

**MANAGEMENT OF PROPERTY RIGHTS REGIME:
AN EMPIRICAL EXPLORATION OF EQUITY AND SUSTAINABILITY**

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ABSTRACT

This paper explores the issues of equity, sustainability and property rights regime in the context of converting a prisoner's dilemma situation into a positive-sum game relationship between the big landlords - Zamindars - and the landless villagers prone to militancy.

The Chakriya Vikas Pranali (Cyclic System of Development) is an experiment on social negotiations that aims to halt and reverse the environmental degradation and social disintegration. The CVP has established congruence among the physical and technical resources and the decision-making norms and thereby developed an equation in which unequal stakes of different groups generate a set of expectations that is equitable and sustainable. The core features of CVP are: (a) a conversion of private fallow lands into common-pool resources; (b) the maximum utilisation of rainfall through water conservation - in situ and in small tanks and ponds - and its concentrated use through introduction of a new, intensive, multi-layered land use systems with very high potential income yield; (c) mobilization of villagers' organization for management of regeneration of natural resources, and (d) distribution of benefits on a 1:1:1 basis - one share to the landowner; one share to be divided equally among all village workers as family income; and one share to the village society for the development of social infrastructure: school, health centres, etc.

The CVP lays stress on the village as a unit of development, evolves common property resources institutions based on community participation, equitable distribution and land augmenting technologies and develops strategies for regeneration of degraded environment.

**Management of Property Rights Regime:
An Empirical Exploration of Equity and Sustainability**

INTRODUCTION

The roots of this paper lie in the recognition that under the conditions that are increasingly found in many developing countries such as, subdued and inter-locked markets, retrogressive tenancy, degraded environment, rapid disintegration of socio-cultural milieu and non-responsive and unimaginative development policies and programs, insistence on private property rights often lead to a no-win situation. Clearly public-sector led policies on land reforms, consolidation of holdings and other structural reforms aimed to promote the emergence of modernised peasantry consisting of small farmers will be a non-starter if appropriate institutions are not evolved to enable landless to enter the peasant sector or other non-farm self-employment sectors to build a socio-technologically resilient rural systems. The role of third sector - local non-government organizations (NGOs) - in designing equitable and sustainable development processes in a common property resources management framework, has not received adequate attention so far. Though, we concede that "getting the institutions right is a difficult, time-consuming and conflict-invoking process" [Ostrom 1989].

After defining the broad socio-ecological setting of uplands in Palamau district of Bihar state in India, this paper presents empirical evidence from an ongoing experiment on social negotiations - the Chakriya Vikas Pranali (Cyclic System of Development) - that aims to arrest and reverse the process of environmental degradation and social disintegration under adverse circumstances. Vignettes gleaned from the rich experience of an NGO - the Society for Hill Resources Management School (SHRMS), are used to raise several interesting and important issues that are critical to the success of common property resources institutions.

The issues explored are :

- i. Does pooling of privately owned land result in redistribution of resources, risk and income ?
- ii. What motivates the disadvantaged poor and the landlords to pool their resources, given current tenancy laws ? What kinds of institutional assurances are required in the short- and the long-run?
- iii. Which type of governance at local level would promote "equity", "non-differential access" and "sustainable use" of common-pool resources ? What skill enhancements are needed to make such a governance type effective ?
- iv. How should the incremental benefit that accrues from the common-pool resources be utilized ? Should it be shared among the stake

holders ? Should it be used as a risk-hedging and/or risk-sharing mechanism ? Or, should it be employed to diversify the resource management strategies in a fashion that employs skills and/or resources of the poor in higher proportion ? and

- v. In a situation of scramble for resources or benefits through 'individuation' what strategies are available to the poor to reinforce the principles of "community" property rights in place of "private" property rights ?

The final section of the paper deals with the role of common property concepts in the analysis of complex resource management problems and the contribution that facilitator NGOs can make in the implementation of policies to deal with those problems.

SETTING

Bihar is generally considered to be one of the poorest and most backward areas of India. The Indian Irrigation Commission of the early nineteenth century characterized Palamau as the "driest and probably the poorest district of the Province". Forty years of planned development has not made much difference, Palamau continues to be the most backward district of Bihar.

Ecological Context

A large part of Palamau is hilly in terrain with a series of parallel ridges running from east to west that is pierced by the Koil river as it flows northward. The undulating terrain gently slopes into comparatively open country in the north and merges with the plains of the central Bihar - Jehanabad, Aurangabad and Gaya. The natural drainage is from south to north towards the Sone river that forms the northern boundary of the district.

Palamau receives uni-modal precipitation, concentrated during June - September. Annual rainfall is medium to high (700 - 1300 mm). The wettest months are July and August. Hathiya rains at the end of September or the beginning of October is critical for the non-irrigated mixed-cropped areas in the upland.

Soil in the district can be grouped into three broad categories [Sarkar 1992]. They are : (a) Hill and forest soils of steep slopes and hilly dissected regions. This area is characterized by rapid run-off and eroded soils; (b) Yellow-reddish yellow, medium deep, light textured catenary soils of murrum predominance with acidic reactions and low fertility status; and (c) Upland grey-yellowish grey, heavy soils on sedimentary and allied rocks. It has normal to acidic reaction but has low fertility status.

Historically, Palamau was endowed with a dense forest cover. Indigenous population had removed forest cover in the northern more level and fertile plains. Rapid denudation could be

traced to the beginning of the Permanent Settlement schemes under the English rule. It also created differential and exclusive property rights regime in the district [Palamau Gazetteer 1926].

Khalsa forest around the Khas Mahal villages were meant for meeting the requirements of British rulers and their raiyats (tenants). Little or no control were exercised over Khalsa forests. They were gradually destroyed due to "the improvident method of exploitation" .

A large chunk of forests were assigned as private forest under the control of "Zamindars" or "Landlords from the moghul period. During the colonial regime this practice was continued as an important side payment for punctual collection of revenue. Shifting cultivation (daha) coupled with unregulated felling by the right-holders reduced large primeval forest to scrub jungles. Non sustainable practices further led to complete denudation, resource degradation and conversion of forest land into wasteland.

With the advent of the first Inspector General of Forest in 1865 (Sir Dietrich Brandis) organized forestry activities commenced in states under direct British rule. Around the same time, a conservator (Mr. T.M. Anderson) was appointed for Bengal, Assam and Bihar. Subsequently, a separate Forest Department was created. The Forest Act 1865 envisioned creation of Reserved and Protected Forests and brought the major forest cover under the Government management. However, Palamau experienced inefficient forest management for a protracted period due to the internecine conflict between the Deputy Commissioner and the Forest Department over the control of forests [Palamau Gazetteer 1926].

