats for management of forests as Common Property Resource. Some specific cases are given in Annexure II. Since its inception it has build up like anything. At present it is working in 255 villages through its 13 sister organisations. Approximately 39,000

MAP No-2

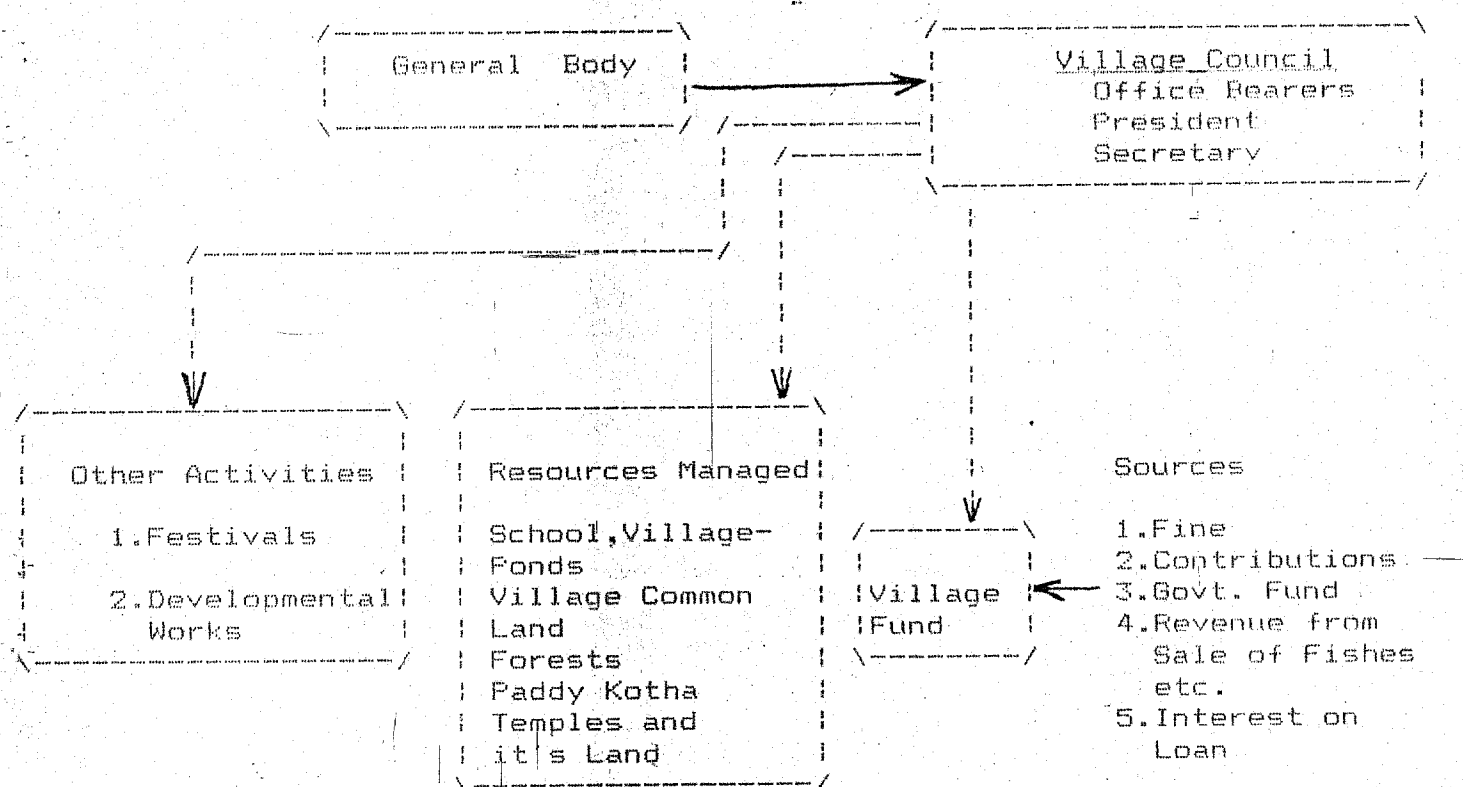


acres forest area is being managed as CPR in these 255 villages.

Village Council

All 22 villages have a strong background of common property resource management in form of traditional informal village council which is already managing number of other village resources as Common Property Resource.

The organisational structure of informal village council is almost same in all the villages. The general structure is - as given below:-



Structure of Traditional Informal Village Council

The number of members varies from 5 to 10, the office bearers are President, Secretary and Treasurer. Some villages have all the three (Gamei) while in some cases only two - President and Secretary (Binjiri, Nagamundali etc) and in some cases only President (Kantabania, Hingolgadia etc).

The office bearers are selected by the General Body which comprises of one member from each household. There is no reservation for any category. The members are selected not elected. Mostly, the tenure is not fixed (Kantabania, Kalikaprasad etc). Only in few cases, it is fixed to one year. (Gamei, Angisingi, Puania)

The office bearer can be removed from the post as and when the villagers lose their faith in him. The meetings are organised regularly. Except few villages ie; Angisingi, Binjiri, minutes of the meeting are not recorded. The progress of implementation of the decisions is reviewed in the next meeting. All the councils maintain their accounts and the details of expenditures and receipts are presented to the General Body at least once in a year. Normally the money collected or received is kept with Treasurer/President/Secretary as case may be. In some exceptional cases the village funds are kept in Post Office saving account ie; Binjiri and Chinara.

Common Property Resources The informal village councils are managing The Schools, Temple, Village Land, Village Ponds etc., as common property resource for time immemorial.

