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Editorial

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## Loan Waiver Scheme – Improving Rural Credit Ambience

Farming community is charmed with proclamation of the loan waiver scheme by Central Government in the last budget. By now most of the financing institutions, commercial & cooperative sector have declared the list of farmers who would be benefited by the waiver scheme. The rationale of existing scheme in terms of certain factors such as size of land holding, low rainfall zones, infrastructural developmental index, disincentive to loanees with good credit history, waiver of principal or interest or both were being deliberated in professional and political circles. At last the scheme has been implemented and farmers are welcoming the move of Government ignoring the criticism from many quarters.

Though, the fruits of free economy are being enjoyed by majority of the economic segments, the prices of agricultural commodities are still largely governed by Government policies. Subsidies on seeds, fertilizers, irrigation directly benefits more to industry thriving on this sector. Stagnating net farm income coupled with rigidity of formal credit delivery system has been one of the main reasons for overdues. The waiver should be considered as the beginning of new era and all concerned should provide new insight in changing scenario how to ensure benefits reaching farmers on sustainable basis.

The concept of microfinance has proved over a wide geographical area, different agro-climatic zones, across category of borrowers that credit history of most of borrowers has been better without any subsidies vis-à-vis conventional credit delivery model. Many studies have proved that real cost of funds to ultimate borrower under both the models is almost same. Hence main line banking institutions should invest in Research & Development to find out new delivery models of small rural loans may be upto Rs.25000/- per rural family to begin with under the concept of microfinance. This will be a win-win situation.

**A K Garg**  
Honorary Editor



## Contents

**Editorial** 1

### ENVIRONMENT & FORESTS

**“Best Practices” for Community Capacity Building  
for Community based Natural Resource Management** 3

- *Ajay Rai, Goran Jonsson and Dr Joseph Viruthiyel*

### SERICULTURE

**Impact of New Technologies on Sericulture  
Development – A Feasibility Analysis** 14

- *H Jayaram and Indumati S*

### AGRICULTURE

**Organic Farming – Concept, Production,  
Processes, Marketing and Control** 23

- *Gagnesh Sharma, C M Sharma, K L Sharma and Mona Sharma*

### AGRI BUSINESS

**बैंकों द्वारा कृषि संबंधी विपणन के बुनियादी ढांचे को  
विकसित एवं सुदृढ़ किए जाने हेतु वित्तीयन** 31

- *डा. देशबन्धु राजेश तिवारी*

**Development Scan** 34

- *AFC Research Bureau*

### MISCELLANY

**AFCL organizes One-day Workshop to Commemorate  
United Nation's World day to Combat Desertification** 39

**What can Common Man do to Preserve Soil / Water  
and Nature?** 40

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Corporation Limited

Dhanraj Mahal,  
Chhatrapati Shivaji Maharaj Marg,  
Mumbai 400 001

Tel. : 022-22028924  
Fax : 022-22028966  
e-mail : afcl@vsnl.com  
URL : www.afcindia.com



# "Best Practices" for Community Capacity Building for Community based Natural Resource Management

Ajay Rai, Goran Jonsson and Dr Joseph Viruthiyel

*The nine year Haryana Community Forestry Project ended successfully in June 2008. It has been rated as one of the best EC funded community forestry project. The partnership of Agriconsulting Rome and AFC, through a technical assistance team was closely involved in this project by providing technical assistance in the areas of institution building, community capacity development and training, water resources development, and gender mainstreaming. This paper attempts a documentation of the community organization and capacity building initiatives of the project. This documentation would be useful for future community forestry development initiatives in India and the world over.*

## Background

Started in the year 1999, with a European Commission grant of Euro 23.3 million, the Haryana Community Forestry Project (HCFP) ended in June 2008, and has been rated as a success by an end of project evaluation commissioned by the Commission. It operated in 338 villages spread across 11 districts. The overall objective of the project was to improve the natural environment of Haryana State through sustainable management of natural resources. The project purpose was to develop a replicable model for sustainable management of natural resources through active participation of village communities. To achieve this objective the project adopted a participatory approach, involving village communities in all stages of the project process – village entry, participatory rural appraisal, establishment of village institutions, village microplan preparation, identification of micro-projects, implementation of micro-projects, maintenance and protection of tree plantations and participatory monitoring. The project has achieved

and even exceeded its physical and financial targets (creation of community assets in the form of plantations on close to 33,000 ha., establishment of village woodlots over an area of about 8,300 ha of *Panchayat* and *Shamlat* land, riverbanks and institutional lands, construction of small earthen dams in 19 villages in the foothills of the Shivaliks, and construction of community farm ponds (johads) in the arid South Western regions. These results were possible due to the considerable deployment of time, human resources and money for the task of mobilisation of the local community, building capacity of the local community and creation of effective institutional arrangements for sustainable management of community assets were key elements in the achievement of the project objectives. This paper reviews and analyses the innovative approaches and strategies adopted by the project for community mobilisation and capacity building.

## Framework for Community Participation and Capacity Building

Learning from previous plantation projects such as Social Forestry Programme and Aravali Project, HCFP adopted a more comprehensive framework for community participation and capacity building for community development and natural resource management. This framework was designed to develop a community based natural resource management system, which not only maintains and manages the assets created under the project after project exit, but is able to repeat the community forestry development cycle with technical support from outside. The framework integrated the community development and livelihood aspects with empowerment of weaker sections in the process of natural resource management. The framework was characterised by:

### **Community capacity building through Participation**

The project designed strategies and processes for interactive and collaborative participation of the community and its leaders in the project process. It created enabling conditions through awareness building, training and ensuring a



responsive Project Management Unit. This led to better ownership of the decisions and project activities helped develop community capabilities for planning, analysis of the existing situation, implementation and monitoring of micro-projects.

### ***Community based natural resources management through community institutions***

Village Resource Management Committees (VRMCs) established in each project village emerged as fora for involving the community in project activities, as well as for management of assets created under the project. The decision to form a new institution (VRMC) was in the midst of a growing debate in India on the relevance and need of forming community based organisations that are independent of local Panchayats. Given the fact that most of the VRMCs would be required to manage plantations created on Panchayat land, they had to be institutionally linked to the local Panchayat. In view of this, VRMCs functioned under village Panchayats, but were duly elected by the Gram Sabha. They had functional autonomy with respect to management of natural resources; had some degree of financial autonomy with their own bank accounts; and were accountable to the Gram Sabha, the Panchayat and Forest Department.

### ***Whole community and Weaker section friendly approach***

Women, Scheduled Castes and the landless were fully involved in all stages: representation in VRMCs, microplanning, participatory monitoring, labour, training and Income Generation Activities. Subsequently, formation of SHGs helped create a more effective mechanism for involvement of

women in project activities. The focus on weaker and marginal sections was combined with the focus on involving the whole village community at important stages where policy level decisions were needed.

### **Strategies for Community Mobilisation, Participation & Capacity Building**

#### ***Multi-criteria village selection system***

The project evolved a multi criteria village selection system which precluded subjective elements and external pressures from vitiating the selection process. The salient features of the system were the following:

- Shortlisting of villages through objective parameters (population size, proportion of SCs and the landless to population, availability of land for forestry etc., using proxy indicators from census);
- Rapid visits to the villages by DFO and SDO to assess the willingness of the community to participate in the project. This stage also confirmed the attributes obtained at the time of short-listing and gave a feeling of ownership of the result of the village selection process to the staff.
- The system also exposed the staff and the community to the innovative nature of the project approach. Many of the villages which were subsequently selected confessed that this was the first time that representatives of a government agency was willing to listen to their concerns and took their permission to select the village for the purpose of any project.
- Clustering of the villages into groups of nine gave operational convenience and made the task of village entry easier in new villages, as they had already seen the project activities in

their neighbouring villages.