Though conservation measures were initiated, forest denudation continued unabated. Initially, large quantities of slippers were required to laying railway routes and subsequently, timber was exported. In the post-independence period, large scale felling was resorted to establish flood-control embankment on the Kosi and the Sone rivers. Besides, a collusion between forest officials and contractors ensured continuous plundering of forest resources. One important factor for existence of vast expanse of private wastelands in Palamau was the provision under section 193 of the Bengal Tenancy Act of 1885 in respect of right of pasturage and forest right. These rights exercised by villagers in the private forest were as follows :

- (i) in the case of more densely covered villages an entry was made in the record-of-rights to the effect that the tenants have the right to reclaim wastelands for permanent cultivation without the landlord's permission, provided that the land must be suitable for cultivation and that the tenant must not waste valuable timber or clear more ground than he can himself conveniently cultivate with the means at his disposal;
- (ii) in villages where a considerable part of the forest had already been cleared and where the area available for cultivation was therefore restricted, the entry was made that the landlord's permission was required. The villagers had also the right to collect fuelwood, take wood for domestic or agricultural purposes, graze their cattle in the forest, and take forest fruits and produce except mahua.

There were many cases where landlords used conveniently their indentured tribal labor to clear scrub forests under the tenants' right to reclaim wastelands for permanent cultivation, which remained with the former.

A Forest Department innovation - Forest Village - further contributed to the eventual deforestation. Non availability of adequate labor in the inaccessible forest compelled the department to form forest villages within the boundaries of reserved forest. Forest villages were to ensure a continuous supply of labor [Palamau Gazetteer 1926].

The villagers were allowed to clear large parcel of forest land and cultivate the land free for the first 3-4 years and then they paid a nominal rent. In exchange for this concession, they were expected to supply the Forest Department with labor for a certain specified days in the year. Their wage rate were slightly less than the prevailing rates of daily wages [ibid.]

Government of Bihar regularized the forest villages to revenue villages only in the 1980s. In the absence of records-of-rights, many contractors and landlords with no scruples, have known to have cleared large forest areas and populated it with their indentured labor. Even till date, in Palamau there are villages that are owned by single landlords, who were able to circumvent the existing land reform regulations by their chicanery, system of 'benamdari' collusion and their societal power.

The present land-use pattern is still dominated by forests (43 per cent of total area). Mixed forests are composed largely of Shorea robusta (sal), Terminalia tomentosa (asan), Anogeissus latifolia (dhaura), Pterocarpus marsupium (bija), Gmelina arborea (gamhar), Dendrocalamus strictus (bamboo) and Acacia catechu (khair). They produce a whole range of major and minor forest produce.

Agriculture is, by and large, rainfed and restricted to 18 per cent of the geographical area. Majority of the upland area (tanr) has traditionally been mixed cropped in the monsoon season (kharif) with maize, millets, pulses and upland paddy, while paddy is grown as monocrop in the valleys and lowland (don). Rabi crops are grown sporadically in the beds of the ahars, i.e., river tributary beds in the post-monsoon season. Other sources of irrigation are : canal, tanks and wells. However, only 7 per cent of the total area and 26 percent of the cropped area is under assured irrigation. The topography of the area preclude any major irrigation scheme. Though with appropriate soil and water conservation measures rainfed land could be augmented. Except the valleys and the northern plains, HYV seed-fertiliser technology did not make any dent in the district.

Socio-economic Context

Palamau, has a low population density (150 persons/sq. km.), in spite of large scale inward migration from the Central and the Northern Bihar. Much of the population belong to the tribal (18 per cent), lower caste and harijans together comprise about 25 per cent. Much of the land is owned by the large absentee Zamindars, i.e., 2 per cent of landlords own almost 21

per cent of the land. Small and marginal farmers constitute 76 per cent of the population, but they account for only 26 per cent of the cultivated land. The medium farmers (22 per cent) owned 53 per cent of land. The district, thus, represents a microcosm of Bihar in prevalence of wide disparities in size of land holdings and asymmetric relationships between the "haves" and the "have-not".

While the valley and the plains have sporadically benefitted from technological break through, the undulating uplands were by-passed by the development process. Landless labors, sharecropper, and marginal farmers belonging to the tribal, low caste and harijan communities together constitute the majority of the residents in the uplands. Historically, they have been forest-dependent society. They were gatherers rather than cultivators. Edible forest products like roots, fruits and leaves enabled them to eke out a subsistence living. Head loads of fuelwood kept their hearth warm. Even to this day, one can find streams of women, children and men trekking long distances to the reserved forests and scrub jungles for poaching fuelwood. But now they denude the forest to sell head loads of fuelwood in the market place to town dwellers.

The Palamau Gazetteer recorded their survival strategies under extreme situations of famine, thus: "The aboriginals however have a resource, unknown to cultivators in many other districts, in the edible jungle products which enable them to eke out their existence under conditions which would result in starvation elsewhere. They are consequently safeguarded from very severe famine; but these scanty meals of forest produce, when continuously taken without the usual accompaniment of rice or other digestible food produces effects very injurious to general health ... render the people an easy prey to any prevailing sickness. This was very clearly demonstrated in the famine of 1897, when it was found that the poorer classes inhabiting those parts of the district which produce most of the edible jungle products became in the long run more emaciated and debilitated than in other parts of the district".

The development process has not improved the situation of the disadvantaged group yet. They are impoverished, malnourished, illiterate and without regular employment. They are struggling to eke their lives through illegal denudation of whatever forest cover is left and subsistence agriculture without secure access to the basis of agricultural life - land. Many sell their labor to high caste landlords for whatever pittance they can get; others rent land at exorbitant rates under conditions insecure enough to smother incentives for investment and technical progress; still others scratch what produce they can from inadequately sized, often fragmented and degraded family plots and then seek other employment under the public employment schemes to make the two ends meet.

Demographic pressures alone would guarantee continuance of abject poverty of these landless and near-landless people. The contribution of population growth to landlessness is supplemented by other developments within the agrarian economy : land accumulation by better off farmers; eviction of tenant by landowners fearful of tenancy regulations - the landowners do not allow the sharecroppers to cultivate the same land from year to year for the fear that they may lay claim over the land; increasing tendencies among tribal and disadvantaged low caste to

turn militants under provocation from agent provocateurs of different hues and colors; emergency sales of land by marginal owners, etc. At the same time, the economic and development policies and programmes in the state has not promoted widespread non-farm employment opportunities that could provide alternative livelihood for agriculture's dispossessed.

Examining tenancy in Bihar in 1969, Wolf Ladejinsky wrote : "On the merits and demerits of tenancy as a form of land usage, there are reasonable differences of opinion but there are virtually none about tenancy practiced in Bihar ... the system is good neither for efficient production nor for the well-being of the sharecroppers".