As per the provisions of Orissa Government Primary, Upper Primary and Middle schools are established by the villagers through their contribution of money and labour. The government grant is sanctioned in phased manner. Even after the grant, in some cases government money is not sufficient for maintenance, so the schools are managed fully or partially by village council.

Almost every village have water ponds. The ponds were made by the Britishers and are being managed by the village council. The ponds are mainly used as bath place and pisciculture is practiced. Only in two cases water is used for irrigation but there is no system of water regulation etc. Village council manages the pisciculture. It pays the fee to Panchayat from village fund and arranges seed, collection, distribution and sale of fishes.

Village common land is managed by the village council in terms of share cropping. The village council selects the person for this purpose and decides the share. The village share goes to village fund.

In some villages the system of Paddy loan is prevailing. Initially every villager contributed some paddy to the Paddy Kotha. The paddy is given to the needy persons as loan. The rate of interest is 33%. In case of emergency, it is sold (Nagamundali sold for construction of school). In some villages, the village Temple and its land is also managed by village council. Religious functions are also organised by village council.

Recently the government funds for developmental works also percolated down to village council through formal Village Panchayat. In some cases, the labour for these works is contributed by villagers and corresponding money goes to

village account. Councils have restricted themselves to developmental works with a high degree of publicness ie road maintenance, school maintenance etc.

Thus the village councils in the area are not specific resource management organisations as of Kottapalle, reported by Mr. Robert Wade (1987). But definitely as observed by him - 'In short, studies of Indian Villages are remarkably thin'. So the absence of the Kottapalle type of organisation from the literature does not mean its absence in the Indian Countryside. absence of Common Property Resource Management Organisation from literature does not mean its absence from country. The existence of these organisations played a vital role in starting the management of forests as Common Property Resource. It was only a addition of another resource in their management pool.

ANALYSIS

Now, I turn to the Oakeron framework for the analysis of Common Property issues. Instead of restricting strictly to his framework I will also incorporate two other parameters - Technology and Market in my analysis.

TECHNICAL & PHYSICAL ATTRIBUTES

The technical and physical qualities of Common Resource Forest can be considered in terms of their jointness of supply, excludability and indivisibility (Oakeron). With regard to jointness of supply of resource (only with reference to physical products ie. timber, fuelwood etc), clearly they all can be used by number of people simultaneously and that use can subtract from the per capita benefit. The jointness decreases at the higher rates of exploitation, not only as consequence of competition among users but also because of intensification of collecting tends to retard or disrupt the reproduction of exploited species. Indeed continued use of many biological resources is the key to sustained productivity.

The excludability is an issue that is constantly at the centre of contradiction between the rural population and government departments. It is physically feasible to fence off forests, but very expensive. In addition, fences are difficult to guard and to exclude users from small forests entirely surrounded by rural populations as in present case. Another aspect of excludability is spatial distribution. Exclusion is more easily possible in case of 'concentrated and closely located to user group' resource. But in present case even the resource is concentrated and close to user group, but due to large size of resource and spital distribution of user group, the exclusion is difficult

As far as indivisibility is concerned, the resource is physically divisible even though the division to each member of user group will not only increase the cost of management but it will lead to unscientific management also. Some products of forest such as oxygen etc are purely public goods characterized by indivisibility and non-subtractability.

Donald A. Messerschmidt (1986) pointed out towards the weakness of model in ignorance of cultural context of local understanding. "Culture" is here in defined as 'acquired knowledge that people use to interpret experience and to generate social behaviour.' (Spradely & Mc curdy 1980)

A full understanding of indivisibility must take into account both the natural/physical boundaries of resource and other meanings in cultural context. While it is conceivable that the forest can be divided into as many units as there are trees, it is not perceived in that manner by user. Private trees grown on private land are not considered as forests either by local villagers or government officials. To villagers the forest is a natural unit belonging to the community or government. Similarly in their perception, exclusion of villagers from forests is almost impossible.

Thus physical and technical attributes of forest can be summarised as broadly accessible and non excludable, subject to relatively high subtractability.

DECISION MAKING ARRANGEMENTS

Institutions are defined as a public system of rules that specify certain terms of action as permissible, others as forbidden and provide for certain penalties and defenses when violation occur. (Rawls-1971). Radical Institutional changes for forest management have occurred in the last fifteen years. Rules that established the ability of the people to act collectively are the essence of the traditional informal village council.

Conditions for Collective Choices: The existence of Informal Village Council and successful management of some village resources i.e. School, Village Land, Village Ponds etc provided a strong base for inclusion of forests in its management pool. The high scarcity of resource - fuelwood specifically, almost uniform dependence on resource for fuelwood and construction material, the high risk of loss in soil fertility due to soil erosion and threat to availability of water in water ponds and streams provided the favourable atmosphere for collective choice to forest management. Probability of a reasonably uniform distribution of benefits, mutual trust in each other and social leaders, expectation of people at the same level and emotional and spiritual appeal to the people in form of Gandhian tools-

Padavatra, Fast and Satyagraha are responsible for sustenance.

Operational Rules-All the eight villages have only rough idea about their portion in Binigiri hill but there are no clear demarcation lines.