### ***Allocation of time and tool for community mobilisation and participation***

The time gap between selection of village under the project and implementation of forestry activities was about one year. The strategy was based on the assumption that mobilizing the community – particularly for forestry activities – is a time consuming process. During this period the project initiated the process of building the base for community involvement in the project. This period was utilized to create understanding trust and consensus within the community on proposed project activities, institution building, information dissemination, planning etc. The main activities undertaken during this phase included awareness building, Entry Point Activities (EPA), Participatory Assessment (PA), Formation of VRMCs, Selection of Community Link Workers, First phase of training to VRMC members & Link Workers, Microplanning, and Microproject preparation.

The time of about one year provided for these activities ensured that the project staff could be honest to the process of seeking community participation and were not forced to seek shortcuts. Awareness building and EPAs helped create a platform for mutual understanding and trust building. The EPA was meant to create the impression within the village community that the project is sensitive to their common problems. Participatory Assessment process spread over a period of two months not only helped develop a baseline and identify the natural resource and general development related problems, but also helped to further



develop mutual understanding between the project staff and villagers, and also helped identify the key leaders in the village and youth who could work as Link Workers. During the process of PA continuous dialogue and interaction between the villagers and the project helped clarify the project approach of providing the community the central place in planning and implementation of project activities and the need and relevance of forming a village level institution such as VRMC. The VRMC developed a microplan for addressing the problems identified during the PA exercise with the help of project staff. The timeline associated with various activities ensured that the microplanning was completed before the start of nursery activities, so that the species prioritized by the community for plantation could be raised in the required numbers in the nurseries. This time also helped to effectively address issues such as conflicts that arose, including encroachment on common lands, which is a major problem in Haryana.

### **Link Workers**

Link Workers are locally recruited part-time animators who were identified and selected by the villagers to work as link between the community and the project and specifically support the VRMCs to perform their roles effectively. One male and one female Link Worker were recruited in each project village from the educated and unemployed youth of the village. The Link Workers mobilised the village community during different stages of the project and turned out to be a great asset to the VRMC as well as to the project in many villages. They helped the VRMC and the project in monitoring, documentation, organising meetings,

membership fee collection etc. – anything which required running around. In the process the Link Workers were also trained on various aspects of community development and natural resource development process. Apart from on-the-job training, each Link Worker received between 25 to 30 days of training input over a period of three to five years. A group of around exceptional Link Workers was trained as trainers and were provided opportunities to provide training to VRMC members. Many of these Link Workers are now invited by other projects and organisations as trainers, resource persons and facilitators.

The provision of Link Workers proved to be very useful for community participation and capacity building. The advantages were:

- The deployment of Link Workers for various administrative and documentation work meant that the VRMC executive committee members could utilise their time more effectively by limiting themselves to decision making.
- It helped develop local leadership in the form of village youth from the perspective of natural resource management, environmental conservation and community development who could prove to be crucial in sustaining the results beyond the project period.
- In the form of Link Workers, the project got a team of young and educated individuals who understood the local realities as well as the project requirements. They were more effective as trainers as they could explain things using local dialect and give local examples.

### **Focus on involvement of the whole village community**

Though the project had adopted the

strategy of forming VRMCs as a representative body to help plan, implement and manage the microprojects, it always emphasised involvement of the whole village community. The project identified different stages where the involvement of the whole village community through Gram Sabhas was mandatory. They are:

- Village entry stage, when the community is informed about project details;
- Participatory Assessment stage, when consultations are held with different interest groups in the village and results are presented before the village;
- VRMC formation stage, when the representatives are selected in a Gram Sabha meeting and the VRMC bye-laws are approved as well as Link Workers are selected;
- Microplanning stage, when the microplan prepared by the VRMC executive body with the help of project staff is presented and approved by the Gram Sabha.

Apart from this, the VRMCs were expected to create mechanisms for regular interaction in the form of bi-annual Gram Sabha meetings with the village community as part of their democratic functioning. It is also expected that the VRMC would take the decision on harvesting and marketing the trees from VWL in a Gram Sabha meeting. In order to facilitate Gram Sabha by VRMCs, the process was linked with the mandatory Gram Sabha organised by Panchayats, as the VRMC is also a sub-committee of the Panchayat. It was assumed that this would also facilitate mainstreaming the microplan developed by the VRMC, linking it to the annual plan prepared by the Panchayat.



However, experience suggests that organising Gram Sabhas is not easy unless the issue concerned is seen to be very important by the villagers. The process of convening Gram Sabha becomes more cumbersome in 'larger' villages with more than 500 households. Linking the general body meeting with Gram Sabha also makes it hostage to Panchayat level politicking by Panchayat representatives and officials. It is common to find that many a times concerned representatives and officials actively work to create conditions to *not* let the Gram Sabha happen, fearing "problems and trouble" during such a meeting.

#### ***Situation based community contribution***

Contribution by community members is considered a key element of the process of self-help, generating a sense of 'ownership' of the process and results of a project that in the first instance is introduced by outside agencies. Financial, labour or material contribution is considered to be an indicator of 'real' community participation. Under HCFP the community contribution was situation specific. The factor influencing the nature and amount of contribution expected from the community was project perception of the demand for a particular product or technology and the effort involved in promoting them.

In case of community plantations such as VWL and Tree Groves, the project bore all the financial cost for establishing and maintaining the plantation. The contribution expected from the community – apart from providing land for plantation – was to help in protection of these plantations through general watch and ward. This involved significant opportunity cost for the villagers in certain cases where the land was

under alternative economic use. Moreover, in many cases the process of land allocation involved significant transaction cost for the community due to competing claims and conflicts involved. However, where the resource involved was 'water', the communities were expected to contribute towards meeting a certain portion of the cost of structure – earth fill dams and ponds – and take all the responsibility and meet all the cost for their maintenance. The contribution was justified as well as easily forthcoming due to immediate and substantial benefits associated with these investments. The earth fill dams were certain to provide irrigation water to farmers and the *johads* provided water for cattle in a water scarce region.

In case of plantations on private land, the project only provided free seedlings. In some areas – where farm forestry is well established – the farmers were found to be willing to pay for the seedlings and were found to be already doing so from private nurseries in the area – which incidentally were of much poorer quality compared to eucalyptus and poplar seedlings provided by the project. However, as the small and marginal farmers were a focus target group for farm forestry, there was a risk that sale of seedlings – instead of free distribution – could have negatively influenced their decision to take up farm forestry. The option of dual pricing – free seedlings to poor and sale of seedlings to rich farmers – would have required a very effective (hence costly) monitoring mechanism to avoid its misuse.

Sand Dune Fixation (SDF) component was mostly undertaken on private land. However, unlike farm forestry and poplar plantation, the project bore all the costs related to

planting and aftercare as in the case of community plantation. Plantation for SDF is considered to be a relatively high investment and high risk activity due to hostile natural conditions.

The lesson from HCFP is that the scope and extent of community contribution should be influenced by the type of asset that is being created and the profile of beneficiaries. Even in case of common assets, groups which benefit more and groups which lose out should be identified and the cost sharing norms should be different for the two groups. Cost sharing should be linked to future benefits from the asset and income from labour work should not be a criterion for cost sharing. It can be more easily applied to assets from which the benefits are immediate and visible than those from which the benefits are uncertain and long away.

#### ***Performance based incentive framework***

Assuming that financial incentives play an important role in influencing the behaviour of individuals and groups, the project outlined an incentive package to promote technologies and actions that traditionally have suffered due to lack of attention from the community. These included funds for EPA; contribution to Resource Management Fund to VRMC; payment of incentive bonus for survival of trees on village woodlots; bonus to farmers on survival of farm forestry plantations; supply of free seedlings to farmers under farm forestry component; supply of improved cook stoves with only 20 percent of the cost; and payment of honorarium to link workers; and contribution of matching grant to the corpus of SHGs.



