

Incorporating Stakeholder Perceptions in Participatory Forest Management

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Semi-Arid Production System

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Summary of Village Reports

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Final Report

I. Methodology

Sample size

A sample of 24 villages was chosen, to represent the diversity of forest management and socio-economic conditions prevailing in the district. Out of the 24 sample villages, three were control villages that did not have a functioning JFM committee.

Sampling

The sampling was done at two levels. The first level pertained to selection of villages and the second level was to place each household belonging to the sample villages in what was termed as Dependence-Decision making or D-DM grid (refer to Annexure-1 for details). The objective of the first level sampling was to get a mix of villages in the sample so that the analysis plan could investigate the differences that existed between the responses of residents from different types of villages. The criteria for village selection were as follows:

1. The age of the JFM committee in a sample village was not to be less than five years.
2. The sample was to exclude villages facing submergence in the waters of river Narmada.
3. The sample was to include a mix of villages having Village Forest Committees (VFC) and Forest Protection Committees (FPC). As nearly 70% of the villages having JFM committees have FPC and only 30% of them have VFC, proportionate sampling was resorted to. Therefore, out of the 21 non-control sample villages that were selected, 15 had a functioning FPC whereas 6 had a functioning VFC.
4. The sample was to include only those villages that had a functioning JFM committee. Three villages not having a functioning JFM committee were included as control¹ villages in the sample.
5. In order to fully meet the objectives of the study the non-control sample was to include equal number of revenue villages and forest villages.
6. The non-control part of the sample was to include equal number of villages that had received foreign funding and villages that had not.
7. The non-control part of the sample was to include equal number of villages having MTO² presence and villages that did not have any MTO presence.
8. The non-control part of the sample was to include equal number of villages having proximity to reserved forests and villages having proximity to protected forests.
9. The non-control part of the sample was to include equal number of homogeneous villages (tribal population equal to or above 90%) and heterogeneous villages.
10. The non-control part of the sample was to include equal number of villages having high³ per capita availability of forests and villages having low per capita availability of forests.
11. The sample was to include villages from all the six forest ranges of Harda forest division.

¹ The three control villages were Salai theka, Kukdapani and Dhanpada

² Mass Tribal Organization

³ "High" was defined as above the median value of the per capita availability of forest. "low" was defined as below the median value of the per capita availability of forests. Data from census 1991 were used to estimate the per capita availability of forests.

Refer to Annexure-2 for the list of villages included in the sample of 24 villages. The attributes of the non-control part of the sample are summarized in the table below.

Attributes	Number of villages	Remarks
<i>Forest Ranges</i>		
Handia	3	
Makdai	4	
Rahaetgaon	4	Includes 1 control village
Temagaon	6	Including 2 control villages
Borepani	4	
Magardha	2	
<i>Type of JFM committee</i>		
Forest Protection Committee (FPC)	15	Control villages not included
Village Forest Committee (VFC)	6	Control villages not included
<i>Type of village</i>		
Revenue	14	Includes 3 control villages
Forest	10	None of the forest villages was a control village
<i>Proximity to class of forests</i>		
Reserved forests	11	Control villages not included
Protected forests	10	Control villages not included
<i>Presence of Mass Tribal Organization</i>		
MTO villages	12	Control villages not included
Non-MTO villages	12	Includes 3 control villages
<i>Homogeneity</i>		
Homogeneous	11	Includes 1 control village
Attributes	Number of villages	Remarks
Heterogeneous	13	Includes 2 control villages
<i>Per Capita availability of forests</i>		
High (above or equal to 0.345, the median value of distribution)	11	This information is not available for the control villages
Low (below 0.345, the median value of distribution)	10	This information is not available for the control villages
<i>Foreign funding</i>		
Funded	11	Control villages not included
Non-Funded	10	Control villages not included

Methods

The field team employed the following methods for collecting the information.

1. Personal interviews of key respondents.
2. Focus Group Discussions.
3. PRA tools like Resource Mapping, Social Mapping, Time line, Transect Analysis, Wealth ranking, Daily calendars and Seasonality charts.
4. Administering Q Sorts⁴ to the key respondents.

II. Findings

A. Rights and Entitlements

1. Encroachment

The study found that every village included in the sample had some encroached land or the other. The encroachments are present on both revenue and forest lands. *Patra atikraman* is a term that is used to describe encroachments that are eligible for regularization by the government owing to the fact that they are under possession of encroachers from before 1980. *Apatra atikraman* is a term used to describe land that is not eligible for being regularized by the government owing to the fact that these lands came under the possession of the encroachers after the year 1980.

The study found that the encroachments exist on what is known as “*chhote ghas ki zameen*” as well as “*bade jhad ki zameen*”. It was interesting to know that in certain parts of Harda district, the term “*chhote ghas*” is often used to denote land under encroachment. Use of the term *atikraman* by the research team did not evoke as prompt a response as the term “*chhote ghas*”.

The study found that encroachment of forestland for conversion to agriculture land results in severe degradation of forests due to illicit felling of trees by the encroachers.

Sometimes forest fires are deliberately initiated to destroy the standing trees in the forest so that the forestland can be easily converted to agriculture land.

The study found that encroachments were present in all villages irrespective of the fact that the village had MTO presence or not.

Process of encroachment adopted by the villagers begins with gradual clearing of trees from the prospective patch of land that is to be encroached. Mostly the trees are girdled to die following which they are felled. Firming up the boundary of the encroached patch follows the felling. Sometimes the flora on the land to be encroached is also burnt. The land so acquired is often full of stones and boulders and a lot of labour needs to be expended to prepare the field for cultivation. Finally the patch of land is ploughed.

The process of dissuading the villagers from encroaching the forestland entails warning issued by the forest department officials upon formally recognising that a particular patch of forestland has been encroached. This is followed by the promises of the forest department to provide the encroachers with wage labour if they vacate the encroachment. This offer is

⁴ For details of this methodology and analysis of data generated through this method, refer to the work done by Institute of Economic Growth (IEG), New Delhi-one of the partner organizations involved in the study.

never accepted by those encroaching forestland and in retaliation the forest department stops providing the encroachers with any work that generates wage income. But it may be noted that it is not necessary that encroachment of forestland would evoke a response from the department each time it happens. The response is often muted or absent altogether.

The study found that the no-response situation can be explained on the basis of the profile of those who encroach upon forestland. Often the encroachers are economically well off and politically strong. Those encroachers, who are not politically strong enough to withstand the pressure of forest department all by themselves, join *Shramik Adivasi Sangathan* or SAS. This helps them correct the power skew that otherwise exists in favour of the forest department. This finding is based on two case studies from Jamnia Khurd and Dhega. The study found that the membership fees of SAS is proportional to the area of forestland encroached by the member.

Narayan from Bothi village, sharing his idea about why people join *sangathan* says, “To get possession, to get open land and to get rights over land. Ancestral encroachment existing from past is fine but the more is the land on which one can lay one’s claim, the better it is. Every individual has a tendency to acquire as much of land as possible.”

The study found that the fragmentation of land holdings owing to an increase in population and a decline in the number of person days of wage labour available in the plains has created pressure on some households to encroach upon forestland. The wage labour opportunities have decreased in canal-irrigated areas due to the increasing use of combiners in the harvesting season.

The study found at least one case where an active village based leader of SAS has been co-opted by the local forest department officials by appointing him as the President of the JFM committee. On the other hand the study also discovered a case where a President of the JFM committee has joined SAS in order to protect his interests. It was discovered that the President has encroached upon forestland that he has not been able to have regularized by the government and fears eviction.

It was found that the actual area under encroachment is much more than what has been reported in the government records.

The study found that even the village commons like the pasture lands and cremation ground have come under encroachment over the years.

The land distribution scheme of the state government has been controversial. The landless alleged that the *Patwari* has connived with the rich and has actually allotted land in the names of individuals who are economically well off. In the process some of the landless poor who earlier held possession of the land (but not the patta) are facing eviction. This has caused a conflict between those who have been allotted pattas and those who are in actual possession of the land.

In one of the sample villages, Bothi, the study found that the members of thatia community were settled in the village on the condition that they would graze the village cattle. In case the community declined to graze the cattle, the korku community in the village reserves the

right to ask them to vacate the land on which they are settled. There is resentment among the members of thatia community on account of the fact that while they are threatened with eviction in case they refuse to graze the village cattle, the influential section in the village is able to encroach upon forest land with impunity. Some landless see the option of redistribution of land within the forest boundary as the only available solution to land related conflicts.

2. Thalua

The subject has been covered only for the Forest villages. In forest villages the forest department owns all land and a few people have the land recorded on a lease basis in their name. After the death of the leaseholder, lease records are made in the name of the eldest son of the deceased and not in the name of all the descendants. Hence many descendants become landless even though the land resource continues to be mutually shared among them. These landless in the village are known as *thaluas*. There is widespread resentment among the *thaluas* on the issue of absence of their land rights in the village.

Thaluas were found to be supportive of the idea of acquiring land for cultivation. This they contended can happen either through encroaching upon forestlands or through redistribution of land within the village boundary. Here it would not be out of place to mention that in forest village all land including the land on which the village is settled is considered forestland.

Thaluas are keen for redistribution of land within the village boundary as they have seen large areas being left fallow every year by the lease-holders. Their contention is that if there is so much of surplus land available, why cannot the same be redistributed among them.