The following operational rules are in practice:-

- (1) The forest will be protected by the Thengapali (Stick Turn). Every evening the number (2 or 3) of sticks as decided by particular village council depending upon the area, are kept on the verandah of adjacent households. This mean that it is their turn to go round the hill. This will be done by turn.
- (2) Every household has to participate in Thengapali, in case of somebody's failure on his turn, he has to compensate it.
- (3) No one can cut any tree from the forest. However in case of some emergency, village council can allow any person for it.
- (4) The people can collect dry fallen twigs, fruits, seeds, flowers and can cut some shrubs like Poka sunga identified by village council for fuelwood.
- (5) The area is closed for grazing till natural regeneration or plantation get established. Further in some villages rotational grazing concept is used.
- (6) In the initial years of protection, village councils also decided to sale goats and all the goats in eight villages were sold. They were allowed to keep the goats only when vegetation reestablished.
- (7) No body can carry the axe into the forest.
- (8) The villagers can collect the stones from area for their own consumption only.
- (9) In case of any threat to forest from outsiders, every villager will help the people, who are on duty.
- (10) The person who violates the rule, will be fined. The fine will be decided by village council. Normally the person of own village is asked to feel sorry in front of all villagers while the outsiders are punished heavily.

This set of Ten rules is more or less common to all eight villages. Thengapali is generally discontinued in areas

where regeneration has established and the system of "everybody keeping an eye over the forest and reporting any offense if seen" is followed. Even in villages which are still practising thengapali, it is discontinued during agricultural season.

Kesharpur has another significantly different rule regarding the trees on river bank. It was decided in village council that the trees on public land on the bank river, will be looked after by the owners of adjacent farm lands. When the tree matures, the council takes decision to fell the tree. The wood will be equally shared between the caretaker and the village. Caretaker will have full right over fruits and flowers.

External Arrangements After India's independence in 1947, ownership rights to private forests were abolished and government of India expropriated them from Zamindars. The Reserved Forests and Protected Forests are under government ownership. In Orissa even though the proprietary right is of government in case of protected forest, but no management plan has been drawn by Forest Department. Thus Forest Department is not actively involved in management of protected forests. The villagers had the rights for timber and fuelwood for their own consumption. But since 1987, legally all the rights have been ceased and provision of supply of villager's requirements has been made from Forest Corporation Depots.

The other arrangement is of establishment of Village Social Forestry Committees, to encourage participation in management of Social Forestry Plantations. The general picture of these committees is merely of a paper organisation characterized by indifference and ignorance on the part of the majority of members due to their selection by forest officials and not being the real representative of village. Compulsory membership of some officials - Forester, Revenue Inspector and Serpanch (head of Formal Village Panchayat) makes it ineffective. The village level social forestry worker is responsible to forest department and not to village. There is no reason to believe that they will be any more effective as instruments of participation and collective decision making than are the Informal Village Councils.

In August 1988, the Orissa Government decided to involve the Village Communities in the management of reserve forests also. According to this the peripheral reserve forest areas will be allotted to adjoining villages, for protection and will in turn, be granted certain concessions in the matter of meeting their bonafide requirement of firewood and small timber. The organisational structure of Village Forest

Protection Committee, under this system also suffers from the same lacunae as Social Forestry Committee.

National Social Service wing of Education department plays a important role in all developmental and national building programmes. The plantation is one of their major activities. The another external agency which is available to overcome any difficulty or dispute is grass root level Voluntary Organisation-BOJBP.

TECHNOLOGY & MARKET

Gardner R, Elinor Ostrom & Walker J (1989) suggested the inclusion of Technology & Market in the model for analysis of Common Pool Resource Problems.

Technology plays an important role in management for sustainability of any resource, which has been missed by Oakerson. Unless the suitable technology is available to the user group, the management of resource will be inefficient which may breakdown under different pressures. In this case user group knows only the simplest technology of protection and felling the trees. They are unaware about the scientific management of forest and efficient use of all the products either timber or minor forest products ie. fruits, flowers and leaves. Eventhough the villagers are using *Acacia auriculiformis* leaves and fruits as fuel as per their innovation, but they do not know the importance of thinning or pruning etc. Number of medicinal plants are available in forests, which are used by user group in a very crude manner, the knowledge of techniques of extraction and distillation may prove quite beneficial to them. The introduction of fuel saving devices may also help in overcoming the tragedy of fuelwood and sustainability of forest management as Common Property Resource.

Growth of market has also been identified as one of the factors responsible for failure of Common Property System. But my argument is that the growth of market can also play a vital role in sustaining the Common Property System. Generally in India and particularly in this case also the market for minor forest products ie. Tendu Patta, Honey, Gum, Sal and other Oil Seeds etc is not developed. In village India, like present case, either no opportunity is available or it is in form of middle man who captures the maximum share of profit. The development of market for NFPs will definitely increase the monetary share of user group.

PATTERNS OF INTERACTION

The behaviour of typical resource user, is normally based on sense of reasonably balanced sharing or reciprocity. Each user has relatively equal access to resource calculated according to means and need, sharing it with other users. Each participating individual is expected to provide

assistance and support in managing the system. Even leadership roles are shared over the long term by most qualified (as locally defined) persons. In short access to resource and the social realisations that grow up around them are developed through a collection of reciprocal rights, duties and privileges. The account given till now implies that the consequent patterns of interactions are broadly of two types:- Those among the user group of same villages and those between user group and external agents, may be government departments, voluntary organisations or the user group of other villages.

The management of forest resources by local community represents a radical departure from traditions of government forest management. Despite notable exceptions there seems to be substantial doubts among forest officers about the success of such management. However the forest officials have interacted with the villagers in a cooperative manner from time to time.