Entry Point Activities (EPAs) are a common feature of the participatory natural resource management projects. Compared to some other projects where the EPA amount is much higher – Rs. 4,000 per ha. of plantation (NAP) and Rs. 100,000 per village (INRMPPR) – the amount provided for EPA under HCFP (Rs. 15000) was low. However, HCFP has shown that more than the amount of funds, the approach and process adopted for implementation of EPA influences its outcome. Community wide consultation and complete transparency helped create more trust than the amount provided for EPA.

Survival bonus for farm forestry was an innovation tried under the project as farm forestry has continuously suffered from poor survival rates. The national average for survival is estimated to be less than 10 percent. Under HCFP the incentives – among other things — helped to raise the survival rates to 50 percent to 60 percent. Its implementation required a very effective monitoring mechanism in which counting of surviving seedlings was done by two different sources and results compared.

Incentive to VRMC members in the form of small honorarium to attend training that was conducted outside their village was another innovation tried under the project. However, opinions were divided over it from the beginning. While it certainly influenced VRMC representatives' presence in the training programmes, it also raised doubts on their sincerity regarding training.

#### **Approach for participatory planning, implementation & monitoring**

HCFP adopted an approach for community involvement which can be described as “360° Participation”.

“360° Participation” can be defined as participation of the community in the project processes and activities at each stage of the project cycle – from beginning to end – from village entry to project exit. It implies consultation, interaction, collaboration, joint working and joint decision making with the target community on every aspect of the project. It also implies a system of functioning which is transparent and mutually accountable. At the same time participation is not at the cost of quality of results. The approach implies allocation of roles and responsibilities based on capability between the project and community and an incremental allocation of greater responsibility to the community with the improvement in their capability through training and experience.

The participatory planning process and method adopted under HCFP was in line with the 360° participation approach. Working methods were evolved and project conditions were created to ensure that the participatory planning process can follow the principles of 360° participation. Allocation of sufficient time for the microplanning process has been discussed earlier. Other important aspects included:

- **Intensive training of project staff and VRMC members in the process, method and tools for participatory planning** – Project staff were provided modular and on-the-job training on the microplanning process. The microplans for year one project villages were facilitated by NGOs and the project staff worked with them as observers and learners.
- **Creation of a microplanning team comprising three project staff and members of VRMC** – It is an important, though under-emphasised,

aspect of the microplanning process. More often than not, the responsibility for facilitation of the process is allocated to ‘one’ individual who normally is the grassroots worker. Involvement of a team ensures that the workload is shared according to capabilities. Involvement of senior staff also ensures that negotiation on critical points between the project and the community becomes possible.

- **Microplans were divided into two broad categories – Natural Resource Related and General Village Development Related.** Natural Resource Related activities were further divided into two categories – those for which project would directly provide financial and technical support and those for which the project could only provide technical support. Roles of project and community were clearly specified for each category, which helped to manage the community expectations from the project.

- **Area and species selection after discussion and negotiation with different interest groups in the village** – Species selection was based on priorities of different interest groups including women.

- **Approval of microplan by Gram Sabha** – The approval provided the microplan with the social sanction essential for implementation of community level activities. It helped to reinforce the message that project activities would be carried out with the approval of the whole community and that VRMC is accountable to the village community for its plans and actions. It also helped to deal with micro-opposition that arose when the implementation actually started on the ground.

- **System for annual revision of microplans** – Microplans were



considered a dynamic document which needed to be revised, taking into account the activities that were completed and new problems. The VRMCs were encouraged to take it as an annual exercise. A key learning from the project has been that planning by villagers becomes easier if there is sufficient administrative and budgetary support built around it.

● **Linking the microplans with village development plan of Panchayat** – Microplans were shared with the local Panchayat and the Block level development officials with the assumption that it would influence their plans for village development.

During implementation the village community played the role of collaborator as well as monitor. A much appreciated aspect of the implementation process was the community's role in recruitment of local labour for project activities. Clear division of roles and responsibilities – specified and agreed – during microplanning helped mutual accountability. Even though the project had provided for expenses towards protection and management of plantations, survival bonus motivated the community to develop their own arrangements for protection of plantations and to closely supervise the performance of the local watcher who was selected by them in the first place.

Provisions were built in the record keeping system and bye-laws of VRMC to ensure joint decision making and transparency. Activity logbooks maintained by the project staff required approval and signature of the VRMC President. Cash withdrawal requires signature of project staff as well as VRMC representatives.

More recently, there has been an

emerging trend where the money allocated for different project activities are transferred in the bank account of the village level institution and the local institution spends the money for executing the activities with the guidance of field/project staff (National Afforestation Programme). This provides greater control of the process to the local community. However, this arrangement presupposes that the village level institution and arrangements are already mature enough to effectively utilise the money.

A project monitoring team comprising three village elders was formed in each project village. The role assigned to the monitoring team was to monitor the project activities and provide feedback to the VRMC and the project about weaknesses. However, the monitoring team could become really active on its own only in a limited number of villages and their role was, more often than not, carried out by Link Workers.

**Community Institution Building :** HCFP recognised that community institutions play a significant role in sustaining the results achieved by the project. At the same time it was also recognised that development of sustainable and effective community institutions for management of common natural resources is a complex process which evolves over a period of time as it happens in an environment which is complex, diverse and risky. The project villages were mostly fairly large and the inhabitant community socially and economically diverse. The context is characterised by a social system in which traditional institutions for management of community affairs are breaking down but which still has overt or latent tendencies that exclude women, scheduled castes and the

poor from the community level decision making process; an economic system in which the commons are increasingly becoming irrelevant to livelihood and are subordinated to individual priorities and short term benefits and a political milieu in which caste affiliations, pandering to parochial interests and petty politicking – instead of development issues – are increasingly becoming the norm. In such a situation different strategies were adopted to develop effective VRMCs. These strategies are discussed below.

**Strategic awareness building:** Realising that the traditional reasoning for creating a community plantation – firewood, fodder and small timber availability for domestic consumption – does not hold as much relevance in the current context due to changes in the local economy, the project adopted a multi-pronged awareness building strategy. The awareness programmes focussed on raising awareness and understanding of the importance of trees & their role in environmental conservation; need for community capacity building and self-help for village development; and benefits of building a community asset in the form of village woodlots.

**Process adopted for formation of VRMCs :** VRMC formation was not a one-day affair. It started with village entry when the villagers were first told about the project objectives and approach. During a period of one or two months when community-wide consultations were taken up for Participatory Assessment, the concept, roles and responsibilities of the VRMC were explained and active interested group leaders were identified. Following this the project staff discussed the mechanism to be adopted for fair representation of different sections of the community





in the VRMC – ward, hamlet, caste etc. Subsequently, a Gram Sabha was organised where the mechanism for selection and the qualities expected in VRMC executive body members were explained. The villagers proposed the names of different individuals. A guideline was provided for total number of representatives, but if necessary the villagers deviated from that. The mechanism for selection of office bearers was left to the villagers. In some places the villagers directly elected the office bearers, while in other places the elected representatives met afterwards to select their office bearers.

The strength of the process was that the project guidelines for the VRMC was not treated as rules but were extensively discussed and negotiated between the project staff and the communities.

**Framing context specific bye-laws for VRMC management:** After selection of the VRMC executive body members, the members developed their bye-laws for the management. They decided tenure of VRMC, norms for VRMC meeting, roles and responsibilities of office bearers, decision making process, rules and procedures related to management of funds, membership norms etc. Subsequently, after the plantation activities, rules and regulations related to protection of plantation and access to the plantation area were added to these bye-laws. In many cases, these bye-laws were formally approved in the Gram Sabha or by the village Panchayat.