When tenants do not have secure multi-year rights to the land they till, they are unlikely to invest in land improvements, to care much about long-term soil quality, or to invest in fertilisers whose benefits will be spread over a few years. When tenants must bear all the cost and risk of input purchases, but must turn half or two-third of the resulting produce over to the landlord, motivation to take such financial risk, even if he is capable, is bound to be diluted.

Of late, Palamau has been witness to a spate of land-related violence. The roots of the increasing social unrest, agrarian violence and vandalism can be traced to a configuration of multiple factors. Iniquitous distribution of land, high incidence of sharecropping, usurious exploitation and bondage of impoverished low caste harijans and tribal who are ensnared in semi-feudal production relations; state's dismal record on land reforms [Prasad 1989, Dhar 1990 and Bharati 1992] and consolidation of holdings [Verma 1985]; increased tribal aspiration for autonomy and the jharkhand movement being taken over by militant leadership [Raj 1992]; class-cum-caste exploitation and the backlash by extremist groups [Gupta 1992]; ascendancy of middle peasantry in politics and power, weakening of the strangle hold of the high caste and the resultant defensive reactions [Prasad 1991, Gupta 1992], underdevelopment of the region and lack of alternate opportunities of gainful employment coalesce to create social tension. Proximity to Jahanabad and Gaya - the hot spot of agrarian violence, and inaccessible dense reserved forest that provide shelter to militants also make Palamau a fertile breeding ground for increased land-related violence.

In summing up this section, we restate the explosive situation that has griped Palamau and other similar socio-ecological homologue in the tribal plateau regions of eastern India. First, the paradox - it is a chronic drought-prone area amidst high rainfall. Historically, the region has been subjected to ecological vandalism. The rich heritage of biodiversity has been plundered and threaten other types of diversity that were common feature of its food and agricultural systems, environment, myriad landraces of plants and animals, and health which was characterized by the differing dietary and nutritional requirements of indigenous people. Rapid run-off, high erodibility of soil, undulating upland terrain that is completely denuded and left as private wasteland, and low productivity of mixed-cropped subsistence agriculture are some of the rampant bio-physical features of the region.

The socio-cultural fabric of the rural systems is torn with internal contradictions. The ethnic consciousness of the tribal have become prone to militancy. The widened socio-economic

disparities between the big, landed absentee zamindars and the landless and near-landless populace coupled with absence of alternative on-farm or off-farm employment opportunities provide a fertile ground for various splinter groups of erstwhile violent Naxalite movement to provoke the silent majority to take to arms for snatching "social justice". A resurgence of interest among policy-makers in land reforms to achieve the goal of improving the access of rural labor and poor to agricultural lands and common lands [Rao 1992] has hardened landlords attitude towards tenants, lest the latter lay claim on former's land under the right-to-till schemes. Increased militancy among landless also compel the better off families to migrate to towns and cities.

The sense of insecurity gets confounded. Since the landlords are insecure, they either stop leasing out land to landless or cease multi-year rights to land the tenants used to till. The traditional patron-client relationship is snapped. So is the traditional communication channels. The environmental degradation and social disintegration that exist in the rural tribal plateau regions calls for collective actions. But there is real divergence between individual and collective rationality. Decisions that are rational from the point of view of either the "haves" or the "have-not" are defective from the point of view of both together. The landlord cannot earn profits from his land if he leaves the land fallow. But to till the land is taboo for the high caste. Necessarily, he has to enter into tenancy relationships with landless or near-landless. However, if he leases his land he stands to lose the land to the tenant. It is in each landless labor's interest to lease land for tilling or to sell his labor. Nevertheless, they seem to succumb easily to the agent provocateurs. The existing land reform jurisprudence though biased towards the weaker disadvantaged section, forces the situation heavily loaded against them. In absence of any other sources of livelihood, the landless continue to poach on the scrub jungles and the reserved forest. The landless family rely on head load of fuelwood to make both ends meet. Social insecurity breeds environmental degradation.

The remainder of the paper addresses the social negotiations that are necessary to alter the property rights regime, the evolution of institutions to eliminate the dissonance between individual and collective rationality and ensure pursuance of the so called Sure-thing Principle, i.e., cooperation and collaboration, that would trigger an equitable and sustainable development process.

CHAKRIYA VIKAS PRANALI (CVP)

The Chakriya Vikas Pranali (CVP) or the cyclic system of development - an elaboration of the Sukhomajari¹ model of development - has been evolved to address the specific problems of Palamau and similar upland plateau regions (see Box 1). Its aim is to arrest and reverse the frightening downward spiral of physical degradation and social disintegration. The key features of the CVP designed by Society for Hill Resources Management School (SHRMS) are:

- i. **Pooling of Land:** Surplus Tanr (upland) wastelands is available with medium and large farmers. Most often, such lands are either fallow or cultivated under low productivity system. The land owners volunteer to pool their resources, the first pre-requisite for building common property resources institution.
- ii. **Collective Action:** A boundaryless concept of 'school' embodies the notion of community action through the surplus labour that exists in the villages. All villagers are students, irrespective of differences in economic, social and gender status. The poorest households form the core or permanent labour (students) employed to develop the degraded pooled resources. Students receive stipend as remuneration. A 10 percent of stipend is mandatory saving in the form of student fund.
- iii. **Capital:** SHRMS mobilises grant-in-aid to cover the investment necessary to develop the land in the first instance and thereby trigger a regeneration process that is self-revolving too.
- iv. **Technology:** Appropriate soil and water conservation methods coupled with a multi-tier land use system, comprising tree (timber, fruit, fuelwood) fibre and food crops, arrests rapid run-off and utilise available moisture to produce very high potential income. The enterprise-mix ensures returns after 3 months, 1 year, 3-5 years, 10 years and 15 years and harvests solar energy through efficient use of vertical and horizontal space.
- v. **Community Management:** A gram samaj (village society) is formed to oversee the CVP. Village society committee representing the participants is expected to take charge of asset creation, its protection and management and distribution of property rights.
- vi. **Benefits:** products from the pooled resources such as vegetables, food, fruits, fibre, fuelwood and timber, etc. are to be sold. The gross benefits is to be shared equitably on a 1:1:1 basis; one share to the landowner; one share to be divided among all families in the village and one share to village development fund. The fund is used for the development of social infrastructure in the village.

¹ Please see Mishra and Sarin 1986, SPWD 1986 and Chopra et. al., 1990 for a description of the Sukhomajari experiment.

Once firmly established, the multi-tier production systems - combining quick yielding, high-value tree species with a gestation period of 5-7 years (e.g. guava, citrus, subabul) and other, still higher value but longer maturing trees (e.g. mango, timber species) - are expected to produce enough income for self-sustaining village development through a process of continuous recycling of local resources.