Shri Pratap Patnaik, Divisional Forest Officer, Nayagarh participated in a NSS camp in 1976, held at Kesharpur and spoke in the meeting for preservation/protection of forests through community. Mr. SC Das, Chief Conservator of Forest (CCF), arranged for plantation in barren area of Kesharpur in 1979. He also visited some villages around the hill in 1981 and received warm affection of villagers. He also helped Mr. Joginath Sahu in stopping the quarrying in Balali hill. Again in 1983 Shri P Mahapatra, CCF visited 7 villages.

After the initiation of social forestry scheme there has been close interaction with social forestry officers. 44ha area of Binjgiri has been planted with the help of social forestry wing. Interaction with other government officials-Sub-Divisional Magistrate and District Magistrate have been helpful in stopping the quarrying and identification of boundary marks. The National Social Service organisation has also played vital role as an external helping agent in the process of forest management as CPR. Number of NSS camps ie. 1978,79,82, have been organized. In these camps, plantation was done in barren areas with the help of college students and environmental awareness campaign was done in the areas.

The most important interaction has been with BOJBP-a grass root level voluntary organisation. Whenever any threat arises to the management of forests, the members of the organisation immediately visits the site and with the help of Gandhian tools try to convince the people for resolving or overcoming their problems.

The organisation has been highlighting the point that, come what may, in no case people should go to the court or police or the forest department for preventing the destruction of forest. People create the forest and if they decide to

destroy them nothing can be done. The intervention of government agency will poison the atmosphere, put the village unity under great strain, drain the village of its resources and ultimately not only the forest would be lost but also the village unity would be lost. Hence the approach in crises has been of motivation, persuasion, tolerance and understanding.

OUTCOMES

A principal outcome is the realisation by people that forests can be managed by them and government can not withstand the pressure of population growth and some ill interests. In the area, the emphasis on spreading tree consciousness has been more than physical plantation and that manifests itself in significant ways. Kesharpur is extremely green, with trees in courtyards, even small kids give detailed account of the number of trees they have planted till now. In this area, there are cases of demand of seedlings in dowry and plantation of trees as part of death ceremonies instead of feeding brahmins.

Forests/trees in this area have become an end in itself instead of being means for economic gain or for fulfilling the forestry needs. In the slogans used by BOJBP, trees have been linked with sustenance of life itself:-

'Trees are our life's wealth
generate soil, water & wind'
'We shall not survive without trees
we draw our sustenance from trees'

It is due to this spirit only, there are people in these villages who cook their food only once a day and take it four times but do not cut the trees.

It is because of this, that the forests have been placed high above petty factionalism. Disputes in the villages in the area have not led to either destruction of the forests or splitting of forests between caste groups or factions. In Puania village children have become embodied and issue threats to their mothers to go on fast whenever they are admonished. When babies cry in Manapur, mothers lull them by saying "Let us go and plant trees in Malati". This shows that afforestation and forest conservation have caught the imagination of even the babies.

Production System

To the user group - villagers production of pole and timber which requires a long gestation period seems of less immediate relevance. What does seem to be important is the rapid increase in production of fuel either in form of

fuelwood or leaves and fodder. In whole hill, at the time of initiating the management, the production was almost zero as digging of roots was started. Due to management of forest by villagers as Common Property, the trend has reversed.

Soon after the protection, production of grasses increased like anything. The availability of fodder satisfied one of their crying needs. After the villages were free of goats, quickly grew large number of babul (*Acacia nilotica*) trees particularly on the foot hill and banks of ponds and river. These are useful for agricultural implements, fence material around croplands and fuel. Specifically in Kesharpur, a huge number of babul trees is available and any villager can reap as much branches from these trees as needed for fence material, with the permission of informal Village Council.

The production of fuel-dry leaves, twigs and non-timber plants, ie. pokasunga has increased and villagers collect freely. The school children run to the hill during the recess and feast on the nuts like - guakoli, vonicha-koli, Khinikoli and Kantei koli. The poor Harizan women go to the forest, collect nuts and sell them in nearby villages. Ripe bela, tubers-PaniAlu, leafy vegetables - Adanga etc, mountain vegetables - Kankada, Asadua and bamboo shoots are collected by the people for consumption. But due to non-availability of tribals in these villages, the production of MFPs is not used fully. Eventhough, now there is quite a good number of big trees but except babul on river or pond banks or on foot hill they are felled only in emergencies like: burning of dead bodies.

As vegetation grew, wild life came back to the forest. Bears, rabbits, monkeys, storks, pythons and some birds are now living in the forest.

In addition to forest, the production system of water & agriculture has also improved. Number of streams which were dead for many years have reappeared. In Kesharpur, the stream today runs for nearly four months. This water is directed to fill up the tanks which are used mainly for pisciculture and in some cases for irrigation. After filling the ponds, water is diverted to the farm lands and it helps the maintenance of moisture in the soil which not only helps the kharif crop but also the rabi crop. Soil erosion has considerably been halted and the fertility of soil in farm lands has improved.

Equity It is quite apparent that these villages are deeply concerned with some notion of fairness. But fairness is not synonymous with equality in material possession. At present there is not a large scale production of either timber or

fuel, so no question of equity in distribution arises. But every one of each village has equal access to collect the dried twigs, leaves or non-timber trees. But since the collection of leaves, twigs etc is time consuming process, it is mainly practised by poor people. The rich either have trees or they purchase the fuelwood. Hence, it seems that relative gain from production system of forest is more to the poorer section. But the improvement in production of water and agriculture is definitely more beneficial to the people who have more land holdings. The increased fish production due to good water supply is distributed equally among all villagers.