These bye-laws provided the framework for establishing the organisational norms and procedures necessary for organisational functioning. They were in writing and

could be referred to in case of any dispute. The bye-laws established the equitable rights and responsibilities of all the members. They also established transparency and accountability mechanism for the VRMC.

Norms included to promote transparent and accountable governance of the natural resources by the VRMC included Organising regular Gram Sabha meetings twice in a year, VRMC election every two years, Membership fees, Collective decision making, Removal of inactive executive body members, Penalties for violation of rules, Maintenance of records and expenses to be approved in VRMC meetings

**Formal recognition of VRMCs:** The VRMCs were given the option of getting registered either as an independent society under Societies Registration Act or as a Sub-Committee of the Panchayat under the Panchayat Act. However, most VRMCs opted for registration under Panchayat because of formalities associated with registration of a society. In some cases – where villagers had very low opinion about the way local Panchayat functioned – registration as a sub-committee of Panchayat was seen as undesirable. In order to insulate the VRMC from undesirable interferences from politics of the local Panchayat, the VRMC structure was designed to include people who were not members of the existing Panchayat. The VRMCs opened their own bank account, which they operated according to their own bye-laws. The Panchayat also issued a formal resolution recognising the VRMC, approving its bye-laws and transferring to it the powers for management of resources. A copy of this resolution was also sent to the Block Development Officer and the

Panchayat Officers. Considering that there were three main institutions involved – the project which provided the financial and technical support; the Panchayat which provided the land and the VRMC which managed the resources – a tri-partite agreement specifying the role of each party was signed. This also provided the VRMC with protection against the politics and whims of Panchayat functionaries.

**Membership of VRMCs:** An important tool adopted by HCFP to promote conditions for accountable governance was to introduce a system of membership fees for membership to VRMCs. The underlying assumption was that financial contribution by community members would create incentives for them to relate closely to the activities of the VRMC, feel ownership of the VRMC and hold it accountable for its activities. At the same time it would help the VRMC to generate some funds to meet its day to day minor expenses. Recognising that the whole village community – being the constituency of the Panchayat of which the VRMC is a sub-committee and custodian of some of its common assets – automatically becomes a member of the VRMC, the membership norms and its implications had to be considered carefully.

Membership, ideally, separates a group from others. While it imposes a certain set of norms guiding the behaviour of the individuals in the group, it also grants certain privileges and benefits which are not available to non-members. The VRMCs highlighted the following benefits to 'sell' the membership:

- Right to have first charge on benefits such as seedlings for farm forestry provided through the project



- Right to share in the benefits from the plantations
- Right to have a say in selection/election of VRMC executive body members
- Right to become member of the VRMC executive body
- Right to demand and peruse records of the VRMC
- Right to participate in VRMC meetings

Considering that enforcing membership norms could be a tool for exclusion (from access and benefits), the VRMCs adopted the following principles in determining the membership fees:

- Everyone would pay an equal fee, but the fee amount would be determined by the ability of the poor household to pay.
- Ultra-poor households, if any in the village, comprising sick and widowed women would not be required to pay membership fees.
- Non-payment of membership in any year does not exclude a household from benefits if the household pays it at a later date or agrees to other terms and conditions of VRMC.

Access to plantations for harvesting non-wood products was not linked to membership. Instead the access in most of the cases was free and in some cases conditional to payment of a small fee. Similarly the exclusion from receiving "free seedlings" from the project was dependent more on availability of seedlings in required numbers than on membership. While the ability of the VRMCs to devise mechanisms to exclude non-members from their own village community from share in benefits from final harvest of plantations remains to be tested.

The concept of membership in a community institution is not limited to households paying membership fees. The community institutions respond more actively in identifying those who actively and with mala-fide intentions break the rules and could, therefore, be excluded from benefits. The experience from the project suggests that membership as an instrument of accountable governance can succeed provided there is:

- Understanding and acceptance within the community about the need for special membership norms such as membership fees.
- There is sanctity to membership fees as a tool for determining access to benefits from common property resources, separate from other fees charged by the institution.
- Clarity regarding and feasibility of excluding those who do not meet all the requirements of membership including payment of membership fees.
- The VRMC is seen to be the sole authority – which can not be challenged – for delivering regular benefits to its members and which are not easily available to non-members from other sources.
- The VRMC is seen and accepted as a credible and useful institution – attempting and succeeding in resolving the issues and problems faced by villagers.

**Financially capable community institutions:** Community institutions which are formed for managing common assets that have a long gestation period generally struggle in arranging finances needed to maintain and manage common assets, particularly in the absence of strong enough community level arrangements to contribute voluntary

labour or generate resources for the purpose. The approach adopted by the project for financially capacitating the community institutions was different for different types of community assets – one for community plantations which have a gestation period of 10 to 30 years and another for earthen dams which start providing the benefits almost immediately.

Every village which contributed at least 10 ha. of land for VWL was provided a grant of Rs. 30,000 through its VRMC for creation of a Resource Management Fund (RMF) to be used to meet the expenses in managing the plantations after project exit. Where the village woodlot exceeded 10 ha, an additional payment of Rs. 500 per ha was made as larger area meant bigger expense. The RMF was put in a fixed deposit to earn interest for the duration of the project as the protection expenses were initially covered by project. The RMF was augmented by mobilising local resources in the form of annual membership subscriptions from villagers, an agreed percentage of benefits accruing from the various micro-projects, service charges, fines imposed for damage to plantations, income through sale proceeds of grass, minor forest produce, etc. As per the project condition, the VRMC is expected to get a share of 30% of the income from harvesting and sale of trees from VWL which it would use to re-vegetate the area.

In case of earthen dams, a corpus fund of Rs.30,000 for similar purpose was created through contributions from the community members. This corpus is augmented by the fee imposed by the VRMC for sale of water for irrigation or through income from auction of water.

**Need based training for community institutions:**

Training for community members focused on developing the skills, knowledge and attitude of a core group of community representatives selected by the villagers for the executive body of the VRMC. The purpose of training was to enhance capabilities of communities in terms of awareness, knowledge and skills; to enable them to perform their functions effectively and to develop democratic and visionary group leadership for village development.

Office bearers and members of VRMCs were provided a series of capacity building training for a total of 25 to 30 days spread over a period of three to four years. Apart from these they were taken on study tours and exposure visits for different purposes. Regional VRMC workshops were annually organised to facilitate exchange of experience between VRMCs, among other things.

VRMC members, together with Link Workers, were trained in participatory methods for planning and monitoring. Training was also provided on aspects of committee management, book-keeping, fund management, communication skills, conflict management and leadership development. The training programmes especially focussed on values and practices which are associated with effective community institutions such as transparency, accountability, equity, inclusiveness, self-help, initiative, ownership feeling for community assets, etc.

Different innovations were carried out for the purpose of providing effective training to community members. They included:

- Combining modular training with on-the-job training

- Training of local field staff together with VRMC

- Developing community members (Link Workers) as trainers

- Refresher training to VRMCs based on identified areas of weaknesses

- Facilitating inter-VRMC learning and experience sharing through VRMC workshops

- Training for women in mixed groups as well as separately

On-the-job support is crucial after training as it reinforces what has been taught in the class room. It is, therefore, equally important that the field staff who facilitate the process are well trained in all those aspects on which they are expected to help the VRMC. Use of Link Workers as trainers was an effective innovation due to their better understanding of the issues faced by the VRMC and their ability to communicate in local dialects.