An essential feature of the CVP approach is emphasis on a strong village society (VS) capable of planing and managing its own development, ensuring protection through "social fencing" and resolving any conflicts of interests that may crop up, including those between large landlords and poor landless villagers (see Box 2 and Figure 1).

In contrast to the voluntary exchange of rights between individuals within a given structure, the CVP approach involves changes in the structure of property rights. That is, changes from private to common property rights through a consensual process in which all processors of the affected rights agreed to modify their rights in the existing structure in return for rights in the emergent structure.

The pooled land has the necessary features of common property resources. That is, the pooled lands are (a) necessarily used in common by all members of the community (village); (b) that "no exclusion or discrimination" is permitted in respect of its access; and (c) they are "open-access resources".

The pooled land are resources open to all members of the community. The 'rights' of the community are to the biomass produced over the pooled lands. However, students of the CVP school, first of all, have to effect regeneration of the wastelands through appropriate soil and water conservation methods, plant and protect the trees and crops. So all have to participate in regeneration, nurturing and protection; then only they can appropriate biomass. The "open-access" to common resources is ensured by the village society without falling into the trap of inequity and the tragedy of the destruction of common resources. The 'open-access' to pooled resources is translated in terms of resources supported by these lands are 'open' to 'equal' access by all members of the community, without any possibility of any one user "free-riding", i.e., equal availability or sharing of biomass.

The CVP has not yet completed its first cycle. During the period 1988-1991, a total investment of IRS 7.038 million [1 IRS = US\$ 30] was made under the SPWD and NWDB funded projects, at an average of IRS 0.235 million per village. Of this 53 percent was spent on water harvesting structures, 21 percent on stipends and 11 percent on miscellaneous items. Total area planted was 1606 acres (53.5 acre per village) and the number of plants was 3.246 million. 38 water harvesting tanks and 38 check dams were also built besides undertaking other appropriate soil and water conservation treatments to preserve in situ soil moisture in the total area.

By the end of 1991, just over IRS 0.5 million had been accumulated in the student and village development funds of the 30 villages (an average of IRS 16,700 per village). Of this

total, a large proportion came from the 10 percent mandatory deposits by students on receipt of their students or contract work payments, and a smaller proportion from the sale of quick growing fruits (papaya) and vegetables grown collectively by villagers. Only 6 percent came as income from individual families' investment in enterprises such as vegetable cultivation or pond fisheries (see summarised data in Annex I).

Leaving aside potential returns from vegetables and quick-growing crops such as papaya, vegetables, which will depend a lot on short-term investment decisions, projected returns from longer-maturing fruit, fuel, fodder and timber trees appear very impressive. On the basis of current local market prices, the value of the produce already planted trees is projected to increase as follows :

TABLE 1
Projected Streams of Benefit from CVP
(Value in 1 Rs)

Year	Total	Av. per village Societ	Av. per village Family	Av. per indiv.
1992	24,062	802	267	3
1993	2.11 lakh	7,042	2,347	29
1994	26.18 lakh	87,267	29,089	357
1995	37.40 lakh	1.25 lakh	41,561	512
1996	81.66 lakh	2.72 lakh	90,894	1,119
1997	97.69 lakh	3.26 lakh	1.08 lakh	1,336
1998	100.00 lakh	3.33 lakh	1.11 lakh	1,366
1999	110.28 lakh	3.68 lakh	1.22 lakh	1,508
2000	180 crores	6 crore	2 crore	2.46

In the first two years, sources of income are confined to fruit trees (mainly guava) and bamboo. Then from 1994, subabul and fuel tree species are expected to yield substantial returns that would account for over 80 percent of the total income until 1999. The projected explosion in returns around the year 2000 - the implications of which are almost impossible to imagine - is derived from the expected arrival of high value timber species on the market.

Besides creation of common property resources owned jointly by the village society, the CVP has ushered in innovative mechanisms of enabling landless youth to take risks to diversify their livelihood strategies. For instance, interest - free loans, from both students fund and village development fund, have been advanced to unemployed youth to set up micro enterprises, such as three-wheeler rickshaw, establishment of tea shops, petty grocery shops, production of high value crops, and marketing of farm produce. The village society is assisting the youth to embrace entrepreneurial skills. The youth have started paying back the loans. Even social security loans are provided for meeting filial and social obligations as well as covering consumption expenses during stress. The disadvantaged villagers have, thus, been able to extricate themselves from the vicious inter-locked markets of capital-land-products.

There is strong motivation for both landlords and poor villagers to cooperate. Whereas both are locked into a no-win situation under the prevailing agrarian economy in a "zero" land use system, both stand to gain immensely from CVP. But neither can benefit without the participation of the other. The villagers need to have the use of the landlord's land. The most immediate tangible impact of CVP is the increased employment among unemployed and underemployed work force with an assured stipend. The landlords cannot proceed independently (a) because they do not know the CVP technology, and (b) because they do not have the capacity to mobilise and control the workers required to implement it or to protect the planted material from depredation (grazing, cutting) of others.

The role of SHRMS - the NGO - is to act as a catalyst for social and technological change in the initial years of development. And then as soon as possible make a gradual withdrawal, encouraging the village societies to assume responsibilities for managing their own affairs. In the short-run it also re-established communication among cooperators that was snapped and articulated the rules of the common property resources institution. Expected short-term benefits seem to be adequate to elicit cooperation among adversaries. But in the long-run the situation is similar to prisoner's dilemma in the sense that neither side may be communicating its long-term intention.

The difficulties associated with consensual process of this kind, such as the breakdown of assurances - both vertical and horizontal (Box 1); Strategic benefits to holdouts (Box 2 and 4) are manifested. But SHRMS has enabled the village societies to overcome the teething troubles through holding out promise for social ostracization - a tit for tat strategy, written agreements and building strong village societies.

The basic pre-condition for local management of common-pooled lands is to confer the property rights of its resources on the community. Transfer of property rights to the students does not mean transfer of ownership rights to these lands by individual. Rather, property rights are assigned to the village society in the form of use of right to natural produce. Thus, the sense of insecurity among landlords of losing rights-to-land is allayed. The village society assigns students to different pieces of contiguous blocks. The contractual agreement is between the village society and the landowner and not with the tenants.

All villagers have access to these resources in their capacity as students of the CVP school. No individual enjoys any preferential access to the pooled lands by virtue of any social or economic advantage vis-a-vis other fellow users.

When the village society asserts its property rights over the pooled land it is the principle of 'inclusion of its members in the equitable and sustainable use of the resources, that is asserted and not their 'exclusion' from the resources.

However, several attempts at individuation is documented in Box 2 and 4. Individuation promotes unequal assertion of property rights over common resources. As a student of CVP School, a villager is entitled to a share of the resources of the pooled land, i.e., biomass, which is equivalent to the shares of each of the fellow-students.