However, the relative cost involved is more for the poor section too. In 'thengapali' system, the poor section - the households depending predominantly on labour - stand to suffer more, for their turn for forest protection in many cases means going hungry for that household that day (due to their hand to mouth living). While for the well-off, sending one of their many hired labourers serves the purpose. So the relative cost-opportunity Cost of one day's labour is more for the labour class.

If equity question is raised in terms of the inter-village distribution; the area managed by eight villages is not in proportion of their populations and even some villages which are at the same distance as of some eight villages, do not have any share in Binjiri. The situation becomes worse when village does not have any other forest area also like Patulisahai. But even where equity does not appear strong, it remains clear that local tradition "survives" in some form regardless. It is the strength of local systems, their familiarity, their source in tradition and not the equity or efficiency, that gave them sustainability.

THEORIZATION & CONCLUSIONS:-

The key question is that of a good match between the resource system and the organisational arrangements used to manage the resource. In regard to common resource systems, different prescriptions - Privatization, Government control and Common Property Resource Management System are made. But the good match between the resource system and organisational arrangements can not be rigidly compartmentalized between these three alternatives only. There is a continuous spectrum of good match between the resource system and the organisational arrangements and we have to prescribe the best. The suitability of the system will depend upon the characteristics of resource and user group. India is one of the pioneer countries who has proved; The Common Property Resource Management System, The Joint Management System and Management By Cooperatives as some of the best alternatives for Forest Management.

The management of forests on large extent, in Orissa by communities gives number of viable models of organisational arrangements for Common Property Resource Management System. The present case, in which forests are being managed by informal village councils with the support of Voluntary Organisation indicates that some of the conditions which have been advocated as necessary for CPRM; smaller and more clearly defined boundaries of the resource, smaller size of group, relative power of the sub-groups who benefit from retaining the Commons (Wade R 1987) are not the necessary conditions for success of CPRM system.

As pointed out earlier that equality in communal system is not a pre condition to success. For a country like India and particularly for a state like Orissa, the expectation of equality may be somewhat unrealistic. Rather cultural and social diversity may provide a key for understanding the different communal system of Common Resource Management in Orissa and elsewhere too.

As Robert Wade (1987) pointed out; the scarcity of resource as one of the major factors responsible for evolution and survival of CPRM system, the present study also proves the same. But it should be remembered that there is an inverted parabola relationship between the degree of resource scarcity and the probability of successful resource management. At low levels of scarcity, management in a formal sense does not arise. When scarcity is severe not only the costs of introducing and maintaining management system are high but it may also be a point of no return. In the intermediate zone the probability of success is higher. As far as India is concerned, we are almost in upper one third portion of inverted parabola, in which the chances of success of management of forests as Common Property Resource are higher.

Another significant factor responsible for evolution and survival of the system is stable political order prevalent in the villages. The informal village council members are elected not on the party or faction basis but on the basis of integrity and competence. Important feature is that imposition of any uniform system from the top may not be sustainable for all the conditions, but the illiterate people of villages are also able to evolve the best system for their conditions. In Kesharpur, on the election day a piece of paper is handed over to every voter, who is required to write five names secretly as his choice for informal village council. In other piece of paper he writes two names, one for Secretary -Accounts and other for Secretary-Paddy. Election is not contested and so there is no canvassing. Papers are put in sealed box. In the evening the votes are counted and five persons securing largest number of votes are chosen for the informal panchayat and two persons securing largest number of votes act as

Secretary. The person getting the highest votes act as headman of the village. There is no credibility gap between the leaders and masses. This is a source of strength to both masses and their leaders.

Now I will try to theorize the whole effort :-

(1) The total system can be treated as a combination of three sub-systems:-

- a. Masses
- b. Leadership
- c. Organisations

Masses The masses form the base. They constitute the most important agent for social change.

Leadership: In this two type of leadership can be identified - organisational and social. Organisational leaders are integral part of masses. They are the managers. Such people acquire unique authority through their honesty, hardwork, service and sacrifice.

Social leaders are messengers of ideas. In this case all social leaders are of Gandhian philosophy. They also act as contact men between village and the local administrative and development authorities. They have commitment to the cause. They are the germinator of ideas and act as perennial source of inspiration.

Organisations: Four types of organisations are working in this case -

Village Organisations	: Informal Village Council
Voluntary Organisations	: Brikshya O Jeevar Bandhu Parishad
Semi Govt. Organisation	: National Social Service
Government Organisation	: Forest Department