Thaluas feel that encroachers of government land are unjustified in claiming any land on the pretext that their forefathers have cultivated the land in the past.

3. Nistar

The villagers use the term 'nistar' to describe a whole range of activities. But in this report the term nistar has been used to denote collection of fuel wood, grazing of cattle and collection of fodder and collection of small timber and bamboos.

Fuel wood is collected both for household use and sale. Open grazing of cattle is common. But sometimes the women cut and carry fodder from the forest as well as their agriculture fields. While bamboos are required for making Pakhar (fencing around the agricultural land and homestead land), Jhanja (fence around residence for humans as well as cattle), Tatta (the roof of the houses meant for humans as well as of the cattle and Phatki (gates in the fencing); small timber is needed for making household implements and houses. While bamboo is required every second year, the small timber requirements arise only occasionally.

The study found that in the pre JFM era nistar was closely identified with Primary Offence Reports (PORs). Violation of rules while meeting their nistari needs, if detected by the Forest Guard attracted immediate action and a POR was issued. In the initial phase of JFM, the role of monitoring passed in the hands of the committee members. The committee was faced with infringement of rules not only by their fellow villagers but also by those who resided in the neighbouring villages but were traditionally dependent upon the same

compartments for meeting their nistari needs as were allotted to the committee. Usually the committee would let off the violator after warning him and seizing any nistari material on him. If a violator repeated the offence, then the committee took recourse to reprimanding, imposing punitive fines and seizing the nistari material collected by him. With passage of time the monitoring done by the committee slackened as far as infringement of rules by the fellow villagers was concerned. But the committee continued to be strict with enforcement of rules if residents of the neighbouring villages committed the violations. Monitoring weakened primarily because of two reasons. Firstly, a change of guard at the Division level resulted in weakening of support that the local forest department officials provided to the committee while dealing with those who infringed the rules. The committee members were faced with a situation where the forest department officials extracted bribes and let off the culprit apprehended by the committee. The waning support of the department also sometimes manifested itself in manhandling of the committee members by the violators of law. Secondly, the forest department decided to carry out the protection of forests by appointing watchers who would receive regular salary from the committee's coffers. Those who were earlier carrying the protection activities voluntarily lost all interest in protecting forests. Their argument was that those who were receiving salary as watchers should be responsible for carrying out the protection work. The public spontaneity that characterized fire protection work in the initial phase of the JFM went missing. Even though regulation of nistar by the committee has weakened over the years, PORs continue to be issued only rarely.

The study found that the volume requirement of fuel wood has declined over the years. The major factor causing this decline is the increasing use of bed sheets and warm clothing that obviates the need for burning a continuous fire through the night to keep warm. The volume requirement for bamboos however continues to remain high owing to its requirement for fencing agriculture fields every second year. The number of cattle maintained by the villagers has declined over time due to scarcity of fodder caused by the invasion of forest by weeds like charota, van tulsi and lantana. The requirement for small timber has increased over the years owing to an increasing demand for new houses.

The respondents reported a sharp decline in 'manmani nistari' or reckless use of resources for meeting nistari needs.

It was found that the nistar depots run by the department play an insignificant role in the villagers' scheme of things. The people generally do not prefer to meet their nistari needs for bamboos and small timber from the government run depots. They mostly source their requirements from the adjoining forests. The reasons behind such behaviour as this are not far to seek. Firstly, the volume of material available at the depot is too small to meet even a miniscule part of the nistari requirements. Secondly, villagers would rather source the material from the adjoining forests than from the depot that is usually located farther away than the forests. Thirdly, the quality of material offered at the depot is often poor. Fourthly, the villagers find the material offered at the depot quite expensive. Finally, the officials manning the depots are corrupt and are always in a lookout to make money. Villagers alleged that depot officials often did not provide receipts for the cash payments made by the customers. Villagers at Dhanpada, one of the control villages, informed that good quality small timber (from the quota of Shodalpur and Pantalai) is often sold at Rahaetgaon through the connivance of forest department officials.

The term appeasement is defined in this section of the report as “an act of bribery (in cash or in kind) committed by a person to illegally secure the permission of the forest guard to carry out an illegal activity”. The study found that of the 18 non-control villages for which data was available, nearly 45% of the villages reported the need for appeasing the forest guard to meet their nistari needs. Nearly 55% of the remaining villages reported non-appeasement of the forest guard to meet their nistari needs. Of the villages that reported appeasement, 33% were forest villages whereas the remaining 67% were revenue villages. Of the villages that reported non-appeasement nearly 45% were forest village and 55% were revenue villages. Further, the study found that of the villages that have reported appeasement nearly 33% have MTO presence while remaining 67% do not have an MTO presence. Of the villages that have reported non-appeasement nearly 67% have MTO presence whereas 33% do not have MTO presence. Further the study found that all the three control villages reported appeasement. No significant patterns were discovered among the villages having VFC or FPC and villages in immediate proximity to protected forests or reserved forests. Of the villages reporting non-appeasement, nearly two thirds were having committees that were not funded and one third were having committees that were funded.

4. Benefit Sharing

There is no information available in the report on benefit sharing between the committee and the department. Here the term ‘benefit sharing’ has been used for denoting benefits that would have accrued as a result of protection and planting work undertaken by the committee and the subsequent harvesting in the protected/planted patches in accordance with an agreement arrived at formally or informally between the department and the JFM committee. The traditionally available benefits like wage labour opportunities arising out of preparing fire line and coupe felling as per the working plan are not included in benefit sharing in the sense in which the term is used in this section of the report.

The study found that the President, the members of the executive body and the members of the general body of the JFM committee (gram sabha) were neither aware of the provisions of benefit sharing as described in the JFM related governments orders nor aware of any formal or informal understanding between forest department and the JFM committee.

5. Forest village conversion

Opinion seemed to be divided over the issue of conversion of forest villages to revenue. People playing an active role in the running of JFM committees too were divided on the issue. While in some villages there was overwhelming support to the idea from all sections of the society, in other villages people were not supportive of the idea of conversion.

The study found that support for the idea of conversion was based on the following factors stated by the respondents.

- Ownership rights on their lands would ensure their freedom from the clutches of the forest guard and the Deputy Ranger, would ensure the use of land for meeting emergency needs, would help them secure loans and raise resources through sale of their land.
- The development of the village would get a fillip. In other word the people feel that more development programmes would be implemented in the village once the conversion is affected.

- The land can be hired for share cropping after conversion
- It would make the process of obtaining loans from the banks less cumbersome.

The study found that opposition to the idea of conversion was based on the following factors stated by the respondents.

- The fear of the unknown
- Those who have encroached upon forestlands and have been successful in countering the forest department effectively do not want the status quo to be disturbed.

The study found that the local level forest department officials were vehemently opposed to the idea of conversion. On the other hand supporters of SAS strongly supported the idea.

B. Institution and their functioning

6. Panchayati Raj Institutions (Linkages with JFMC)

The study found that there are no direct linkages between panchayat and JFM committees. One reason for absence of any linkage between the Panchayat and JFM committees is the distance of panchayat headquarters from the village. Another reason is a difference in the turfs of the two institutions and an acceptance of this difference by those who are involved with the running of panchayat and the JFM committees. The people perceive the two institutions to be completely unrelated in their functioning and roles. Instances and situations were observed where it seemed that the JFM committee and the panchayats had linkages. But a careful look at the situation confirmed that there were no formal linkages between the panchayats and the JFM committees. For example in village Bori, on 2nd October 2003 at a special gram sabha, all the assets of JFM committee were transferred to the gram panchayat. Now the gram sabha is responsible for the maintenance and monitoring of the usage of these assets. But this transfer could happen smoothly because Bori itself was the panchayat headquarter. Another example is from Dhega. In this village there is an overlap of the set of people constituting the executive committee of FPC and the committees constituted under the Gram Sabha. These are the people who take all decisions regarding village activities be it from line departments or from Forest departments. But the overlap of institutions was caused by the small size of the village. Last example is from village Keli. There is some coordination seen between the forest department and the panchayats but this should not be misunderstood as a relationship between the JFM committee and the panchayat. In fact the coordination between the panchayat and the forest department becomes necessary whenever the panchayat gets involved in construction of roads that would pass through the forest areas. It is forest department that provides the route map for the road that passes through forest area. Sometimes the forest department officials also get involved in monitoring the progress of work. The forest department also keeps an eye on any felling that are necessary for road construction and sometimes also get involved in the detailing of the earthwork required in the dense areas.

The study found that the villagers perceive the quality of work done by the panchayats as poor. Knowledgeable informants contended that the quality of work done by the panchayats was poor because of the rampant corruption in the panchayati raj institutions. The authorities swindle 30% of the development funds, with not more than 70% of the funds being actually utilized for purposes for which they are earmarked. The panchayati raj

representatives were found to be raising questions of transparency and accountability on the finances of the JFM committees. The functionaries of the JFM committee were found casting similar aspersions on panchayats.

The study found that the villagers were dissatisfied with the way the panchayats were carrying development work through deployment of machines and tractors. They contended that the approach reduced the need for manual labour as a result of which fewer number of person days were generated.