The central tenet of community management of pooled lands is to ensure that the principle of 'community rights' rather than 'individual rights' is reckoned for these lands.

The process of subordinating individual rights to that of community rights - penalty to discourage grazer to let loose cattle, litigation as a strategic deterrent, inter-village agreements (box 6); written contractual agreement (Box 4) the consensus evolving exercises, tit for tat strategies (Box 2) have proved very useful.

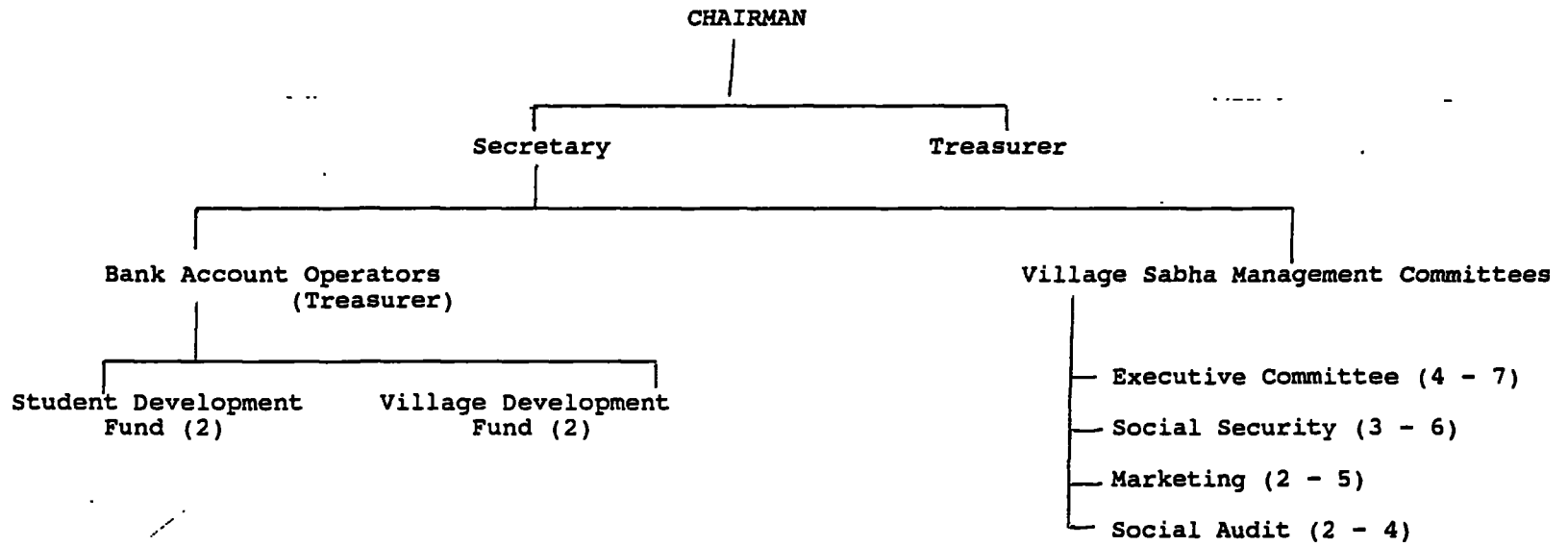
The basic concept implicit in these measures is designing a sustainable production system by mimicking the natural ecosystem of diverse species and equitable distribution of the biomass without doing away with open physical access to the lands bearing the resources.

For 'equity' and 'sustainable' management of common pooled lands to be a reality, their management by the students or community of users is necessary and desirable. Box 5 describes transparency of CPR institution through designing an open information system and implementing social auditing, while emergent networking among the village society to enforce accountability is outlined in Box 3. The role of SHRMS has been to creatively evolve and set up appropriate governance structure of the communities (see Table 1) concerned. It has helped in evolving a common property resources institution with an explicit treatment of the way in which the villagers should collectively manage the pooled resources. SHRMS has also enabled the villagers to develop and get hands-on experience with procedures for making decisions that affect the group as a whole, and methods for enforcing those decisions.

It has also evolved processes for both resolving conflict and to minimize the amount and cost of conflict. By developing an equitable sharing principle, SHRMS has strived to reduce the dimensions of conflict due to modification in the property rights structure. This has also permitted the emergence of outcomes that could be stable at least most of the time.

FIGURE 1

VILLAGE COUNCIL STRUCTURE



SUMMARY

SHRMS played a catalytic role in establishing a positive sum relationship between the two adversaries in Palamau - the landowners and the landless by articulating the basic tenets of Chakriya Vikas Pranali. While its focus has been centered on degraded wastelands, the cyclic system of development has brought together employment and asset creation through a creative involvement of community to arrest the environmental degradation and social disintegration. This has been achieved by stress in village as a unit of development planning. Changes in property rights structure, which is a pre-requisite for evolving common property resources institution, was effected by a contractual agreement between village society and the landlord. The strength of the CVP is in embedding regeneration as a cyclic strategy firmly in the common property resources management framework with equity and sustainable development as the lynchpins. Sustainable development is conceptualised as establishing synergy among diverse biological technologies, institutions and local community so that these elements are mutually compatible and consistently geared towards enhancing the potential of natural and human resources.

One of the characteristic features of the CVP is going beyond the usual strategy of creation of individual private rights through land reforms and enabling landless or near landless labour develop equal stake in the resources of common property, i.e., biomass. However, the necessity to generate employment and income in the short-run has compelled innovations in sharing principles (Box 7) and clear distinction between long-term management of common property resources and building entrepreneurial ability among peasantry in the immediate now and here. SHRMS professionals are sensitive to emerging issues of accelerating the cyclic process, searching sharing principles that promote short term income, value addition processes and implications for governance through the CVP system of development.

The requirements for sustainable development of the wastelands are:

- * that rights be defined as social rights over development, protection and maintenance of assets rather than as individual rights to undertake or preclude particular activities;
- * the specification of a group of common owners. It is crucial that while developing CPR institutional norms, both existing and potential users of the asset be considered;
- * the specification of institutional frameworks that is internally consistent, promote positive interaction, and act coherently to resolve conflict and minimize amount and cost of conflict.

Box 1

In 1984, Mr. P.R. Mishra returned to his native Bihar on superannuation from a long and productive innings with the Central Soil and Water Research and Training Institute (CSWRTI). At CSWRTI, he was instrumental in setting up people-centred common property resources management experiments at Sukhomajari and Nada. At both the places, he demonstrated the usefulness of social fencing in regenerating fragile forest wasteland.