**Regular capability monitoring of community institutions:**

An important feature of the community institution (VRMC) strengthening process was to design and implement a Community Capability Assessment (CCA) programme through which the capabilities of the VRMC were assessed *annually* on objective indicators across nine broad parameters as well as through participatory methods. The CCA helped the project to understand the capability status and changes in performance of different VRMCs. The system helped to analyse the weaknesses of each individual VRMC and the main areas where efforts are needed for improvement and further capacity building. It also helped the VRMCs discuss their performance with the project consultants and staff

and develop better understanding of what they need to do to become more effective institutions and resulted in community level efforts for the same. VRMC specific measures, including training programmes, could be adopted to address these issues.

**Self-Help Groups (SHGs) as vehicle for participation of poor and women**

Involvement of women and poor in the project process has been a matter of concern especially in large scale projects implemented by government agencies. Their participation is constrained by multiple factors – traditional social barriers, higher opportunity cost of participation for them, lack of sincere effort and weaknesses of project design. This often results in a situation where projects meant to ‘empower’ women and the poor have to be content with the figures of ‘employment generation’ for poor and women in project activities. HCFP has shown that SHGs can be an effective tool for mobilisation and organisation of poor in general and women in particular which, in turn, can facilitate participation of these groups in the community level decision making process and empowerment. The advantages associated with SHGs as a tool for mobilisation and participation of poor and women are:

- Through SHGs it is possible to create relatively small homogeneous groups and fora in a mixed and large community.

- It is possible to address immediate issues related to livelihood and income – which often has a greater priority for poor than environmental concerns.

- Awareness and capacity building efforts can be better targeted due to homogeneous nature of groups. Also



these groups require a lot of nurturing in the beginning.

- Women and poor get better opportunity to articulate issues of concern when they are in a group of similar persons.
- SHGs have better in-built mechanisms for sustainability in the form of regular saving and credit activities.

### ***Transparent, accountable and responsive project management***

It does not take long for community members to realise whether a 'participatory project' is serious about what it says. Most of the time there is little linkage between what the villagers are told about a 'participatory project' and what actually happens on the ground. Most 'participatory projects' start with the disadvantage that the villagers have already 'seen' one or the other such project, which made similar claims and promises regarding their role and involvement but turned out to be a totally different experience. This perception is very difficult to break – though not impossible. Giving respect and importance to collective views of the community – even when it is contrary to established positions held by project officers – requires commitment to a participatory process and strength of character in those managing the project. The difference between whether 'participation' remains a 'jargon' or becomes a 'goal' and a community institution remains on 'paper' or works on 'ground' is determined by the actions of those in charge of managing the project.

A characteristic of the project, much appreciated by villagers, was that the project management was accessible to the villagers even at the highest level

– whether on phone or through personal meetings. There were many aspects on which the project specified a framework or norms over which the villagers in some places had differing views. However, the project took time to explain the rationale of such norms through dialogue. At the same time there were instances where project norms were changed to suit the prevailing condition. For example, the project agreed to increase the spacing of plants under Sand Dune Fixation to facilitate intercropping as per the wishes of farmers. Many of the potential conflicts and issues were nipped in the bud due to accessibility of higher officials to the villagers.

### ***Efforts to sustain the momentum in long gestation projects***

An important learning from long-gestation projects is that the interest of the field staff as well as the villagers is dependent on *the "usefulness" importance of the activity*. Invariably physical activities – construction, plantation, etc – or those which require expenses and lead to financial returns are given more importance and generate greater enthusiasm. It is normally observed that the field staff are more particular about village visits and the community institutions meetings are more regular and well attended when such activities are ongoing. After the activities are complete there is a danger that the initial enthusiasm and momentum is lost leaving the community ill-prepared to deal with issues crucial for maintenance of the resources. HCFP employed certain strategies to ensure that the momentum that is built up in the beginning is sustained over a longer period. This ensured that the VRMCs could effectively participate in capacity building measures adopted under the project. The strategies adopted were:

**(a) Spreading plantation activities :** At the time of preparation of microplans, field staff and villagers were encouraged to schedule the execution of plantation activities over a period of three years, instead of completing all the activities in one go. It was proposed that, if possible, an area for VWL should be covered in phases and not all the area should be planted in the first year. Also spreading the plantation over a period of years implies that the trees in different blocks would be harvested at different times.

### ***Mechanism to create assets providing benefits in short term:***

While it was expected that earthen dams would start providing quick and regular returns, for VWL the project attempted to develop opportunities for short term and regular returns in the plantation design. Grasses and fruit bearing shrubs were planted together with trees in the VWL.

### ***Village development micro-projects:***

The VRMCs were encouraged to develop non forest micro-projects on issues identified in the microplan and pursue them with other development agencies for financial support through the Panchayat.

### ***Addressing issues of institutional sustainability***

Various factors influence the effectiveness of local community institutions involved in management of common natural resources and ensure its sustainability. The following exposé delineates the responses of the project with respect to eight crucial factors identified by Dr. Elinor Ostrom in research published 1990 – "Governing the Commons: The Evolution of Institutions for Collective Action" – as time-tested *design principles* that are conducive to the long-term survival of Common Property Resource institutions that manage common resources well.



### Time-tested Design Principles

|   |   |
|---|---|
| <p><b>Clearly defined boundaries :</b> <i>Individuals or households with rights to use resources and the boundaries of the resource itself are clearly defined</i></p>  | <p><b>HCFP Actions &amp; Conditions to meet with these Principles</b><br/>The members of the VRMC are clearly defined through its bye-laws. Measures to exclude someone from the benefits are also specified. The plantations were undertaken after due administrative permission of the owners (Panchayat) and after addressing the issues of encroachment and conflict where they existed. The Panchayat permission is further reinforced by a tri-partite agreement. A map defining the plantation area has been prepared using GPS.</p> |
| <p><b>Congruence of appropriation rules and local conditions:</b> <i>Rules restricting time, place and technology for access and/or the quantity of the resource for use are related to local conditions.</i></p> | <p>The detailed rules and regulations for protection, access and harvesting of benefits are developed by the VRMC within a broad framework provided by the project. However, in many cases the community still looks up to Forest Department for technical advise and is guided by them – particularly on issues related to allowing grazing after plants are well established or taking up selective harvesting in the plantation area.</p>  |
| <p><b>Collective choice agreements :</b> <i>Most individuals affected by rules can participate in modifying these rules</i></p>   | <p>VRMC, which is the main body for developing and applying the rules for resource protection and management, has representation from all sections of the village community. It is expected that the VRMC would get policy decisions approved in the Gram Sabha. Apart from Gram Sabha, community members are free to approach and participate in VRMC monthly meetings.</p>  |
| <p><b>Monitoring :</b> <i>Monitors, who actively audit the resource conditions and user behaviour, are accountable to the users and/or are themselves users</i></p>   | <p>The resources are managed and monitored by the VRMC on behalf of villagers through paid watcher as well as social fencing and with support from project/Forest Department (FD) staff. VRMC is a creation of Gram Sabha and is accountable to it for its actions. It is also a sub-committee of the Panchayat and answerable to it. The VRMC is re-elected every two years. It also is expected to organise two Gram Sabha every year and give account of its activities.</p>   |
| <p><b>Graduated sanctions :</b> <i>Those who violate rules are likely to receive graduated sanctions – depending on the seriousness and the context of the offence</i></p>  | <p>The penalties are decided by the VRMC for offenders. They may take the advise of FD, but are not bound by it. The level and character of fine are determined locally taking into consideration the seriousness of the offence and the offender's capacity to pay. Ingenious solutions are often found and the project has several examples of them.</p>  |
| <p><b>Conflict resolution mechanisms :</b> <i>Easy access to low cost and locally available conflict resolution arrangements</i></p>  | <p>The traditional institutions for intra-village conflicts, especially those which do not result in violence, remain quite effective for social and natural resource matters. The cases of inter-village conflicts or conflicts with other agencies have been few. However, conflicts which are political in nature are found difficult to resolve. Support of local Panchayat and the FD has also played important part in resolving conflicts.</p>   |
| <p><b>Recognition of rights to organise :</b> <i>Rights of users to devise their own institutions are not challenged by external authorities</i></p>  | <p>The VWL is primarily a community resource. The Panchayat is the constitutionally and legally mandated body for its maintenance and management. The VRMC is a sub-committee of the Panchayat. The rights and obligations of the VRMC are also recognised through the tri-partite agreement between the FD, Panchayat and VRMC.</p>  |
| <p><b>Nested enterprises:</b> <i>The institution and its governance activities must be perceived as legitimate by the larger set of organisations in which it is nested.</i></p>                                  | <p>The VRMC is nested within the local Panchayat which is a constitutional body. Apart from that the VRMCs in some cases have also developed links with other VRMCs in the cluster (networking).</p>  |