It was found that the participation of women in the meetings or the decision-making at the panchayat is conspicuous by its absence. One third of the seats in panchayat elections are reserved for women who get elected to the posts in large numbers. But it is normally the institution of *sarpanch pati* and *panch pati* that effectively prevail. In other words it is the husband of the elected representative who speaks and takes decision on her behalf.

The study found that the villages that were not panchayat headquarter themselves had difficulty in attracting development funds. The limited decentralization in flow of funds that had come about as a result of Gram Swaraj Act was effectively reversed with the abolition of the post of *koshadhyaksha* by the new state government.

7. Functioning of JFM Committees

The formation of JFM committees started in Harda in early 1990s. In course of time two types of committees were formed. One was called the Forest Protection Committee or FPC. The other was called the Village Forest Committee or the VFC. It was decided by the government to have FPC in areas where the crown density was equal to or above 0.4. VFCs were formed in areas having a crown density below 0.4. Third type of committee known as the Eco Development Committee or EDC was also formed in other parts of Madhya Pradesh. These committees were formed in the protected areas like National Parks and Sanctuaries. There are no EDCs in Harda. It may be noted that VFCs were formed both in areas having Reserved forests and in areas having Protected forests. Similarly the FPCs too were formed both in areas having Reserved forests and in areas having Protected forests.

The government orders related to JFM speak of a linkage between the arrangements for benefit sharing and the type of committee (FPC and VFC) existing in a village. The orders indicate that the VFCs would be entitled to 100% of the net profit obtained from sale of harvested timber from the plantations raised in the compartments allotted to the VFC. The orders further mention that the FPC would be entitled to receive 10% of the net profit after harvesting of timber from compartments protected by the committee. The arrangement is based on the understanding that VFCs would most likely be involved in raising plantations in compartments allotted to them (as they have been formed in areas with low crown density) whereas FPCs would most likely be involved with protecting the growing stock (as they have been formed in areas having high crown density). The study found that the people at the grass roots were not aware of these provisions contained in government orders. Their behaviour towards forests is not influenced by the economic benefits that may accrue to them as a result of protection (of growing stock or of plantations) activities undertaken by them. In fact the Forest department follows a very different logic when it comes to benefit sharing under the JFM programme. The department reasons that as the protection activities now fall entirely in the ambit of the JFM committees, the department's budget for protection

can be distributed to the committees. It is under this arrangement that the committees receive funds from the government to pay watchers' salaries. Funds for centrally sponsored schemes like *Bans hitgrahi scheme* are also routed through the committee accounts. The field team while holding discussions with the Division level forest department officials discovered that the proceeds from coupe harvesting in the entire district was being planned to be distributed among the committees under a mechanical formulae. The proposed scheme of distribution envisaged diversion of a part of net profit from coupe harvesting in Harda to the welfare of the forest department officials. The proposed formula also envisaged differential payments to the committees. The committees with compartments where coupe felling was undertaken would receive a higher proportion of the net profit than the committees with compartments where coupe felling was not undertaken. The study found that the distribution of funds was being planned in a way that belied any attempts at decentralization of the process of forest management in the district. The study also found that the funds flowing to the committees were not linked to their performance in protecting forests.

The quality of people's participation in the JFM programme has deteriorated considerably. Meetings are not held regularly. Most of the members do not participate in the meetings. The Forest Guard, the President of the committee and a few other influential villagers, attend the meetings. The participation of women in meetings is absent. Of the 21 control villages studied only one committee reported attendance of a solitary women who is the vice President of the committee. Though she attends the meetings but it is only her husband who does all the talking on her behalf.

Protection of forests in the initial phase of JFM involved almost every household. A member from each household would patrol the forests. The arrangement rotated the responsibilities of protection among the households. But protection by rotation was gradually converted to protection by appointment. Now the committees started appointing watchers to undertake protection activities. Most of the sample villages reported that while the watchers were drawing their salaries they were not doing their job. The watchers are either involved with their own household work or are busy running errands and cooking for the forest guard. People contend that now that someone is being paid for the protection work, why should they volunteer to do their work free of cost. The study also found that in almost all the sample villages the people were not involved in containing the forest fires spontaneously. This was not the case in the initial phase of the JFM programme.

The decision making process in the committee is not participatory. The forest guard who is the ex-officio Secretary to any JFM committee takes all decisions. Sometimes the President of the committee and some of the other influential villagers influence the decisions made by the forest guard. Occasional involvement of Deputy rangers in decision-making process of the committee was also reported in some villages.

Almost every village reported discontent among the people owing to the committees not providing small credit to its members. In most of these villages credit has been offered in the past but a poor recovery record has dissuaded the department from providing small credit to the villagers.

The committees were found to be suffering with the problem of elite capture.

The profile of the Presidents of the committee indicated that they were not only economically well off but also strong politically. It was also observed that at least in 2 of the 21 sample villages, the presidents of JFM committees had been active members of SAS. Another instance of a JFM committee President joining SAS also came to light. It became evident that the department officials are attempting to co-opt village level leadership of SAS to counter the latter's rising clout among the people. It was also evident that those who held important positions like that of President of JFM committees would not hesitate to join SAS if it served their interests.

The study found that since the inception of JFM programme, the person holding the post of president has changed at least once. Some of the reasons cited for change in Presidents were non recovery of loans advanced by the committee, association with SAS, allegation of indulging in corrupt practices, deterioration in relationship with forest guard, inability to control forest fires, indulgence in alcoholism, inability to attend meetings and death of the incumbent to the post of President.

It was found that the income generation programmes initiated under JFM have failed to yield any results. Capacity building of beneficiaries in activities like bee keeping, lac cultivation, mushroom cultivation, etc. has not been of any help to the beneficiaries who could not use the training received by them to their advantage.

The study found that the President of the JFM committees, the members of the executive committee and the members of the general body of the JFM committee were not aware of the finances of the committee. The respondents alleged that the committees lacked both transparency and accountability. The Forest Guard who never shared the information with anyone maintained all records. Some forest department officials argued that it was not possible for them to leave the books of account and committee records in the hands of the villagers as they would make a mess of it.

8. Women

The socio economic condition of the women in the villages is pitiable. The literacy rate is abysmally low. Awareness on health related matters are of a primitive nature. But efforts of the NGOs that are active in six of the 24 sample villages have helped in improving health awareness among women.

The study found that the women associated with SAS were more empowered than the elected women panchayati raj representatives and the women members of the executive body of the JFM committees. The former were more vocal and articulate than the latter. They did not hesitate from expressing themselves in public with confidence. The awareness level of the women depends upon the community to which they belong and the distance at which they are from towns.

The experience of women in collection of fuel wood, fodder and NTFPs like mahua flowers and tendu leaves varies widely. While in some of the villages the women do not face any harassment at the hands of the nakedar, other villages reported harassment that the women had to go through. There was unanimity on the fact that the behaviour of the local forest department officials towards women folk has improved over the years. While some attribute

the credit of improvement to the JFM programme, others credited their association with *sangathan* for this change.

The women do not attend the meetings of either the panchayat or the JFM committees. Even if some of them are present at the meeting, their husbands on their behalf do all the talking. The participation of women in selecting a site for a stop dam or in species selection before a plantation is taken up is never ensured.

The women are not involved in decision-making process related to any development work in the village. Statutory requirement of having a third of the seats reserved for women in the panchayat election is surely an enabling factor but it was found that the institution of *sarpanch* and *panch pati* is too strong to let the elected women representatives have any say in decision-making. It is always the *sarpanch pati* or *panch pati* who articulate their own views at the meetings and participates in the decision-making process.

The study found that notwithstanding the negligible role assigned to the women in matters political, the women share the burden of their men folk in equal measure if not more.

They are knowledgeable about both agriculture and forestry related issues. They are aware of the species composition of the forest, the various uses to which these species can be put to, forest fires and the ways to put out the fire. And yet they are not aware of JFM except that “samittee” is responsible for managing the forests.

They are the ones who are the most affected due to the degradation of forests. Degradation of forest affects their quality of life significantly. Their drudgery in collecting fuel-wood and fodder increases and they have to expend more time and labour for these activities than before. In most of the sample villages it was found that the women were spending more time in fetching fuel wood, fodder and water than they used to spend 10-15 years back.

The women belonging to communities traditionally involved with cattle rearing are the worst affected due to a decline in animal husbandry in Harda over the years. They are now involved in earning wages through agriculture labour.

Both men and the women migrate to the nearby bastis and town for securing wage labour employment. There are more women than men who migrate for seeking wage labour opportunities. The problems faced by the women during migration came out quite clearly in a focused group discussion held at Gangaradhana. The problems faced by them during migration are as follows.

1. Farmers generally abuse and use filthy language for allegedly slow pace of work.
2. Wages are not paid on time.
3. For soybean, farmers agreed to pay Rs 60 – 70 daily, but after completion of work they made excuses to reduce the wages.

The wage differential prevails between the men and women.

Barring some of the women associated with SAS or those who come from a sound economic background, the women have not travelled to the towns and cities.

9. Leadership

The study found that leadership was differentiated on the basis of caste. While each caste in the village has its own informal leadership, some leaders are able to garner enough votes to take up panchayat or ward level leadership. The formal leadership of a village is normally in the hands of sarpanch (if he belongs to the same village) and the ward members. Another formal leadership position was the one of koshadhyaksha. But now the position stands abolished in the state. The Presidents and a few members of the executive body of the JFM committee provide differentiation at the former level of leadership in the village. In villages with MTO presence, the study found that local SAS leadership enjoys popularity among MTO supporters.