While on a visit to his son who happened to be the District Forest Officer at Daltonganj, he had opportunity to interact with villagers. He was reminded of the "naked people and naked hills" of Sukhomajari. He further articulated and elaborated on the Sukhomajari experiment in the form of Chakriya Vikas Pranali and motivated an informal group of university teachers, young foresters to join hands with villagers in undertaking land and water management activities. Initially, the work was confined to the forest land around Khapiya and Chhechani. The informal group was formally registered as Society for Hill Resources Management School.

The CVP strategy was explained and in presence of officials of Forest Department, villagers were assured of right of share in harvest akin to the rights given in Sukhomajari by the Punjab Forest Department. During the 1984-1986 period, villagers not only planted 0.2 million plants of subabul, gamhar, sheesham, and papaya, but also nurtured them and protected the adjoining forests from deforestation. Incidentally villagers were used to carry head loads of fuelwood themselves. The Conservator and DFO provided active support to the afforestation movement.

However, as subabul - a fast growing species - was ready for cutting, Forest Department went back on its assurances and declined equitable sharing of the harvest as the Forest Conservation Act did not permit usufruct rights to the protectors. Under the original agreement, the produce were to be shared equitable among forest department, village workers and village development fund.

SHRMS assured villagers that the proceeds from the woodlot of subabul would be available to them. It petitioned the Chief Secretary and Secretary, Environment and Forest, Government of Bihar to reconsider the existing rules for the success of the people-centred experiment. SHRMS professional continued to visit the village to keep the villagers' morale high. However, Forest Department could not resolve their internal differences on the usufruct rights. SHRMS found keeping poor landless workers together difficult. As the intervals between the visits grew longer, villagers confidence on SHRMS waned. In absence of other livelihood sources, villagers resumed carrying head loads of wood on market days. SHRMS sent SOS to the Chief Secretary and the Secretary Environment and Forest, that people no longer can wait on hollow assurances and that they have begin to harvest the subabul. But they did not act. The wood lot was harvested by individuals as fuelwood and pole.

In August 1990, the Government of Bihar decided an equitable sharing on 1:1:1 basis, in all community managed and protected forest. However, the decision was not communicated to the field officials. Villagers continued to carry head loads of fuelwood. In a span of 2-3 years the plantation of subabul was lost. The Forest Department lost its revenue. The villagers as a collective did not gain either. The village development fund is yet to open its account. The villagers yet again lost faith on development bureaucracy and NGOs. SHRMS decided to work on private rather than on forest wastelands.

In July 1992, the Forest Department convened a meeting of NGO-GO to consider constitution of Forest Management and Protection Committee for villages. However, the officials were not yet ready to hand over the functioning of the committee to the people.

Box 2

Bhusariya, a small hamlet of 30 families belonging to parahiya or chero tribe, one Choudhary, five mehto and a kahar, was one of the five villages in which CVP was initiated on private wastelands. A majority of the families are landless or near-landless with 0.5 to 3 acre plots. Only Jagdishwar Singh has 122 acres of land. Most of the land was fallow wastelands. In years with good distribution of rains some of the fortunate families could also harvest 4-5 quintals of millet per acre, that reduced their vulnerability to a little extent. Otherwise, their staple diet was forest produce - roots and fruits. Each family had a few cattle heads of nondescript breed, their only contribution were in denuding whatever little grass cover existed in the wastelands. The families also looked forward to obtaining employment under the public drought relief programmes for 2 months. Abject poverty ruled its reign in its gory details in Bhusariya.

In the first phase 7 household volunteered to pool 36 acres of land under the CVP and 15 families contributed their labor as students for reclaiming 25 acres of land. Funds for all activities came from the Society for Promotion of Wastelands Development (SPWD) under a programme of wastelands development in five villages.

A multi-tier canopy comprising timber (gamhar, sisam, eucalyptus, subabul), fruits (papaya, guava, lemon, mango, sahjan), pulses (pigeon pea), vegetables (tomato, ladyfinger, pumpkins, chili), fibre (sabai, agave) and tubers (yam, potato) was put in place with appropriate soil and water moisture conservation methods. The portfolio of species ensures a stream of products that could be harvested within a season, 1 year, 3 year, 7 year and 15 years onwards. Year round employment is the first tangible impact of CVP.

Once the short gestation crops were harvested, the issue of sharing was being discussed in a village meeting. Jagdishwar Singh, the landlord, who contributed 8 acres to the pooled land, not only wished to scramble but also provoked other land owners to defy the principles of equitable sharing. Mohammed Naseem Ahmed, the SHRMS programme staff, intervened to explain the agreement of community saving and sharing. The landlord threatens to rough him up. Naseem was not prepared for such a frontal attack. He withdrew and the meeting was adjourned.

The students were agitated. Naseem explained the benefit of equitable sharing and the future use of village development funds in ensuring treatment of remaining wastelands and the employment that would be created for other families. He assured that the trees that have been planted belonged to the village committee and not to the landowners. The students, should on their own give one-third of the product value to the landowners.

Naseem returned with Akhilesh, who had earlier worked in Bhusariya as the programme staff next day. They have a series of consultation individually as well as in small groups and convince the villagers that landowners would not be allowed to appropriate the community property, i.e., harvest from the pooled land.

Village Sabha is reconvened at dusk. SHRMS is represented by Sanjay Sinha, Project Coordinator, Naseem and Akhilesh. The villagers recount the benefits that they have derived due to the CVP and reiterate their faith in the tenets of cyclical system of development and equitable sharing of the products. The meeting accepted an unanimous resolution to excommunicate Jagdishwar and his family.

Sanjay Sinha together with a group of villagers accost Jagdishwar with the unanimous decision. Jagdishwar realized that he would not be able to survive if the villagers carry out their promised non-cooperation with his family. He relented and apologized in the village committee for his untoward behavior.

Chapri is a large village with 80 families belonging to the munda tribe and bhuiya middle peasant group. A large section of families (69 percent) is either landless or near-landless. Only 16 household have land holdings in the range of 2.5- 5 acres and 9 households have more than 5 acres. Selling of labor is the only source of livelihood for more than half of the families. In the first phase, 23 families pooled their 33 acres of wastelands. While, 17 students worked on 24 acres of pooled land.

Chapri has the distinction of saving a sizeable fund in village development and student fund - to the tune of Rs. 60337. But the student stipend were paid from the project funding that the SHRMS received from the SPWD.

In 1989, SHRMS, as common with many voluntary agencies, faced a resource crunch. It requested its project sponsors for releasing project funds expeditiously. However, the fund release was delayed. The students did not receive their fortnightly stipend for a few months but, were given assurance on receipt of funds they would be paid.

In the meanwhile, the annual Chapri festival was round the corner. Villagers need cash to meet their filial and social obligations during the festival period. The President and the treasurer conferred and removed Rs. 11000 from the Village Development Fund (VDF) account in the bank for distribution among the students, Rs. 500 each.