Ajay Rai, Training Expert, HCFP;  
Goran Jonsson, T.A. Project Manager, HCFP;  
and Dr Joseph Viruthiyel, Sociologist,  
HCFP & DGM, AFC, Mumbai



# Impact of New Technologies on Sericulture Development – A Feasibility Analysis

H Jayaram and Indumati S

*India has the unique distinction of being the only country producing all the five kinds of silk – Mulberry, Eri, Muga, Tropical Tasar and Temperate Tasar. The larva of mulberry silkworm, feeds on the leaves of Mulberry to produce silk cocoon. The cocoon gives out the most expensive and purest of thread - Silk. The significant breakthrough in the technologies developed in sericulture has been effective and with an appropriate TOT programmes, the sericulture sector is prospering in the states of Karnataka, Tamil Nadu and Andhra Pradesh and such benefits are to be further trickled down to many other important silk producing states of India.*

## Introduction

Sericulture is recognized as a village-based industry providing employment to a sizable section of the population in India. Sericulture encompasses activities including mulberry farming, silkworm rearing, reeling, twisting, dyeing, weaving, etc, is elemental in uplifting the rural folk through provision of adequate employment and income from the time immemorial. Though sericulture is considered as a subsidiary occupation, due to significant breakthroughs in the technological innovations, it has been possible to take up the activity on an intensive scale for generating potential income and year round employment.

India is the second largest producer of silk in the world with an annual silk production of around 18,475 MT annually (Central Silk Board, 2007). All the four known types of silk, viz. Mulberry, Eri, Muga and Tasar are produced in India. Mulberry silk is the most popular variety in India, contributing more than 87 per cent

of the country's silk production. Export of silk and silk goods are very good foreign exchange earners. Export potential of this sector is promising as silk production in Japan is declining and that of China, the largest silk production in the world, is stagnant or declining.

Due to the prevalence of favourable climatic conditions, mulberry is

area under mulberry cultivation and 95 per cent of raw silk production in the country. Karnataka is the principal silk producing state in the country, which accounts for about 58 per cent of the total mulberry raw silk production in the country.

It can be noticed from Table-1, the sericulture sector at the stage of raw silk production is capable of

**Table-1: Year wise area, production and labour employment in sericulture**

| Sl.No | Particulars                     | Years   |         |          |
|-------|---------------------------------|---------|---------|----------|
|       |                                 | 2000-01 | 2005-06 | % Change |
| 1.    | Area under mulberry (Lakh ha)   | 2.16    | 1.92    | -11.11   |
| 2.    | Production of raw silk (Tonnes) | 15857   | 18475   | +16.51   |
| 3.    | Employment (Million)            | 5.40    | 6.03    | +11.66   |

Source: Central Silk Board (2007)

grown mainly in five states, viz., Karnataka, Andhra Pradesh, Tamil Nadu, West Bengal and Jammu & Kashmir. Collectively these five states account for 97 per cent of the total

employing up to 6 million jobs annually. Sericulture occupies a unique position in Indian economy and assumes more importance in alleviating the problems of the rural



poor. It is highly suitable in the context of diversification of farm enterprises and integration with the farming system with other enterprises and has the capacity to generate attractive income. There are only a few other farm enterprises that can match sericulture for providing employment to rural poor. Sericulture provides employment for 506.20 man-days per annum per acre (Lakshmanan et al, 1998). The above features have attracted the policy makers to propagate sericulture enterprise as a suitable answer to rural unemployment and low per capita income.

Although India is the second largest producer of mulberry raw silk in the world, the bulk of silk produced in the country is reared from cross breed cocoons, which is more suitable for handloom sector. Further, the productivity level of Indian sericulture industry is less compared to that of China. The power loom weavers and exporters in India prefer Chinese silk as it has more uniformity, less winding breaks and low degumming losses compared to domestic Indian silk. As the quality and productivity of silk derived from traditional crossbreed cocoons is less, switching over to bivoltine sericulture in the country is imperative to achieve competitiveness.

The earlier phase of development of sericulture in India had to target upon replacing low yielding mulberry variety with that of the improved robust yielding mulberry varieties followed by the replacement of the traditional multivoltine silkworm races with that of the bivoltine races. The conditions prevailed in rearing silkworm were totally unhygienic because of the absence of separate rearing houses for silkworm rearing with the large majority of farmers.

Due to the unhygienic conditions of silkworm rearing, the outbreak of diseases were common. This had caused major setback in the silk cocoon production leading to poorer yields and thereby harming the productivity level.

### **Thrust on Technologies in Sericulture**

With the introduction of the World Bank and Swiss Development Cooperation assisted National Sericulture Project (NSP) between 1989 and 1996, covering five traditional states and 12 pilot states, major thrust was given to the provision of adequate infrastructure facilities for development. With this there was a great momentum in the sericultural industry. The project ensured a multidimensional improvement in the production and productivity of the sericulture sector. There was a clear emergence of developmental linkages between the pre cocoon and post-cocoon sectors. Due to the established forward and backward linkages coupled with an ensured marketing system, the participants in the sericulture sector ensured higher returns to their investments. Yet, the potential of sericulture remained unexplored until a sound base for technology development was initiated.

In continuation to the strategies for improving the productivity level of sericulture in the country, the Government of India launched the JICA (Japan International Cooperation Agency) programme in 1997 with the technical support of the Japanese scientists in selected areas of the country (Jayant Jayaswal et. al., 2005). The programme was implemented in three phases. In the first phase (1991-97) of Bivoltine Sericulture Technology Development Project (BSTD) the scientists were

able to evolve highly productive bivoltine hybrids (CSR hybrids) and mulberry cultivation and bivoltine silkworm rearing package. The second JICA phase (1997 – 2002) was on Promotion of Popularizing Practical Bivoltine Sericulture Technology (PPBST) to test verify and validate the technologies in the field in the selected areas of Karnataka, Andhra Pradesh and Tamil Nadu.

Based on the success achieved in the second phase of the project, the JICA and the Govt. of India extended the project for the third term (2002-2007) also, under the name of Project for Strengthening Extension System for Bivoltine Sericulture (Central Silk Board, 2007) with effect from August 2002 for a period of five years. The JICA programme was mainly implemented in three major silk producing southern states viz., Karnataka, Andhra Pradesh and Tamil Nadu. The project was however elemental in uplifting the productive parameters of sericulture on par with the international standards.

Many of the technologies, which were evolved in sericulture during the period have contributed to the productivity level significantly. The level of productivity increased considerably due to the evolution of superior silkworm hybrids and development of robust mulberry varieties along with improved mulberry cultivation and silkworm rearing practices. Due to the advent of these technologies, the sericulture enterprise could gradually get into many of the non-traditional sericultural states of the country. The research & development and training efforts of the Central Silk Board, and the initiatives and support systems of some states have enabled the increase in production and productivity (Arun



Ramanathan, 2004). Due to the R & D contributions alone, there is an overwhelming increase in the production of silk in the country up to 18475 MT during 2006-07.