The study found that the statutory requirement of having one third of the seats for panchayati raj institutions being reserved for women, though an enabling factor for their empowerment, has not been able to effectively counter male dominance in matters political. It was found that the institution of *sarpanch pati* and *panch pati* was prevalent. These institutions ensure that the husband of the women elected representative makes all articulation. Similarly he does all decision-making on her behalf.

Usually the village leadership apart from fulfilling their formal duties are involved in many other works. The following quote mentions some of them.

“Gaon mein kaam nahin milta, to adbhikari se milkar kaam nikalwana. padta hai” Emphasizing the role of leader he clarifies, *“Garibon ka bhalai karna, samasya aur taklif hal karna, jhagde ka nirakaran karna, thane mein koi case ho jaye to bhai ko nikalna”* are some of the jobs in which the village leadership is involved.

It was found that many panchs in the villages are elected uncontested. There was also very little change in the set of people who are elected at the panchayat and the ward level every five years. Even if there is a change it was found that the new representative was a close relative of the old one.

10. Impact of JFM

Agriculture

Of the 24 villages covered in our study, three were control villages that did not have a functioning JFM committee. It was found that nearly 40% of the remaining villages have experienced a positive and significant impact of the JFM programme on the village agriculture. The impacts have come in the form of strengthening of the irrigation infrastructure that has resulted in an increase in the irrigated land, in an increase in availability of agriculture credit and in increased mechanization of agriculture through deployment of diesel engines and threshers. The remaining 60% of the villages did not show any significant impact of the JFM programme on their agriculture.

Among the villages that have experienced a positive impact of the JFM programme on their agriculture, 60% are forest villages and the remaining 40% are revenue villages. Therefore, in effect while 60% of the villages that have an active JFM programme have not experienced any positive impact on their agriculture, 24% of the forest villages have experienced a positive impact and only 16% of the revenue villages have experienced a positive impact on their agriculture. Clearly, JFM programme can be seen to be affecting the agriculture more in

forest villages than in revenue villages. This can be explained on the basis of the fact that the forest department directly administers forest villages and they are also the agency that is involved with implementation of the JFM programme.

Out of the 21 sample villages (excluding the three of the 24 sample villages), nearly three quarters of the villages that experienced a positive and significant impact of JFM on their agriculture had FPC as the village level institution implementing the JFM programme while the remaining one fourth of the villages had VFC as the village level institution. This goes to show that the impact of the type of village level institution (VFC or FPC) did not impact the village agricultural scene any differently⁵.

Also it comes out that those villages having reserved forest compartments allotted to their JFM committees showed greater impact of the JFM programme than those villages that had protected forests allotted to their JFM committee⁶. The study could not find any concrete reason behind this.

The households that are in possession of arable land and have been able to secure irrigation of their land holdings have cornered the benefits accruing to agriculture from the JFM programme. The landless have been affected only marginally owing to an increased availability of agriculture labour within the village.

Of the villages that have experienced a positive and significant impact of the JFM programme on their agriculture, the World Bank Forestry Programme funded 60% of the JFM committees while 40% were not funded. This implies that funding has helped to achieve positive outcomes. But it should be kept in mind that of the 60% of the villages that did not experience a positive and significant impact of JFM programme on their agriculture, half of them were funded by the Bank whereas the other half of them were not. This goes to show that funding can improve the chances of success but funding alone is not the necessary and sufficient condition for the JFM programme to succeed.

Of the villages that have experienced a significant and positive impact of JFM on their agriculture (8), just 35% (3) of these villages have an MTO presence whereas the remaining 65% (5) do not have an MTO presence. What is more revealing, however, is that of the villages that have not experienced a positive and significant impact on their agriculture (13), 70% have MTO presence whereas only 30% do not have any MTO presence. Here it would not be out of place to mention that 'MTO presence' has been defined as any support that the MTO might have in a village irrespective of number of supporters and irrespective of whether support in the village is on the decline.

Livestock rearing

Of the 21 non-control villages in the sample, barring one village of Bheempura, it was found that cattle's rearing as a source of livelihoods has been impacted negatively. Both the number

⁵ The numbers should be read in light of the fact that the sample had nearly three fourths of the villages having FPC and only one fourth having a VFC.

⁶ It was found that of the 8 villages that have showed a positive and significant impact of JFM on their agriculture, 5 (or more than 60%) had RF allotted to their JFM committee and 3 (or nearly 40%) had PF allotted to their JFM committees.

and productivity of the cattle has declined owing to fodder scarcity. There are basically two reasons behind this decline. Firstly, many compartments have been closed to grazing under the JFM programme. This however is not the primary reason behind non-availability of fodder in villages that have large forest areas allotted to their JFM committees. Those interested in grazing their cattle are able to circumvent the committee and the forest department effectively and have their way in these types of villages. But if the JFM committee has not been allotted adequately large compartments that can provide the village cattle with enough fodder, then the graziers have to intrude in the compartments that have been allotted to the JFM committees of the neighbouring villages. This is when it becomes difficult for the graziers to graze their cattle. They have to either bribe their way through or take the consequences of grazing their cattle 'illegally'. Conflicts related to grazing are common in Harda.

The second and most important reason behind fodder scarcity is the invasion of weeds like Lantana, Charota and Van-Tulsi in the forests. The weeds form netting on the forest floor and suppress the growth of fodder species. The respondents in the villages offered diverse reasons for invasion and unhindered growth of weeds in the forests. While some blamed bamboo flowering in Harda for an increase in growth of weeds, the other blamed reduced trampling of the forest floor by the cattle owing to closure of forests under the JFM programme.

The study found that cattle are now maintained to ensure good quality draught power for agriculture and for securing the availability of farmyard manure. The milk is used now to meet the consumption needs of the calves and the family members.

The sale of milk and milk products has virtually stopped. Unlike in the past, cattle's rearing is no more the mainstay of Harda's economy.

The body blow that livestock rearing has received in the district has impacted negatively the livelihoods of many communities like that of Gawlis, who have traditionally been dependent on cattle rearing and production and sale of milk and milk products. This has resulted in further degradation of forests in Harda.

Those threatened by a decline in their traditional occupation of cattle rearing, have responded in myriad ways. While some indulge in burning of weeds in the fire season in order to improve the growth of fodder grasses, others indulge in encroaching upon the forestland for agriculture. In both the cases the forests have to face severe degradation. The fires often go out of control causing great damage to the forests. Encroachment of forestland often results in felling of standing trees to clear the encroached area.

The study found that open grazing in the forest areas is a common practice. Usually grazing is done under the supervision of the village thatias. Effects of fodder scarcity have been offset, though only partially, by improved availability of crop residues. Big farmers have even resorted to cultivation of fodder on their agriculture lands in some of the villages.

The marginal farmers, landless and the communities traditionally dependent on livestock rearing have been the most affected. Many of them have taken to wage labour secured through migration to the nearby bastis and towns for ensuring their subsistence. Among

those impacted negatively, the women belonging to communities having cattle rearing as their traditional occupation, are the worse affected. They no longer are able to work from their homes as they used to do before. Now they have to migrate with their men to obtain wage labour to the nearby bastis and towns.

As far as livestock rearing goes, there were no differences observed in the situation that exists in the forest and the revenue villages. The study did not find the livestock situation to be any different in villages having different types of committees (VFC/FPC). The study also did not find any differences in the situation that prevailed in villages that are in immediate proximity of either reserved forests or protected forests.

Wage Labour

Wage labour employment is an important part of the livelihoods portfolio of the villagers. The study found that increasing population and consequent fragmentation of land holdings has increased the availability of “extra hands” in the village. Barring 2 of the 21 non-control villages, the wage employment opportunities made available by the forest department have declined considerably over the past few years. The JFM programme has not contributed much towards providing wage labour employment in the villages.

The villages that have shown greater contribution to wage labour generation in forestry related works are mostly forest villages (three out of four).

Certain groups are deliberately denied wage labour opportunities by the forest department. The Barelas of Jamnia Khurd are one such community as are denied wage labour opportunities by the forest department. Communities that are close to SAS too are denied wage labour opportunities by the forest department.

NTFP collection and sale

The study found that Tendu leaves; Mahua flowers and fruits; Achar; aonla and gums of Dhawda and Kullu are the major NTFPs collected from the forests.

It was a commonly held view that the quantities of NTFPs collected have declined over time. Different reasons have been cited for a decline in collection of various NTFPs. Lower collection of tendu leaves is explained on the basis of government fiat, deficient rainfall, forest fires and inadequate attempts at tendu plant pruning (*shakhakartan*) in February. Declining quantities of Mahua are explained on the basis declining number of Mahua trees. Decline in collection of Aonla and Achar are explained on the basis of unsustainable harvesting practices involving chopping of entire trees or lopping of branches to shorten the time expended in collecting them. Declining number of trees of Kullu and Dhawda explains the decline in gum collection. The decrease in the number of trees of these species has again been caused by the unsustainable harvesting practices adopted by the collectors.

Though the contribution of NTFP sale to the household economy is often below 10%, the incomes from NTFP collection and sale come at very critical time of the year when availability of wage labour opportunities are at their lowest ebb.