The interactions among different sub systems are shown in Fig:2

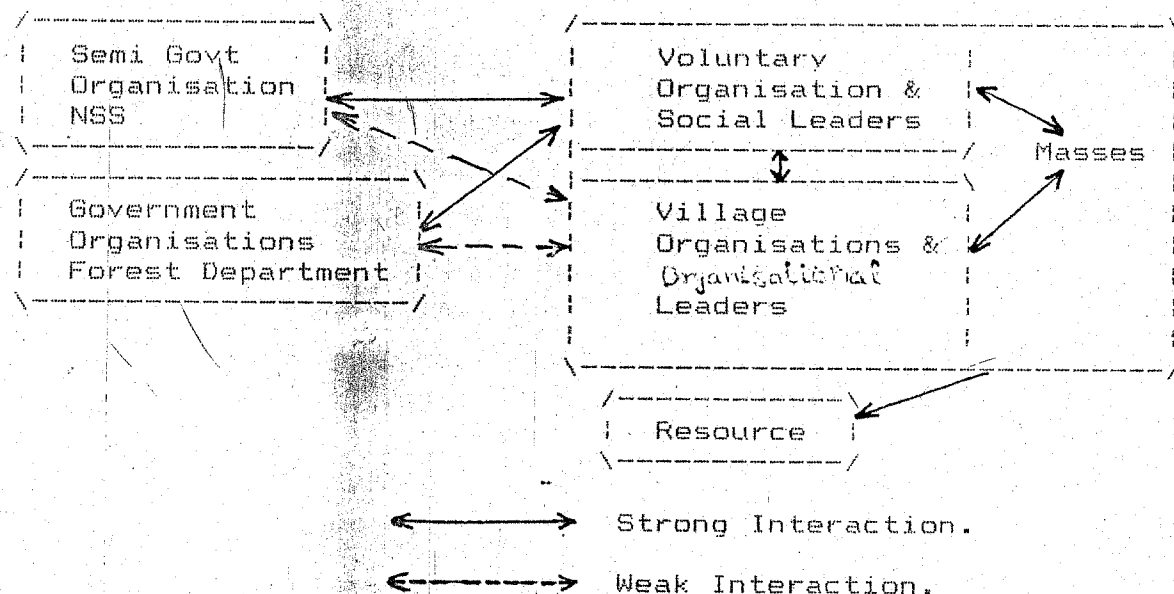


Fig:2 Interactions Among Sub Systems

The role of each sub system can be better represented in form of a electronic circuit. The Masses, Government and Semi Government Organisations work as amplifiers in series. The out put of these three sub systems will be the simple multiplication of their amplification. The village organisation and organisational leaders work as a feed back system for the amplifier of masses only. While Voluntary organisation like BOJBP and Social leaders work as a feed back system for all the three amplifiers. (Fig:3)

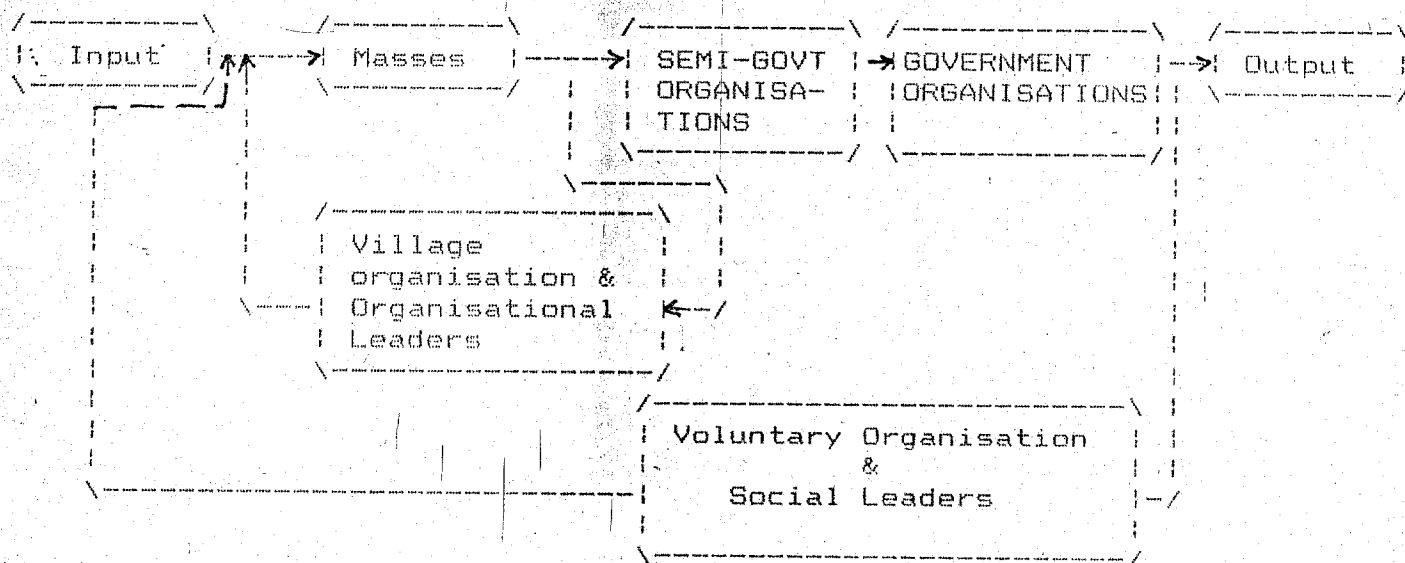


Fig:3

If the amplification factors of three subsystems - masses, Semi Government Organisations and Govt. Organisations are represented by A1, A2 & A3 respectively and Feed Back Factors of Village Organisations & Voluntary Organisations are represented by F1 & F2 respectively, the total gain (G) of the system will be ;

$$G = \frac{A1 \cdot A2 \cdot A3}{1 + A1F1} \cdot \frac{1}{1 + \frac{A1}{1 + A1F1} \cdot A2 \cdot A3 \cdot F2}$$

I want to bring out from the equation that the Voluntary Organisations and Social leaders play a major role in the total gain of the present system. If masses lose confidence in them, it may work as a negative feed back and it will lead to heavy reduction in total gain of the system. Since the BOJBP is satisfying the three Gandhian Criteria - Trusteeship (role of organisation as trustee of the Community interest), No class conflict - either of rich and poor or Upper and Lower Castes and use of Non-violent means; the 'Feed Back Factor' is quite high and positive which results in enormous increase in the Gain of the System.