SHRMS came to know about the event only after the festival was over. A group of SHRMS staff chided the CVP students for withdrawing money from the VDF and let them know how difficult it would be to build the VDF again. The issue is discussed in the Village Sabha (VS). It was suggested that in future, any withdrawal from the VDF should have the approval of the VS. Besides, the bank account containing the VDF can be operated only if either the President or Secretary and the treasurer of the sabha signs the bank cheque. The VS discussed the pros and cons before putting its approval on the suggestion. The students also agree to return VDF amount. Till date, the students have paid back about Rs. 5000 on easy installments.

SHRMS informed all the bank offices that has CVP village accounts, that henceforth, the VDF account should be operated only if the withdrawal cheque is accompanied with a resolution of the Village Sabha, duly endorsed by the Programme Officer, SHRMS.

Similar resource crunch recurred recently. Two sponsor's funds were exhausted, while the final instalment of the third sponsor was expected. The students from many CVP villages had to undergo hardships due to non-payment of fortnightly stipend.

However, this time around, SHRMS decided to take the villagers into confidence. VS was convened in each village to discuss the situation arising out of the shortage of project fund. SHRMS suggested that the student stipend be paid by taking loan from the respective VDFs with a clause that as soon as the project funds are received, SHRMS would reimburse the advance. The VSs approved the resolution. Funds were taken out from the VDF account as interest-free short term loan to pay stipend regularly. The programme officers raised the bills but the same were not deposited with the Financial Controller of SHRMS till the project fund arrived. SHRMS repaid the loan taken from each VDF, but never informed the VS.

In July 1992, all the student monitors of Barwadih block met together for the first time in an inter-CVP village meeting. They requested SHRMS to inform the VS immediately through the monitor about the status of the loan. Janardhan Chaubey, Project Coordinator, informed the monitors about the repayment of loan. Since this issue was never raised either by the VS or the monitor, SHRMS did not inform about the repayment. However, now the apex village sabha is in a position to hold even SHRMS accountable to the students.

During the early days of CVP, the SHRMS motivated the villagers to pool their land for landless students to develop the wastelands. Landowners volunteered to pool parcels of their tanr land to the Village Chakriya Vikas Pranali Society. The agreements for pooling of resources were always verbal. The students would start working on the pooled land for developing it.

Rampreet Upadhyay, a big landlord and elected chief of Barwadih Panchayat, had his land holdings in several villages. He not only pooled his land in Horilong village, but also went around canvassing for the CVP in other villages. SHRMS paid him a monthly honorarium for his services to the cause of CVP. Later, though the honorarium was discontinued. However, in Horilong, he was known as an exploitative usurious landlord. He started competing with SHRMS staff to retain his supremacy in the pooled land and would interfere in species choices, planting and other day to day activities. SHRMS persevered, and students were able to plant about 50,000 tree species of timber, fuelwood, fruits and short term vegetables by August 1989.

Perchance, a student overheard Rampreet's remark at a tea stall that he would not allow the CVP students to harvest the high value products from his land. He planned to take his land back from the village society. The landless students of Horilong panicked and approached SHRMS. SHRMS has temporarily pulled out of Horilong, though the students continue to take care of the plantations. Now Rampreet has shifted out of Horilong. A few extremist threatened his life. Both Rampreet and the students have requested SHRMS to return and play intermediary between the extremists and the landlord. Moreover, the students require SHRMS help in standing on their own feet.

At Lanka, another big landlord, Dr. Gireen Prasad Sinha had given a large chunk of his tanr wasteland to the village society. The students undertook land development activities with great enthusiasm. Unfortunately, Dr. Sinha died. His widow wished to disassociate with the CVP. The SHRMS and the Village Sabha tried to persuade late Sinha's sons to continue participating in the CVP activities. However, mother prevailed over the sons. The villagers had no option but to pull out from the land in spite of developing the wastelands and the lush growth of the plantations.

Recently, the sons approached SHRMS to take over their land once again, as they were non residents and found managing the land difficult. Mrs. Sinha also realized her folly in taking back the land. However, Raj Kumar Singh, the student monitor of Lanka dug his heels firm. The village sabha has insisted that a written consent that is irrevocable would be required for resuming work in Sinhas land.

In Bhusariya, Jagdishwer Singh, another big landlord tried his best to create hurdles in implementing the CVP principles. Luckily, in Giridih, programme staff had experimented with written consent from land owner on a non-judicial stamp paper (Rs. 5). Now with the concurrence of the village sabhas, SHRMS decided to convert oral agreements into written consent in each villages. It is a tripartite agreement among the village CVP society, the students and the landlords with explicit mention of plot survey number and area of land pooled and the equitable sharing norms. SHRMS expects to have written consent documents completed by the end of 1992.

Box 5

SHRMS has encouraged an open accounting system that could be inspected by any villager. Besides a social auditing of accounts is done by representatives nominated by the village sabha. Its financial and accounting information systems is designed to take care of checks and balances.

Student monitor in each village keeps the daily record of work done by students and other villagers if hired on a contract job. In addition, (s)he also maintains a complete record of harvest from the pooled land and monetary transactions, if any.

Programme officers (POs) verifies the completed work and consolidated the fortnightly statement of expenditure on a proforma invoice for his villages. The same is transmitted to the Project Coordinator (PC). The PC in turn checks the statement for variability and if needed conducts an on-the-spot verification. He also consolidates the block report and recommends to the Secretary, SHRMS for payment to each village CVP the student stipend and other work related expenses.

Secretary, SHRMS sanctions payment of bills within a limit of Rs. 5000. Otherwise the Patron has to approve the payment of the expenditure.

Financial Coordinator, on receipt of payment sanction, draws a cheque out for withdrawing money from the project fund and hands it over to Disburser. One of the Programme Officer, on rotation assumes the role of Disburser.

Disburser provides requisite cash for disbursal among student monitors through the Programme Officers. Monitor while disbursing, collects 10 percent of the stipend for the students fund. The treasurer of the students fund deposits the contribution to the bank account.

A copy of the payment vouchers are returned to SHRMS secretariat. The entire process takes only one or two days.

Similarly, it is the responsibility of the marketing committee member to dispose the harvests from the pooled land. The Executive Committee of the Village Sabha is informed about the harvest and returns obtained. It is divided in the ratio of 30:30:30:10 among the landowner, students, village development fund (VDF) and welfare fund. The latter two is immediately deposited in the bank account by the treasurer, VDF.