Mahua flowers are dried before being consumed or sold. They are consumed as food as well as distilled to obtain country liquor. The households often collect mahua flowers in

quantities larger than what they can store safely for a long period of time. As the storage capacity is limited, mahua flowers are sold at Rs 7-9 per kg during the collection season, only to be bought back from the local traders at a much higher price of Rs 14-15 per kg. The JFM committees have never tried to invest in creating infrastructure for storing mahua flowers so that its need could be met at a lower price. The households often use Mahua to repay their debts.

Tendu leaves are collected and deposited at collection centers also known as *phad*. The quantity that a *phad* can purchase from the villagers is determined every year by the Divisional forest office at Harda. The Divisional Forest Officer tries to allocate collection quota for each Primary Cooperative Society, based on the quality of leaves collected in various parts of Harda district.

Some areas are deficient in NTFP produce like mahua and tendu leaves. The inhabitants of deficient areas often travel to compartments that are not assigned to the JFM committee of their native village to collect these NTFPs. Here they have to follow the norms of collection laid down by the corresponding JFM committee if they are permitted to collect NTFPs in the first place. Any digression in following the norms laid down by the corresponding JFM committee attracts punitive action. This has been one of the important outcomes of the JFM programme.

The study found that the JFM programme allotted compartments to committees, thereby defining the boundary of the area of the forests that would be protected by it. This created a situation where certain communities that were traditionally dependent on the resources within the boundary were faced with exclusion from accessing the resources within the boundary. In other words the boundaries were defined without settling the traditional rights of other communities dependent on resources within the boundary. This situation has resulted in conflicts involving grazing of cattle and sometimes collection of NTFPs as well. These conflicts have never escalated beyond a certain point and have mostly remained localized. It may also be noted that conflicts such as the one described above do not occur everywhere as the research noticed no conflict situations in some villages like Richharia, Unchan and Sigampur.

Migration

The study found that migration from villages takes place to the nearby bastis and towns. Mostly the migrants obtain agriculture related wage labour in towns and bastis where canal irrigation has arrived. Migration also takes place to neighbouring villages that have a perennial source of irrigation (villages located at the bank of river Narmada) or to villages that have been able to draw canal water through pipelines. Even villages that have experienced strengthening of their irrigation infrastructure to an extent that enables the farmers to provide three irrigations to their rabi crops attract migrant labourers.

The advent of canal proved to be a boon for migrants from the hills to the plains of Harda. It immensely helped the household economies of the migrants. Whatever success the JFM programme achieved in Harda in its initial phase, can partly be explained on the basis of the advent of canal to Harda. The coming of canal had more or less coincided with the launching of the JFM programme. The concomitant rise in the agriculture wage labour

opportunities absorbed a large section of the population that was previously engaged in cattle rearing and illicit felling of timber.

Off late there has been a decline in wage labour opportunities during the harvesting seasons for the migrant labour. Increasing use of harvesters and combiners that come from the Punjab has caused this decline. The harvesters have negatively impacted both the number of person days of work available and the wage rates per day.

The JFM programme has impacted migration only from some of the villages that have prospered owing to strengthening of irrigation infrastructure undertaken under the programme. This impact has more or less been nullified due to the increase in population in the last couple of decades.

Migration has been reduced from the families that are employed as watchers or have been chosen as *bans hitgrabi*. Payments for both the activities are routed through the JFM committees.

Protection

It was found by the study that the committees were protecting the forests effectively in only one fifth of the non-control sample villages. Also 80% of villages where effective protection is being undertaken are forest villages. In fact Bheempura is the only revenue village where the committee is effectively carrying out protection activities. All the villages where protection activities have been effective have an FPC barring Bheempura that has a VFC. It was also found that all the villages (except Bheempura) where the committee is doing protection effectively were in close proximity of the reserved forests. It was also found that all the villages experiencing effective protection by their committees had received foreign funding from the Bank. Further it was found that 80% of the villages that are effectively protecting their forests had MTO presence. The only village that did not have MTO presence was Keljhiri. The study found that the villages that were not protecting their forests effectively were equally distributed (eight each) between the MTO and Non-MTO villages.

JFM committees in all the non-control sample villages have appointed watchers to ensure protection. In the initial phase of the JFM programme, protection activities were undertaken by rotation and almost every household in the village was involved. In 80% of the non-control sample villages it was found that the watchers appointed by the committees did not do their jobs and yet draw their salaries (Rs 800-900 per month) with alacrity. Some of these watchers have been reported to be busy with their own household work or with running errands and cooking for the forest guard.

The number of Primary Offence Reports (PORs) have reduced substantially as compared to the pre-JFM period irrespective of whether the committee is engaged in effective protection of their compartments or not. For committees that undertake effective protection, infringement of rules leads to action against the violators by the committee. It is common for the committee to warn the violator before action is taken. Normally action is taken if the infringement is repeated despite the warning. Reprimand, imposition of fines and seizing material collected illegally are some of the ways in which the committee punishes the violators. For committees that are not effectively protecting the forests, all infringements are

done without the knowledge of the forest guard. And in case the forest guard or an interested committee member discovers an infringement of rule the violators bribe them.

The narrative that emerged repeatedly from the field was that the main reasons behind the committees' inability to protect forests effectively were indifference of the local forest department officials to the JFM programme, all pervading corruption among the local forest department officials who were inclined to look the other way if they were bribed by the violators of rules and increasing demand for agriculture land that prompts conversion of forestlands to agriculture. Absence of quality leadership in the forest department at the Division level was also cited as one of the reasons behind the programme not being as effective as it was when Mr. Rathod was the DFO of Harda Forest Division. Another reason cited quite frequently was the increasing clout of the wood mafia who were involved in illicit felling of timber.

Forest Cover

Data pertaining to forest cover was available for 14 of the 24 sample villages. Just three out of 14 villages have reported an improvement in the forest cover in last 10-15 years. Two of the villages that have reported improvements in their forest have based their opinion on the status of the bamboo forests that have shown improvements owing to effective implementation of *bans hitgrahi* scheme. Just one of these 14 villages, namely Bothi, has reported an improvement in crown density.

At least three villages have reported favourably on the performance of Narmada Valley Development Authority (NVDA) in carrying out afforestation, soil and water conservation activities. The respondents did not hold a good opinion of the forest department in maintaining the good work done by NVDA before they withdrew leaving the compartments under the control of forest department.

The main reasons cited for reducing forest cover were illicit felling both for meeting nistari needs and for wood smuggling by the mafia, conversion of forestland to agriculture land, unsustainable harvesting practices followed in collection of certain NTFPs and forest fires that are mostly damaging to the general forest cover.

Relationship with forest department

Whether the relationship between the forest department and the people has improved or deteriorated can only be commented upon if one understands how relationship is defined and who are the people with whom the state of relationship is being talked about. If one were to define relationship between the forest department and the people as prevalence of begar, then it can be said that the relationship has improved as begar or unpaid labour that the forest department's local officials made people do has completely stopped. If one were to define improved relationship as people's ability to fearlessly communicate with the forest guard on pertinent issues, then one would have to differentiate between people before commenting on the issue. For the village elite is no more afraid of the forest guard and can express his opinion on all issues of relevance and therefore it can be argued that the relationship has improved. But one who does not belong to elite would not be as uninhibited in expressing himself to the forest guard as his counterpart among the village elite. It cannot be said by any stretch of imagination that the relationship has improved. If good relationship is defined as one's ability to land wage labour opportunities with forest department or

inclusion of one's name in the list of beneficiaries of a scheme being implemented by the forest department or being able to get appointed as a watcher, then one would once again have to differentiate between the people. For example Barelās of Jamnia Khurd, Korkus of Bhanwarwani and Korkus of Dhega are perceived to be close to SAS. Local forest department officials would do anything to exclude them from all the goodies offered by the forest department. Their relationship with the forest department cannot be termed as good in any respect. But one observes many communities who are working closely with the local forest department officials as they corner all the goodies that the forest department has to offer. Here the relationship between the forest department and the people can definitely be termed as good.

11. Role of Civil Society/MTO/NGO/Media

The study found that support for MTO called *Shramik Adivasi Sangathan* comes not only from their support for encroachment of government land by the people but also due to other factors. Some supporters contend that their exploitation at the hands of local forest department officials has stopped owing to their being organized under the banner of *sangathan*. Others express admiration for the work done by the *sangathan* and believe that SAS leadership is charismatic. Some supporters contend that *sangathan* has given them a voice that previously was absent. Some talk of the empowerment of the poor and the landless that have taken up the membership of SAS.

The study found that the women who are associated with SAS are quite aware and vocal. They are not afraid of speaking their minds in public. The study also found that the women associated to *sangathan* play a more meaningful role in the village than the women who are elected representatives of panchayats or members of the executive body of the JFM committees. The conclusion is based on the fact that while their husbands overshadow the elected women representatives, the women associated with JFM committee do not even participate in the meetings or in decision-making.

From the land related conflict between FPC of Jamnia Khurd and Korkus of Bhanwarwani, it emerged that conflicts are getting manifest owing to the correction of power skew that exists between the communities and the forest department. The study found that organizing under the banner of *sangathan* helps communities counter the forest department that expresses itself through the JFM committees.