**Sericulture:** Sericulture includes the production of silk cocoons, which further forms the raw material for the production of silk. India has the unique distinction of being the only country producing all the five kinds of silk – Mulberry, Eri, Muga, Tropical Tasar and Temperate Tasar. The larva of mulberry silkworm, feeds on the leaves of Mulberry to produce silk cocoon. The cocoon gives out the most expensive and purest of threads, silk.

Sericultural activities include a) Cultivation of mulberry plants for rearing silkworm. b) Production of silkworm seed: the silkworm seed which is known as Disease Free Layings, are prepared in the production centers called as grainages and supplied to the farmers for rearing. Both Government and private sector grainages are involved in this activity. c) Rearing of silkworm: silkworm rearing is done for the production of “silk cocoons” which is the raw material for silk reeling. Silkworms are reared in well ventilated rearing shed following shoot rearing method. Silkworm breeds fall into two categories viz., traditional multivoltine breeds and the high performance bivoltine breeds. The improved cross breeds emanate as a result of crossing between the two. d) Reeling of silk cocoon: silk Reeling is the extraction of silk filament from cocoons by employing a set of processes is known as silk reeling. The silk obtained out of the reeling process is referred to as “Raw Silk”. Presently silk reeling is done using three types of reeling devices viz. Charka, Cottage basins and Multi-end basins. Charka is a

primitive device with which it is not possible to produce quality silk. Even though the cottage basin produces better quality silk compared to charka, it still falls short of gradable silk. Only with multi end reeling device gradable quality silk can be produced. e) Silk weaving: silk weaving is done using raw silk. Before silk weaving the raw silk is to be twisted before they are fed into looms. The operation of conversion of raw silk into twisted silk, is termed as twisting. The twisted silk is referred to as Ready Silk. The silk weaving is done either on handlooms or power looms. The traditional silk *sarees* and *dhoties* are made on handlooms whereas the printed *sarees*, dress materials, etc., are made on power looms.

During the implementation of many of the programmes directed to improve the productivity in Indian sericulture, the major thrust was given to the following areas of operation. The major technologies that brought sericulture in India to limelight are:

a) Mulberry Crop Production:

- Improved mulberry varieties.
- Improved cultivation methods.
- Effective nutrient management.
- Effective plant protection measures.

b) Silkworm Rearing and Silk cocoon Production:

- Improved breeds of silkworm (cross breeds and hybrids)
- Silkworm rearing technology (Chawki/young and adult silk worm rearing)
- Disinfection and hygiene
- Silkworm pest and disease management
- Spinning and cocoon harvest.

**Impact of Technologies:**

- The introduction of V1 variety of mulberry during nineties nearly doubled the production of mulberry than the regular variety of mulberry
- Similarly with the advent of productive bivoltine hybrids improved the productivity level from far below 200 kg/ha under traditional system to nearly 1875 kg/ha/year in Southern States (Dandin, 2005)
- The introduction of supply of healthy chawki (young) worms to the farmers instead of supplying the eggs, through the large scale Commercial Chawki Rearing Centres (CRCs) has led to increase in the productivity level of the silk cocoon at the farmers' level.
- The renditta of the traditional multivoltine which was ranging from 14 – 17 kg of silk cocoon per kg of raw silk, the improved hybrids in the field have brought it down to mere 8 kg.
- With the adoption of bivoltine hybrids there are hopes of producing 2A – 4A grade quality silk which is on par with the international standards.
- Many cost reducing technologies were evolved which in turn not only saved the energy requirement in production but also reduce the drudgery. With the advent of shoot feeding method for silkworm and drip irrigation system in mulberry it is possible to save labour and irrigation water to an extent of 40 per cent.
- The major point of consideration in measuring the technological impact is through the mechanization in mulberry sericulture. With the change in the planting system, it is possible now to manage large scale mulberry farms through heavy machineries. Likewise there are many other





instances where the introduction of machineries to get rid of labourious form of work in sericulture.

**Technology Dissemination**

The sericulture technology dissemination attained through R & D institutions brought about drastic changes in the productivity. The quality of silk cocoon reached a new momentum with the production of international grade of 3A, which is the best quality of silk in India. For effective diffusion of technologies in the field, the Central Silk Board has been elemental in implementing Catalytic Development Programme (CDP) since 1997-98. The schemes backed with latest technology package are being implemented through the various state departments in different states. With the objective of technology absorption, quality up-gradation, improvement in productivity, generation of income and employment, the scheme was implemented to support women, SC/ST and farmers below poverty line engaged in sericulture as its main beneficiaries. The CDP covered major thrust areas of technology such as food plant cultivation, development of farm infrastructure support for quality linked purchase of silk cocoon and yarn, up-gradation of silk reeling and processing technologies, enterprise development, data base management, support for extension, publicity etc. The assistance under CDP is being provided to all states for mulberry, tasar, eri and muga sectors. The scheme has received overwhelming response from the beneficiaries during IX and X plans.

In recent times, development of sericultural technologies and dissemination of the same played a major role in increasing the income and employment of the rural folk.

Various R & D organizations involved in sericulture research activities have been responsible for the improvement of productivity of sericulture in the field. In this regard the Central Sericultural Research and Training Institute (CSRTI) located at Mysore from the past 40 years is involved in carrying out research in mulberry cultivation and silkworm rearing and in other concerned aspects and have developed various technologies which are reaching the farmers. The role of state Department of Sericulture (Dos) at different states in dissemination process of technologies is commendable. With the support of Dos and the other important organization under CSB, the National Silkworm Seed Organisation (NSSO), many programmes were organized for effective diffusion of technologies under JICA Project. The Institute-Village Linking Programme (IVLP), the other process in the diffusion of

technologies, effectively brought the farmers, extension personnel and scientists into a single platform for participatory technology development through demonstration of fine tuned technologies (Dandin, 2004). With the nested units of CSRTI, Mysore located at Kodathi (Karnataka), Salem (Tamil Nadu) and Anantapur (Andhra Pradesh) along with the concerned state Departments of Sericulture, and NSSO the IVLP was a great success among the farmers.

Since the inception of JICA 19,616 farmers and under IVLP 1700 farmers were covered as bivoltine rearers. The average cocoon yield of the farmers enhanced up to 65.96 kg/100 DFLs from the previous 48 – 50 kg/100 DFLs due to the impact of technologies. The rearing performance of the farmers during the year 2006 – 07 is presented in the Table 2.

**Table-2: Performance of sericulture at various locations under JICA and IVLP**

| Sl. No.                | State          | No. of farmers | DFLs      | Cocoon yield* (kg/100 DFLs) | Rate per farmers cocoon (Rs) |
|------------------------|----------------|----------------|-----------|-----------------------------|------------------------------|
| <b>A. JICA Project</b> |                |                |           |                             |                              |
| 1                      | Karnataka      | 1631           | 15,45,325 | 64.65                       | 159.65                       |
| 2                      | Andhra Pradesh | 1246           | 16,33,330 | 66.85                       | 166.27                       |
| 3                      | Tamil Nadu     | 821            | 14,24,310 | 66.38                       | 156.98                       |
|                        | Total/Average  | 3698           | 46,02,965 | 65.96                       | 161.20                       |
| <b>B. IVLP</b>         |                |                |           |                             |                              |
| 1                      | Karnataka      | 479            | 7,22,405  | 64.26                       | 152.00                       |
| 2                      | Andhra Pradesh | 250            | 2,92,373  | 62.08                       | 142.00                       |
| 3                      | Tamil Nadu     | 154            | 1,95,718  | 63.00                       | 144.00                       |
|                        | Total/Average  | 883            | 12,10,496 | 63.53                       | 148.36                       |

Source: Dandin, (2005) Indian Silk & Annual Report (2006-07) CSR & TI, Mysore  
 Note: \*Silk cocoon yield is measured in kg per 100 Disease Free Layings (DFLs)



The improved technologies developed for mulberry production and silkworm rearing has been very cost effective, besides they have been aiming at higher productivity levels. The thrust given to the Transfer of Technology by the R & D organizations is commendable. This effect is easily seen by the performance of the crops under both JICA as well as the IVLP. Against

the benchmark yield of 48.10 kg/100 DFLs, the productivity level in bivoltine cocoon yield resulted in to 66.82 kg/100 DFLs.