After realising the importance of Voluntary Organisations, we should look into main features of the organisations. The BOJBP and its thirteen sister organisations are grass root level organisations. The members are from villages only. Eventhough there are office bearers to facilitate the working of organisations, but there is no hierarchy. Even there is no hierarchy among the member and non-members. The members and office bearers treat themselves as integral part of the masses. The organisations successfully try hard to keep themselves away from the recent race for money for developmental works. The teachers have played a vital role in these organisations. They work for the community on holidays and odd times i.e. night and early morning. Today most Indian villages have a school. If somehow the school teachers are motivated to take up the challenge, a significant achievement can be made in organising the Communities for management of those resources where privatization or government management has failed.

- (2) It has become clear that mass poverty in the technologically backward nations is not necessarily reduced by economic growth and modernisation. Long before anyone else had appreciated the need for any alternative to modern economic growth, Gandhiji's grasp of economic realities led him to

anticipate the contemporary case against modern economic growth. Consequently he devoted his economic thinking for working out a economic system for poor nations. He suggested the Non-violent Economic Order.

Gandhiji's numerous pronouncements about the non-violent economic order gave raw material for fairly detailed and elegant pure theory of collaborative economic order. It has two features - first there must be a group of human beings submitting themselves to common direction and discipline for the attainment of a goal which is common to all, second, in the sharing of benefits and costs of the goal attainment process, there must be a mutual concern for everyone's welfare. (Das Amritananda 1979).

Recently C.Ford Runge (1986) identified three stylized characteristics of village life in less developed economies: relative poverty, critical dependence on local agricultural and natural resource base and high degree of uncertainty with respect to income streams, a result of first two and argued that these characteristics create an incentive structure that may make Common Property a comparatively rational solution to certain problems of resource management. Now if 'Collective Economic Order' and 'Management of Resources as Common Property' can not be treated as synonym; they are nothing more than the two similar sides of a coin.

The management of Binjgiri Forest and other village resources as Common Property Resource and that too by using Gandhian non-violence reforms, provides a strong base for the applicability of Collaborative Economic Order in our country. Such cases can provide the background information for the planners of the country for reformulating the economic policies.

Annexure I

District wise distribution of Forest management By Village Organization :

S.No	District	Reserved Forest		Protected /Khesara		Total	
		No. of Orgn	Area in Ha	No. of Orgn	Area in Ha	No. of Orgn	Area in Ha
01.	Koraput	30	1600	184	9400	214	16,000
02.	Dhenkanal	44	12000	220	44500	264	56,500
03.	Mayurbhanj	141	40000	047	14800	188	54,800
04.	Sundergarh	003	700	231	35000	234	35,700
Sun Total		218	54300	682	103700	900	158,000
05.	Keonjhar	62	3500	6	900	68	4,400
06.	Ganjam	3	1300	4	100	7	1,400
07.	Phulbani	12	500	18	800	30	1,100
08.	Puri	7	6000	4	300	11	6,300
09.	Bolangir	5	900	81	6000	86	6,900
10.	Sambalpur	1	500	26	2500	27	3,000
11.	Kalhandi	--	---	19	2000	19	2,000
12.	Cuttack	10	1000	8	400	18	1,400
13.	Balasur	15	2400	--	---	15	2,400
Sub Total		115	16100	166	12800	281	28,900
Grand Total		333	70400	848	116500	1181	1869000

ANNEXURE II

List of incidences in which members of BOJBP were able to persuade/convince the masses by using Gandhian tools.

(1) On re-establishment of vegetation, wildlife came back to Binjgiri. On 3rd February 1986 the male Kotra was coming from nearby hill to Binjgiri. The Paunia villagers has spotted it on the crop field and caught hold of it. The villagers decided to make a feast with its meat. This information reached Kesharpur. Mr. Joginath Sahoo and his school colleagues immediately rushed the spot and requested the villagers not to kill the animal for meat. The Social Workers raised slogans for conservation of wildlife. The children of the village came to the support of social workers. The youth were enraged. The social workers fell at the feet of the villagers and begged them to life of innocent animal. Hearts melted and the prayer was granted.

(2) In April 1983 a contractor with his truck and men came to Binjgiri hill to collect stones from the part of Binjgiri village. When the Binjgiri villagers came to know this, all of them ran to the spot and offered civil resistance. Finally they succeeded in their mission.

(3) In July, 1984 Mr. Joginath Sahoo wanted to carry the plantation in Malati hill. The forest department provided the saplings. He requested the villagers to come forward to plant the saplings but none was turned up. The six Volunteers came to the road at the foot hill of the Malati. As people have started to come from both directions of the road Mr. Joginath and his family members touched their feet. They were surprised and enquired about the purpose. Volunteers requested each of them to plant 5 saplings. They gladly obliged. At last came the person suffering from leprosy, Joginath fell to his feet and explained the person. The person was overwhelmed. With tears rolling down the cheeks of the traveller and Joginath, they planted saplings.

(4) In June, 1985, two men living on wages from quarry came to Malati and threatened to uproot the plants as they were causing threat to their livelihood. Mr. Joginath caught hold of the feet of one of them and started weeping. Though this man was changed the other man remain stubborn. Joginath and his wife fasted on this issue and managed to convince the persons.

(5) In July, 1985, Social Forestry Department started plantation in Badagerada. The villagers were asked to clear

the forest. Some people not only cleared the allotted portion but went beyond to collect more firewood. Destruction of forest spread like wild fire. Mr. Joginath and two other colleagues visited the village and explain the people about the suicidal consequences of destruction of forest. Joginath fell at the feet of those who were around. They assured to convene the Village Committee Meeting and take steps to stop the destruction of forests. They were true to their words.