Another interesting finding came from Dhega village where the villagers organized themselves to counter the atrocities of the forest department officials. By mobilizing themselves under the banner of *sangathan* they were able to counter any opposition that they faced from the department in encroaching upon forestlands. The resistance that the government officials had to face had a strong impact on the minds of the inhabitants of the neighbouring villages as well.

The study found at least six villages where NGOs are engaged in developmental work. Sparsh is active in Jhpnadeh, Aide et Action is active in Dhanpada, CARE is active in Didhamadha and Keli, an NGO whose name could not be found in the reports is active in Richharia, Ambedkar Vichar Manch is active in Siganpur and Eklavya is active in Kukdapani. Their interventions have met with varying degrees of success. The NGO's intervention has made the women of the village quite aware and has improved their confidence level. The

NGOs have also been instrumental in disseminating information related to modern agronomical practices in the villages. The NGOs' success is limited in outreach and has not made any significant contribution to the income of the people in the villages. Some of the NGOs have formed self-help groups in the villages. The NGOs are working in diverse fields like natural resource management, soil and water conservation, health, education and income generation programmes.

12. Role of Donors External Funding

The role of donors and external funding does not find any mention in the village reports. The study did find some respondents who were aware of World Bank funding of the JFM programme.

C. Livelihood and related issues

13. Markets/Marketing

The study found that the farmers who use tractor trolleys and bullock carts to transport their produce sell the surplus food grains and soybean at the krishi mandis. The commonly sold grains are wheat, paddy, chana and Tuar. Cotton is sold only at Khategaon *krishi mandi*.

The local markets or haats are organized once every week. The villagers not only sell their produce but also buy their provisions from the nearest haat. Sometimes even the nearest haat is far away from the village and all including women having to travel the distance usually on foot.

The non-timber forest produces are sold through various channels. Tendu leaves are deposited at phad and the bundles deposited are entered in the collector's card. Payments are made usually in two installments at the phad itself. Other NTFPs are either sold at the local haats or to small traders who visit the villages during the season.

14. Begar/differential wages/exploitation (Refer to the section on women)

The term begar is used to denote unpaid labour. There was a time when the local forest department officials forced the villagers to work for them without making any payment for the same. The forest guard was known as the "Maharaj" and the Deputy Ranger was known as Dafedar or the one who framed charges.

The study found that begar has now stopped completely. Though in many of the study villages it was reported that the protection watchers were made to run errands for the forest guard and were sometimes also made to cook for him. At least one village reported that even the remuneration that the watcher received was shared between him and the forest guard because of which none from the village were ready to take up the job. Some villages reported contribution of cartloads of fuel wood and bamboo fencing for encircling forest naka being made by the villagers. But all this is nothing if one were to compare the present situation with the situation in pre-JFM period.

The study found that while one section of villagers gave credit to JFM for abolition of begar, the other section that was identified with SAS gave the credit for stopping begar to their association with *sangathan*.

The study found the reasons behind stopping of begar. Firstly, the awareness level of the people has considerably improved. Secondly, the JFM programme in its initial phase was able to build an institution like the JFM committee where the forest guard and the community leaders could exchange their views without any reservations. Thirdly, the increasing influence of SAS on the communities has empowered the villagers to an extent where they are no more afraid of the local forest department officials.

The following quote from Bothi, one of the sample villages succinctly sums up the situation prevailing on the ground.

“begar kam ho gaya, chhota-mota chalta hai. Pable dawab tha, aur gali-gufta hota tha. Aajkal wo sab naheen chalta hai.” (Begar has reduced considerably. In the past the forest guard pressurized the villagers to do his work. He also employed abusive language for the villagers. But those days are now over).

Difference in wages offered to the men and the women exists. While men are paid Rs 50-60 per day, the women are paid Rs 30-40 per day.

15. Livelihood Issues/Migration/Role of various departments

Agriculture

The study found that in last 15-20 years the cropping pattern in the villages has changed considerably. In rabi season PC variety of wheat has been replaced with varieties like Lok-1 and W-47. During kharif, soybean has replaced minor millets and cotton. The changes have happened due to various reasons. Changes during rabi have been a result of both increase in area under irrigation and electrification of villages. Changes in kharif have come about owing to growing preference for raising cash crops like soybean. Cotton cultivation has declined considerably owing to various reasons. Higher input cost than soybean at every stage of the crop life cycle, risks of attack by pests and insects and inability to raise two crops on the same land in the same year on lands engaged in cotton cultivation are some of the important reasons for shifting of farmers from cotton to soybean cultivation.

The agronomical practices adopted by the farmers have undergone major changes. Application of farm-yard manure has decreased owing to a severe decline in the number and productivity of the cattle. Application of fertilizers has been adopted in a big way by the farmers. So has the use of pesticides and insecticides. The change has come about owing to learning accrued to the village-based farmers through their interaction with the basti-based farmers. The contribution of extension services offered by the government agencies has been small.

The degree of mechanization of farming has changed over the last 15-20 years. Two factors are worth mentioning. One is the increasing use of tractors for ploughing and another is increasing use of harvesters and combiners for harvesting of crops. While these changes have positively impacted the household economy of the farmers, they have also caused a decline in the availability of wage labour opportunities for the landless and marginalized farmers who depend on wage labour available in the bastis during the sowing and harvesting seasons.

The study found that over the years the area under irrigation has increased. This has helped the productivity of rabi crops. It has also helped increase the double cropped areas in the villages. The primary reason behind this change is the strengthening of irrigation infrastructure in the villages. Enterprising farmers should take the maximum credit for this change. Purchase of private diesel engines, sinking of tube wells and digging of wells were some of the steps taken by the enterprising farmers. The farmers received good support under the *Jeevan Dhara* scheme that provided financial help to the farmers for digging of wells. The forest department under the JFM programme and Rajiv Gandhi Watershed Mission too have contributed towards strengthening of irrigation infrastructure in the villages. They have promoted construction of check dams, stop dams, raptas and ponds. The poor and the landless benefited but only to the extent of availing themselves of wage labour opportunities arising out of the strengthening of irrigation infrastructure within the village. For villages that were situated at the bank of perennial rivers like Narmada, electrification proved to be a boon.

The study found that in most of the sample villages, lack of adequate supply of electricity has forced the farmers to run their diesel engines for ensuring irrigation to their fields. This has resulted in an increase in the cost of cultivation, thereby reducing the margin that a farmer can get on his produce.

Livestock

Knowledgeable respondents informed that in last 15-16 years the mainstay of Harda's economy has shifted from being animal husbandry to agriculture. This has happened in a large measure due to the advent of canal irrigation in Harda in early 1990s. Initially closure of forest compartments under the JFM programme to open grazing affected the availability of fodder. The scarcity was sustained due to invasion of forests by weeds like lantana, charota and van tulsi. This resulted in a severe decline in productivity and number of cattle in the villages. Now there is hardly enough milk to meet the consumption needs of the households. Production and sale of milk and milk products like ghee has nearly stopped in the sample⁷ villages.

The interests of the communities traditionally dependent on cattle rearing has been significantly hurt. These communities like Gowli, Gowlan and Thatias have suffered the most. They have been forced to seek wage labour through migration to nearby canal irrigated villages and towns. The most affected within these communities have been the women who had to venture out of their villages for seeking wage labour opportunities with their men.

Wage Labour

Wage labour opportunities have increased significantly in last 15-16 years. Agriculture labour has increased during this period. But forestry related work (offered by the forest department) has declined. Agriculture based wage labour opportunities has improved both within the village and in the nearby bastis. The increase in former can be attributed to the strengthening of the irrigation infrastructure within the sample villages. An increase in latter can be attributed to advent of canal irrigation in the bastis.

⁷ None of the sample villages except one had access to irrigation water from the canal. Therefore this finding should not be generalized for Harda without further research.

The study found that while the agriculture labour based wage opportunities increased in comparison to availability in early nineties, off late it has witnessed a decline. The decline in wage labour opportunities in recent times is a result of increasing use of harvesters and combiners coming from the Punjab.

The study found that *Bans Hitgrahi* or Bamboo beneficiary scheme has been able to strengthen the household economies of the beneficiaries. But the efficacy of the programme in improving the quality of bamboo forests in Harda is questionable with sample villages reporting mixed results.

Collection and sale of NTFPs

The study found that both unsustainable harvesting practices and adverse climatic conditions have resulted in a decline in the volumes of NTFPs collected by the villagers. While good quality tendu leaves become difficult to find owing to absence of pruning or *shakbakartan*, Achar and Aonla collection has suffered owing to adoption of unsustainable harvesting practices. Felling of entire trees and lopping of entire branches of Aonla and Achar to hasten up their collection have come to light.

The study did not find any value addition in the collected produce at the village level except in the case of mahua flowers that are distilled to obtain country liquor.

Migration

The wage labour secured by the migrants from the hills has off late come under pressure owing to an increasing preference among the farmers in the plains to use harvesters and combiners for the purpose of harvesting their crops. Some villagers reported that now the migrants are forced to slash their wage rates in order to compete with the harvesters and combiners. One thing that goes in their favour however, is that mechanized harvesting by combiners and harvesters results in a complete loss of crop residues like wheat straw, something that some farmers would like to avoid.

16. Grazing

Open grazing of the cattle is common. The village thatia is responsible for grazing the village cattle. Thatias are known as “chullah carriers”. They were settled in the villages on the condition that they will graze the village cattle. They used to be under constant threat of being evicted from their houses if they declined to graze the village cattle. With the passage of time some of them have acquired agriculture land and have started cultivating crops.