Box 6

Pasturage and grazing rights provision in the Bengal Tenancy Act 1885 on wastelands encouraged the middle peasantry belonging to the ahir - a cattle raising and grazing community - continue with the open grazing practices. It has been a way of life with the ahir. However, with the initiation of CVP, the villagers were expected to practice self-restraint and not let loose their cattle on the plantation area. But even after six years of CVP, grazing pressure is one of the main source of conflict - both intra- and inter-village.

In Khura village about 60,000 trees have been planted since 1986. But the menace from cattle grazing continues from neighbouring villages - Lanka, a CVP village and Gomandi, a non-CVP village. Very often individuals belonging to the ahir community bring their cattle to the planted area during the night and take them back before the dawn. Raj Kumar Singh, student monitor together with a few villabe society representative, went to Gomandi, to educate the villagers about the CVP and to request them to avoid sending their cattle. An offer to cut and carry the grass was also made. However, the cattle grazers scoffed at the idea.

In April 1990, Raj Kumar Singh caught buffaloes belonging to Ajodhya Yadav grazing the planted saplings in Khura. He drove the buffaloes to kane (cattle yard meant for keeping stray cattle). However, Ajodhya Yadav got the wind and collected around 20 villagers and beat Raj Kumar Singh, at the front of local police office and took away his buffaloes. Inhabitants from Khura did not come to Raj's rescue. He was hospitalized with a fractured skull. On recovering,raj decided to leave the CVP but was prevailed upon to continue by Janardhan Choubey, the project coordinator and Victor Kerketta, the programme officer,SHRMS. But they could not dissuade him from lodging a first information record (FIR) with the local police against Ajodhya. In spite of SHRMS' insistence on negotiating in a social court comprised of key individuals from both the villages, Raj went ahead and entered into litigation in a court of law.

Raj Kumar Singh and his wife still catche encroaching cattle in Khura. But now they inform the police and leave the cattle in kane house. The defaulter has to pay a penalty to the officials to get their cattle released. At one instance, one cattle grazer was roughed up by the villagers, who went and lodged a complaint with the police. Janardhan encouraged student monitor from Chapri, Khura and Lanka to explain CVP, its tenets and methods to the police officers. Following this, non-CVP villagers were invited to the Village Society meeting at Khura. They were enlightened about the CVP. An agreement has now been reached that the cattle if found grazing, will not the sent to kane house, but the village panchayat would be informed. The miscreants would be required to pay a substantial penalty at each grazing event, that would be deposited in the VDF account.

In case of CVP village, an inter-village society dialogue was initiated between Khura and Lanka. They have agreed on imposing penalty. In Kechki, the village society imposed a fine of Rs. 300 on cattle owners of neighboring villages. In Sindhowara, the village society had to erect a physical fence, as the village falls on the way to forest, where cattle is taken for grazing regularly, allow cut and carry method for the neighboring villagers on a nominal fee, and constitute a guard system.

In Checha School Project, members of ahir community used to leave their cattle in the planted wastelands. Owners of the cattle were put under the police custody and long drawn litigation is under way in the court of law. This coupled with physical fencing has reduced the grazing pressure. Social fencing and social court is still evolving to overcome grazing pressure in the CVP villages.

Different principles of benefit sharing are being experimented with in the CVP villages. The predominant mode, of course, is the equal sharing among students, landowners and the village development fund (VDF) on 1:1:1 basis. The equitable sharing principle suggests that the students share shall be divided equally among all students/village society families. The students raise seedlings in the nursery and work all round the year tending and nurturing the saplings into trees while the villagers protect together the assets thus created by the students. Landowners are the basic resource suppliers, in the form of land. The VDF is to ensure continuance of the regeneration of the rural systems on a self-sustaining basis.

One important variant to the above principle is the 1:3:3:3 sharing principle which has been evolved recently and now being implemented in all CVP villages. The rationale in this case is as follows. So far the CVP was being implemented through grant-in-aid received from different donor agencies. Now that the villagers are convinced about the potential biomass production that can be achieved on wastelands, SHRMS initiated discussion in the village society for creating a revolving fund and improve the recycling of the funds. Under the new dispensation, 10 percent of the gross product from the trees would accrue to welfare fund, 30 percent to the VDF, 30 percent to landowners and the remainder 30 percent to the students. The welfare fund would be utilised among other things, for returning the funds received from the donor agencies so that similar work can be initiated in other parts of the country; provide SHRMS with a continuous source of seed money to continue experimenting and evolving common property institutions that are appropriate to different socio-physical contexts. This is an innovation to recover the cost of capital from the village and provides the net benefit to be shared equally in the village among the three constituents, viz. students, landowners and the village development fund.

Other sharing principle that began at the suggestion of small owner cultivators of a village Sakan Pidhi is on 2:1 basis. From student fund interest free loans were given to enterprising cultivators to grow high value crops (potato, brinjal, cumin, chili, tomato, etc.) The net benefits are shared among the small owner-cultivators and the student fund on a 2: 1 basis respectively. The rationale here is to encourage entrepreneurship among villagers to generate short-term income from their own non-pooled land. This system has now been put to practice in many other CVP villages.

In Checha School Project, a 1:1:1 basis of sharing has been practiced. But in this case, 1 part of the produce goes to a specially created School Development Fund, with the aim of creating infrastructure facilities for primary and secondary education in the village. While the landowners receive one third of the produce for contributing their land to the school development CVP project. Students and village society members receive one third of the produce.

Yet another innovation in sharing system is practiced in popularising improved fishery in the water harvest tanks. The fish harvest is shared on 2:1 basis, i.e., one-third of the produce goes to students and members of the village society, while two-third is deposited with the village development fund. In one instance, VDF advanced money has been used to buy a motor pump. Water from the tanks are lifted for growing short term crops as companion crops in between the rows of trees. This not only alleviate the short-term consumption requirements of impoverished villagers, but also increases income that is shared on a 2:1 basis. That is, two-third shared among students and one-third accruing to the VDF.

ANNEX - 1

PHYSICAL AND FINANCIAL CHANGES IN 30 CVP VILLAGES, 1988-1991

<u>Investment (Rs. lakh)</u>	<u>Total</u>	<u>Average per village</u>
Plant/Nursery	37.62	1.25
Water Harvesting	10.40	0.25
Supporting/Misc.	7.36	0.25
Stipend	<u>15.00</u>	<u>0.50</u>
Total	70.38	2.35

Work done

Area of plantation	1606 acr.	53.5 acr.
No. of plants	32.47 lakh	1.08 lakh
Tanks	39	1.3
Check Dam	38	1.27

Funding position (as on 31.12.91)

Student fund	Rs.2.42 lakh	Rs. 8,066
Village fund	Rs.2.30	Rs. 7,667
Income from vegb. fisheries etc.	<u>Rs.0.30 lakh</u>	<u>Rs. 1,000</u>
Total	Rs.5.02	Rs.16,733

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