(6) There was a report in 2nd week of July, 1986, that the Badagorada cow herdmen were allowing the cattle to graze on the Binjigiri hill where new plantations were taken up last year. Four school teachers and 150 students rushed to the village and prostrated in front of the cow herdmen's houses. This had an electrifying effect and the villagers in no time assembled there and expressed their profound sorrow and sense of shame at the conduct of cow herdman.

REFERENCES

1. Agrawal Anil & Narayan Sunita : 'Towards Green Villages' CSE 1990 New Delhi LG/m
X
2. Arnold J.E.M & Cambbell J Gabriel-1986 : 'Collective Management of Hill Forest in Nepal. The community Forestry Development Project' in Proceedings of the conference on CFRM. National Academic Press. LF/m
X
3. Berkes Fikret - 1988 : "Common property Resources-Ecology and Community Based sustainable Development". Belhaven Press. [Signature]
4. Chambers R, Saxena N C & Tushar Shah 1989 : 'To the hands of the Poor. Water and Trees' - Oxford and IBH Publishing Co. Pvt. Ltd X - F/m
G/m
5. Chopra Kanchan, Kadikad GK & Murthy MN (1990) : 'Participatory Development : People and Common Property Resources'. Sage Publication. New Delhi. X - F/m
6. Das Amritananda (1979) : 'Foundations of Gandhian Economics'. Allied Publications New Delhi.
7. Dutta Nikunjalata (1989) : 'Village Panchayats in India' Mittal Publications, N.D
8. Gardener R Elinor Ostrom & Walker J. (1989) : 'The nature of Common Pool Resource Problems' Workshop in Political Theory & Policy Analysis. Indiana University
9. Forest Research Institute 1961 : '100 years of Indian Forestry'
10. Government of India (GOI) 1894 : 'Forest Policy'
11. GOI 1952 : 'National Forest Policy'
12. GOI 1988 : 'National Forest Policy'
13. Government of Orissa (GOO) : 'Working Plan of Navagarh Division.'

14. Guha Ramachandra (1989) : 'The Unquiet woods - Ecological Change & Peasant Resistance in the Himalaya. Oxford University Press
15. Gupta AK 1987 : 'Why Poor People do not Cooperate' 'A study of Traditional Forms of Cooperation with Implications for Modern Organisations' in Politics & Practices of Social Research (ed) Wanger G.C. George Allen & Unwin London.
16. Hazari Narayan (1985) : 'Grass root Politics in Rural India'. Educational Publishers, Agra.
17. Hazari Narayan & Hazari H.C (1987) : 'Community Action in Environmental Conservation - An Experiment in Orissa' in Environmental Management in India Vol II. Edited by R.K. Saporo : Ashish Publishing House, N.D.
18. Jodha NS (1985) : 'Population Growth and Decline of Common Property Resources in Rajasthan' Population and Devpt. Review, Volume II (2)
- (1990) : 'Rural Common Property Resources Contributions and Crisis'. Foundation Day Lecture SPWD, ND.
19. Lal J B (1989) : 'India's Forests Myth & Realities' Natraj Publishers, DehraDun
20. North Douglass C & Robert P Thomas (1977) : 'The First Economic Revolution'. The Economic History Review, Vol 30 (1977).
21. Messerschmidt DA 1986 : 'People & Resources in Nepal: Customary Resource Management systems of the Upper Kali Gandaki' in Proceedings of the Conference on CPRM 1986. National Academy Press.
22. Oakerson RJ (1986) : 'A Model for the Analysis of Common Property Problems' in Proceedings of the Conference of CPRM - 1986. National Academy Press.

23. Ostrom Elinor (1986)

- : 'Issues of Definition and Theory Some conclusions and Hypothesis in Proceedings of the Conference on CPRM - 1986.' National Academy Press.

(1988)

- : 'Institutional Arrangements and the Commons Dilema' in Rethinking Institutional Analysis and Development: Issues, Alternative Choices'. by Vincent Ostrom. David Feeny & Hartmut Piehut.. San Francisco. ICS Press.

24. Poffenberger M (1990)

- : 'Joint Management of Forest Lands Experience from South Asia'. Ford Foundation. N.D.

25. Powell BH Bedan

- : 'The Land Systems of British India'. Vol I, II & III. Crown Publications. New Delhi. x

26. PPCL. Bhubeneshwar (1990)

- : 'Report on the study on Enumeration of Forest Patches Protected By Villagers in Orissa and Mechanism and Motivation Behind such Protection'. Unpublished.

27. Rawls. John (1971)

- : 'A Theory of Justice (Oxford: Clarendon Press)

28. Ribbentrop B (1970)

- : 'Forestry In British India.' LF/m Indus Publishing Co. N.D. x

29. Runge C Ford (1986)

- : 'Common Property and Collective Action in Economic Development' in Proceedings of the Conference on CPRM 1986. National Academy Press.

30. Singh Chatrapati (1986)

- : 'Common Property & Common Poverty: Oxford University Press'. 4m x

31. Spradley J P &
D.W. McCurdy (1980)

- : 'Anthropolgy: The Cultural Perspective'. Second Edition New York: John Wiley & Sons.

32. Wade Robert (1986)

- : 'Common Property Resource Management in South Indian Villages' in proceedings of the Conference on CPRM-1986. National Academy Press.

33. Wade Robert (1987)

- : 'Village Republics - Economic Conditions for Collective Action in South India'. Cambridge University Press.

34. Stewart W (1989)

- : 'Common Property Resource Management: Status and Role in India'. Limited circulation.