Nearly 30% of the villages reported conflicts related to grazing in compartments allotted to their committee. These conflicts are of a localized nature and are generally resolved between the herders and the committee members. Occasionally, the conflicts related to grazing have escalated and has necessitated intervention of Division level forest officers and the Member of Legislative Assembly (MLA).

There has been a severe decline in the number of cattle and their productivity. This has primarily been caused by an acute scarcity of fodder in the forest. Scarcity of fodder has resulted due to a host of factors. Firstly, the closure of compartments to grazing under the JFM programme limited the area in which the cattle used to graze. Secondly, weeds like

lantana, charota and van tulsi have invaded the forests and have suppressed the growth of grass. Thirdly, degradation of forest has resulted in erosion of topsoil that has bared the rocks that do not support the growth of grasses. Fourthly, people also blamed a 3 yearlong dry spell for scarcity of fodder. At least villagers from one village contended that reduced trampling of forest floor by the cattle has resulted in the weeds getting entrenched in the forests. Respondents from one village contended that the weeds were not native to Harda and that they have been disbursed in the forest by the herds of sheep and goats that visit Harda every year.

The scarcity of fodder has resulted in a decline in the number and productivity of the cattle. This has given a severe beating to the trading of milk and milk products like ghee in the local haats. Communities most dependent upon cattle rearing have been badly affected as their traditional occupation of cattle rearing has suffered over the years.

The most affected communities due to fodder scarcity are of Gowli, Gowlan and Thatias. The Gawli community has traditionally been rearing cattle to make a living. In desperate search of fodder for their cattle, the community takes them to the districts of Khandwa and Betul. But here they have to face prosecution at the hands of the members of the JFM committees that control the compartments where they graze their cattle. These Gawli herdsmen have to put up with lots of hardships. Sometimes their make shift shelters are set on fire by the concerned committee members. They also suffer due to their manhandling. Often their cattle is rounded up and their cash, ghee and rations siezed. Sometimes it also leads to punitive fines that run into thousands of rupees. Often they also suffer losses on account of death of their cattle. The Gawlis want the forests to be cleared of weeds. They also perceive the committees as a hindrance to their traditional profession of cattle rearing. Desperate to stick to their traditional profession of cattle rearing they become members of *Shramik Adiwasi Sangathan*. For example, in Keli a few Gawlis have joined the sangathan as they believe that this would help their security. In fact the idea is to counter the committees obstructing their traditional profession by aligning with the sangathan.

Gowlis are often involved in clearing the forest of weeds by burning the forest floor. It is their contention that such burning as this helps the growth of the grasses when the rains arrive. But a lot of damage is caused to the forests because of these fires.

Before the formation of JFM committee, nearly 10% of the village population of Badjhiri was involved in grazing the cattle of large farmers of the village. They made their living out of grazing. The advent of JFM was followed by closure of certain compartments to grazing. This lead to a loss of livelihoods for a majority of those engaged in cattle grazing. They shifted from being herders to wage earners.

17. Water and Irrigation

There were different types of villages covered under the sample with respect to water and irrigation. While a couple of them were on the bank of river Narmada, the others were located either at the bank of a seasonal stream or river. At least two of the villages reported scarcity of drinking water during the summer season. Other two villages reported implementation of nal jal yojana by the government for making piped water supply available.

Almost every village reported construction of infrastructure to make drinking water available for the cattle, with just one village reporting scarcity of drinking water resulting in death.

Almost every village reported strengthening of irrigation infrastructure over the years. However the structures like check dams and stop dams made a significant difference in not more than 40% of the villages.

Barring three villages in the sample all villages reported being able to provide just two waters to their rabi crops. Kukdapani, Unchan and Undhal were the three villages that reported having enough water to provide 3-4 irrigations to their rabi crops. Two of these villages are situated at the bank of river Narmada. One of the forest villages, namely Gangradhana reported acute scarcity of water.

Barring two of the sample villages, the remaining reported scarce electricity supply being responsible for increased cost of cultivation owing to high expenditure incurred on diesel required to run engines for irrigation. Deficient or low electricity supply in the villages was identified as a major bottleneck for growth of area under irrigation.

Villages having good availability of water, tube wells and check dams reported a lowering of ground water level over the years. The villagers blamed this lowering on scanty rain fall for three years in a row and excessive use of groundwater resources for irrigation.

Most of the structures built for improving the availability of water in the sample villages reported that it was the economically better off families who gained more than the others. They also reported that in building most of these structures, care was not taken to ensure people's participation. Most of the villages also reported that the structures built were not working optimally and not providing as much of benefits as was planned at the beginning. Some villages also reported that use of machines and tractors while building these structures reduced the number of person days of work generated. Some villagers explained the reason behind increasing mechanization of work. They contended that often the work has to be completed before the first rains arrived and this creates a time pressure on the implementing agencies. This, they explained, leads to deployment of machines in place of people.

D. Overarching Concerns/Other Issues

18. Forest fires

The study found that the spontaneity with which the people undertook fire protection work in the initial phase of the JFM programme has considerably decreased. Of the eight villages for which data is available, three quarters of the villages reported a decline in spontaneity whereas remaining 25% reported presence of spontaneity (Bothi and Bheempura). The reasons behind the waning of interest in fire protection over the years were also probed during the study. The funds for fire protection come in the committee accounts. The committee pays the salaries of the watchers who are appointed for protection work. But off late the committee has stopped building community assets and stopped providing small credit to its members. This has not gone down well with the people generally. Their argument is that if only the protection watchers would benefit from the community funds then why should they take much of an interest in fire protection.

The study found that both the men and women were involved in fire protection work. The women are usually entrusted with the task of creating a fire line by sweeping the ground of dry leaves and refuse. The men are entrusted with the task of dousing the fire by putting soil on the burning patch. Occasionally minor accidents take place while the fire protection work is on.

A case study on fire protection in village Keli revealed the following.

- The villagers did not show any spontaneity in attempting to put out the fire.
- The community gathered at the chaupal went busy with debating the cause of fire instead of trying to do something urgently. Gawli community was singled out for criticism by the korkus and was readily blamed for causing fire.
- Despite the fact that the fire had broken out very near to the village, the beat guard could not persuade many of the villagers to participate in putting out the fire.
- The President of the FPC had to get involved in mobilizing the villagers so that some action could be taken to contain fire.

The study found that fire protection is affected more effectively if the president of the JFM committee is proactive and has good mobilizing skills.

The study discovered many causes of forest fires. The fires occurring can be divided into two classes. The first class includes fires that are caused deliberately while the second includes fires that are caused by mistake or naturally. One of the causes of deliberate fires is conflict between the people on one hand and forest guard or committee President on the other. Another reason is an attempt to burn down the trees so that the area can be brought under cultivation. Yet another reason is burning of the forest floor by the communities dependent upon cattle rearing in order to ensure good growth of grass in the rainy season on the burnt patches. Another reason is an attempt by the local forest department officials to mask illicit felling in the area under their jurisdiction so that they may escape the wrath of their seniors. The second class of fires is the one that is caused by mistake or occurs naturally. Many reasons like, collection of honey, collection of mahua flowers, surreptitious passage through the forests to graze cattle, friction between leaves and lack of moisture in the forests in the fire season have been cited by the respondents from the sample villages.

The study found that most of the fires during the season were 'bad' and actually caused more damage than providing any benefits to the forests.

The study also found that there were fewer incidents of fire in Rajabarari Estate owned forests than in the government-controlled forests in the estate's neighbourhood.

19. Offences

The sample villages were selected to adequately reflect the perception of villagers residing in immediate proximity of both reserved forests and protected forests. In reserved forests "everything is prohibited unless permitted." In protected forests "everything is permitted unless prohibited." This implies that any activity undertaken in forest areas may constitute an offence in one part of the forests whereas the same activity may not qualify as a forest offence if committed in some other part of the forests.

While during the Pre-JFM period offences were monitored and handled by the forest department officials alone, in post-JFM period framing of rules was done in consultation with the members of the JFM committees. Monitoring of the forest related offences also passed into the hands of the committee. The committee also started taking punitive action against the violators of rules for certain types of offences in the compartments that were allotted to the committee for protection.

Some of the common forestry related offences that figured in the team's discussions with the stakeholders were illegal grazing and illicit felling of timber and bamboos. Poaching was not discussed and found only an occasional mention. Some of the committees reported framing of rules that effected collection of non-timber forest produce by those who were "outsiders" (not the residents of the village to which the compartment was allotted for protection).

The study found that during the pre JFM period compartment boundaries did not matter for the villagers who fulfilled their need for small timber, bamboos, fuel wood, fodder (open grazing of cattle) and NTFPs from any of the neighbouring compartments that was convenient to them. But once the JFM programme was initiated several communities were denied legitimate access to areas that were traditionally being accessed by them for meeting their needs. This has attracted a lot of criticism from various quarters and forms the basis of anti-JFM argument in the region.

The study found that offences like illegal grazing and illicit felling were common in the forests coming under the jurisdiction of various JFM committees. In some of the villages like Bheempura the support of local forest department officials to the committee members when the latter apprehend violators of rules has kept the enthusiasm for protecting the forests alive. In many villages lack of support to the committee members of the local forest department officials has dampened the enthusiasm of the committee members to protect the forests.

The study found that unlike during the pre-JFM period when any forest offences attracted Primary Offence Reports (PORs), now the committees themselves handle the minor offences.

The local forest department functionaries expressed grave reservations over the protection of forests by the committee, especially the way committees treat offences. Many (but not all) local forest department officials were of the view that the committee should not be involved with taking punitive action against the violators. Instead these officials want the role of the committee to be confined to apprehending the culprits and leaving function of taking punitive action on the forest department. Some officials also resented the fact that the forest guard could not produce a challan to the magistrate, whereas their counterparts in the police department enjoyed these powers.

Annexure-1

The Dependence-Decision Making Grid (D-DM Grid)

Based on the dependence of the households on the forest resources and on the involvement of the household in the decision making related to forest management through the JFM committees, the different HHs of the villages are located on the D-DM grid. In order to incorporate the richness of diversity in a village, the grid has been organized to have following sections

Participation in Decision Making			
		<i>Yes</i>	<i>No</i>
Dependence on Forests	<i>High</i>		
	<i>Medium</i>		
	<i>Low</i>		

In order to locate various HHs in a village on the grid shown above, we will have to categorise the HHs on the basis of their dependence on forests and on the basis of their participation in the decision-making. In order to do the former we will have to understand and take help of another grid titled the “six-point grid”.

What is six-point grid?

The six-point grid helps us locate various HHs of a village on the D-DM grid by facilitating the categorization of a HH in to “Low”, “Medium” and “High” dependence on forests. There are 27 six-point grids that are shown in the next page. Before we proceed further, let us understand the construction of six-point grid. The table below defines the meanings attached to the different cells of the six-point grid.

	Consumption Only	Consumption as well as Sale or Sale Only
Fuel wood	A1	A2
Fodder	B1	B2
NTFPs	C1	C2

Note: a small table having two columns and three rows as shown in the next section of this concept note represents the grid for each HH. The six-point grid for each HH shows cells A1, A2, B1, B2, C1 and C2.

If a household collects fuel wood for its own use and not for sale then cell A1 will take a value Y meaning “yes” and cell A2 will take a value N meaning “no”. If the household collects fuel wood not only for its own use but also for sale or just for the purpose of selling to make a living then cell A1 takes the value N and cell A2 takes the value Y. If a household owns cattle that are grazed in the forests and if the milk produced by the cows and buffaloes are consumed by the members of the household and not sold, then cell B1 will take a value Y and cell B2 will take a value N. If a household owns cattle that are grazed in the forests and if the milk produced is used for self consumption as well as for sale or exclusively for sale, then cell B1 takes a value N and cell B2 takes a value Y. If a household collects NTFPs (say mahua flowers) and uses it for self-consumption only and does not sell it then cell C1 takes a value Y and cell C2 takes a value N. If a household collects NTFPs and uses it for self-consumption as well as for sale or for sale exclusively, then cell C1 takes a value N and cell C2 takes a value Y.

Theoretically speaking there can be 27 types of household in the villages. The possible set of values that the six point grid cells can have are shown in the 27 figures below.

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Assigning values to six-point grid

Each grid has a value, which is calculated by adding the points assigned for Y and N. In the first column of the grid, N has a value of zero and Y has a value of $\frac{1}{2}$ points. In the second column of the grid N again has a value of zero and Y has a value of 1. Hence for each of the 27 grids shown above the grid values are as under.

2.5	2.5	2.5	2
2	1.5	1.5	3
1	1	1	1.5
0.5	0.5	0	1.5
1.5	1.5	1	1
1	1.5	1.5	1.5
2	2	2	

Defining “Low”, “Medium” and “High” dependence on forests

As can be seen from above each household can be marked on the six-point grid and each household can be assigned a grid value. Now let the grid value be denoted by ‘X’. Then, the household having varying degrees of dependence on the forest is defined as follows

Categories of dependence on forests	Definition in terms of value of X	Number of types of household in each category
Low	$X < 1.5$	9
Medium	$1.5 \leq X < 2.5$	14
High	$X \geq 2.5$	4

How to fill the six-point grid for each HH?

The six-point grid is to be filled based on the identification of each HH on the resource map generated by the team. Following questions need to be asked and activities need to be carried out by the researchers in order to fill the six point grid of each HH.

1. Do all the households collect fuel wood from the forests?
2. If not, identify the HH that do not collect fuel wood from the forests on the PRA map.
3. Do HHs also sell the fuel wood to make a living?
4. If yes, identify the HHs that sell fuel wood for a living on the PRA map.
5. Do all the HHs owning cattle/goats graze them in the forest?
6. If not, identify the HH on PRA map who own cattle/ goats but do not graze them in the forest.
7. Is the milk/meat entirely consumed within the HH in all HHs owning milch cattle/goats?
8. If not, identify the HHs that sell milk or goats on the PRA map.
9. Do all the HHs collect Tendu⁸ leaf in the village?
10. If not, then identify the HHs that do not collect tendu leaf on the resource map generated through PRA.
11. Identify on the PRA map the HH that do not collect tendu leaf but collect other NTFPs.
12. From among the HHs identified in item 10 above identify the HHs on the resource map that do not sell any part of NTFP collected by them.

It is advisable that the researchers commit the above questions in their memory before they proceed with the process.

Now that the method of categorization of the HHs in HHs with “Low”, “Medium” and “High” dependence on forests is settled, the next section of this concept note dwells upon the categorisation of the households in a village with respect to their participation in the decision-making in forest management.

⁸ *Diasporas melanoxylon*: leaves are used for rolling bidis (country cigarettes).

Degrees of participation in decision-making

Initially it was mooted that this parameter should also be defined in three groups, namely “High” (being defined as HH that always participated in the decision-making related to forest management), “Medium” (being defined as HH that only sometimes participated in the decision-making related to forest management) and “Low” (being defined as HH that never participated in the decision-making related to forest management). It was however felt that it will be difficult for the team to discern nuances to have the HHs categorized in three groups as described above. Therefore, the grid recognizes just two groups—one of the HHs that participate in the decision making related to forest management (titled “Yes” in the grid) and the other that does not participate in the decision making related to forest management (titled “No” in the grid). The HHs that only sometimes participate in the decision-making should be included in the former category. The easiest approach that the team now has is to identify the HHs participating in the decision making related to forest management and include them in the column titled “Yes” in the grid and club together the remaining HHs in the column titled “No” in the grid.

Annexure-2

S.No	Name of Village	Forest Area (in Ha.)	Village Type (Forest/Revenue)	World Bank Funded	Range	Tehsil	Total Area (Ha.)	Predominant forest type (RF/PF)	FPC/VFC
1	Didhamadha	21.00	Forest	Y	Borpani	Timarni	213.965	RF	FPC
2	Keli	429.37	Revenue	N	Borpani	Timarni	713.000	PF	FPC
3	Lodhidhana	256.00	Forest	Y	Borpani	Timarni	395.275	RF	FPC
4	Rawang	911.58	Revenue	N	Borpani	Timarni	1397.120	PF	FPC
5	Dheki	82.88	Revenue	N	Handia	Harda	225.290	PF	VFC
6	Unchan	0.00	Revenue	N	Handia	Harda	332.870	PF	VFC
7	Undhal	9.28	Revenue	N	Handia	Harda	260.730	PF	VFC
8	Badjhiri	60.00	Forest	N	Magardha	Timarni	401.089	RF	FPC
9	Jhapnadeh	256.01	Revenue	N	Magardha	Timarni	434.470	PF	FPC
10	Jamnia Khurd	293.23	Revenue	N	Makdai	Khirkia	483.310	PF	FPC
11	Bheempura	404.96	Revenue	Y	Makdai	Khirkia	640.680	PF	VFC
12	Chikalpat	256.13	Revenue	Y	Makdai	Khirkia	603.710	PF	VFC
13	Richharia	70.15	Revenue	Y	Makdai	Khirkia	257.760	PF	VFC
14	Gangradhana	70.00	Forest	Y	Rahetgaon	Timarni	93.555	RF	FPC
15	Siganpur	11.24	Revenue	N	Rahetgaon	Timarni	279.700	PF	FPC
16	Keljhiri	0.00	Forest	Y	Rahetgaon	Timarni	180.000	RF	FPC
17	Amba	115.00	Forest	N	Temagaon	Timarni	200.475	RF	FPC
18	Bori	159.00	Forest	Y	Temagaon	Timarni	504.856	RF	FPC
19	Bothi	120.00	Forest	Y	Temagaon	Timarni	322.175	RF	FPC
20	Mannasa	90.00	Forest	Y	Temagaon	Timarni	181.080	RF	FPC
21	Dhega	NA	Forest	N	Temagaon	Timarni	NA	RF	FPC
22	Dhanpada	NA	Revenue	C	Rahetgaon	Timarni	NA	NA	C
23	Kukdapani	NA	Revenue	C	Makdai	Khirkia	NA	NA	C
24	Salai Theka	NA	Revenue	C	Temagaon	Timarni	NA	NA	C

Note: Y stands for Yes, N stands for No, RF stands for Reserve Forest, PF stands for Protected Forest, FPC stands for Forest Protection Committee, VFC stands for Village Forest Committee, NA stands for Not Available, Ha. Stands for Hectares and C stands for Control village.