The productive success of the JICA and IVLP in India suggest that, there is an existence of scope for improving the productivity in sericulture. Though the productive capability of Indian sericulture was far below than

that of People's Republic of China, the recently concluded JICA and IVLP crop performance with a large mass of sericulturists, suggests that the international productive standards what China has achieved, is still possible in India (Table 3). An analysis of the productive standards of the two important silk producing countries viz., China and India suggests that, though India lags behind in the

**Table-3: Comparative mulberry sericulture statistics between China and India (2004-05)**

| Parameter                           | China*            | India                   |                                       |
|-------------------------------------|-------------------|-------------------------|---------------------------------------|
|                                     |                   | General                 | Progress under JICA & IVLP Programmes |
| Area under mulberry (ha)            | 7.53 lakh         | 1.92 lakh               | 1855                                  |
| Mulberry leaf yield (MT/ha/yr)      | 25-30             | 20-40                   | 40-50                                 |
| Races reared                        | All bivoltines    | Mostly cross breeds     | 75 % Biv. & 25% CB                    |
| Egg production (Dfls)               | 76.919 crores     | 25.65 crores            | 0.264 crores                          |
| Supply system                       | Majority chawki   | Majority supplied       | Chawki reared worms                   |
|                                     | reared            | as eggs                 |                                       |
| Time of supply                      | Batchwise         | Throughout the year     | Throughout the year                   |
| No.of crops/year                    | 2-3:Temperate     | 5-6                     | 5 -single plot system                 |
|                                     | 6-8 : Tropical    | 8-10                    | 10-double plot system                 |
|                                     | (straggered crop) | (two plot system)       |                                       |
| DFLs brushed/ha/yr                  | 1050              | 1492                    | 2610                                  |
| Cocoon yield( kg/100 dfls (2 boxes) | 75.92             | 51                      | 65                                    |
| Leaf cocoon ratio                   | 16-18             | 20-22                   | 18-20                                 |
| Cocoon yield ( kg)/ha               | 736.89            | 698                     | 1758                                  |
| Single cocoon weight (g)            | 1.9-2.0           | 1.6-1.8                 | 1.7-1.9                               |
| Shell percentage                    | 21-23             | CB: 17-19Biv: 20-22     | 21-22 (Bivoltine)                     |
| Filament length (m)                 | > 1000            | <1000                   | 900-1100                              |
| Renditta (Silk cocoon in            |                   |                         |                                       |
| kg per kg of raw silk)              | 6.4 (6.31)        | 8.2 (6.9 for bivoltine) | 6.6 ( Bivoltine)                      |
| Grade of silk                       | A-4A              | Gradeless to A          | 2A-3A                                 |
| Cost of cocoon production (Rs./kg)  | 50-55             | 65-70                   | 70-80                                 |
| Prevailing cocoon price (Rs/kg)     | 85-90             | 90-120                  | 134-150                               |
| Raw silk production (kg/ha/yr)      | 88 . 00           | 85.02                   | 266.50                                |
| Avg.crop loss/year (%)              | 3-5               | 10-15                   | < 10                                  |
| Demand supply position              | 90 % export       | Self consumption        |                                       |
|                                     |                   | 40% deficit             | -                                     |
| Raw silk produced (MT/yr)           | 86,500            | 14,620                  | -                                     |

Compiled from: 1) Li long et. al., (2002) Indian Silk 2) Dandin, S.B. (1998) Indian Silk, and 3) Annual Report (2007) CSR & TI, Mysore



**Table-4: Cost of production of Mulberry Leaf**

(Value in Rs./ha/year)

| Sl. No.   | Particulars   | Old Technology |              |                 | New Technology |           |                 |
|-----------|---|----------------|--------------|-----------------|----------------|-----------|-----------------|
|           |   | Quantity       | Rate(Rs)     | Value(Rs)       | Quantity       | Rate (Rs) | Value (Rs)      |
|           | Mulberry variety  |                | K-2          |                 | V-1            |           |                 |
|           | Planting system   |                | 2' X 2'      |                 | Paired row     |           |                 |
|           | Irrigation method   |                | Flood        |                 | Drip           |           |                 |
|           | Leaf harvest  |                | Leaf picking |                 | Shoot harvest  |           |                 |
| <b>A.</b> | <b>Variable costs</b>   |                |              |                 |                |           |                 |
| 1         | Farm yard manure (MT)   | 20             | 250.00       | 5000.00         | 10             | 250.00    | 2500.00         |
| 2         | Vermicompost (MT)   |                |              |                 | 3              | 2000.00   | 6000.00         |
| 3         | Fertilizer (NPK in kg)  | 300:120:120    | 8160.00      | 175:70:140      | 3785.00        |           |                 |
| 4         | Azotobacter (kg)  |                |              |                 | 20             | 30.00     | 600.00          |
| 5         | Manure and fertilizer application                                     | 50             | 60.00        | 3000.00         | 63             | 60.00     | 3780.00         |
| 6         | Irrigation (Mandays)  | 150            | 60.00        | 9000.00         | 50             | 60.00     | 3000.00         |
| 7         | Drip system - Maintenance cost  |                |              |                 |                |           | 1250.00         |
| 8         | Inter-cultivation-labour (MD)   | 100            | 60.00        | 6000.00         | 100            | 60.00     | 6000.00         |
| 9         | Inter cultivation (Bullock power)                                     | 25             | 100.00       | 2500.00         | 25             | 100.00    | 2500.00         |
| 10        | Leaf harvest (Mandays)  | 240            | 60.00        | 14400.00        | 200            | 60.00     | 12000.00        |
| 11        | Pruning and cleaning of plants (Man days)                             | 25             | 60.00        | 1500.00         | 12             | 60.00     | 720.00          |
| 12        | Land revenue  |                |              | 125.00          |                |           | 125.00          |
| 13        | Electricity   |                |              | 2000.00         |                |           | 2000.00         |
| 14        | Miscellaneous (PP Chemicals, Micro nutrients, Growth promoters etc. ) |                |              | 500.00          |                |           | 750.00          |
|           | Interest on working capital   |                |              | 1043.70         |                |           | 900.20          |
|           | <b>Total variable cost</b>  |                |              | <b>53228.70</b> |                |           | <b>45910.20</b> |
| <b>B.</b> | <b>Fixed costs</b>  |                |              |                 |                |           |                 |
| 1         | Apportioned cost of establishment of mulberry garden                  |                |              | 2676.05         |                |           | 3750.00         |
| 2         | Apportioned cost of VAM (kg)  |                |              |                 | 13.33          | 3.00      | 40.00           |
| 3         | Apportioned cost of Dripsystem  |                |              |                 |                |           | 3750.00         |
|           | <b>Total fixed cost</b>   |                |              | <b>2676.05</b>  |                |           | <b>7540.00</b>  |
|           | <b>Total leaf production cost</b>                                     |                |              | <b>55904.75</b> |                |           | <b>53450.20</b> |
|           | <b>Leaf production (kg)</b>   |                |              | <b>30000.00</b> |                |           | <b>50000.00</b> |
|           | <b>Total cost/kg of leaf</b>  |                |              | <b>1.86</b>     |                |           | <b>1.07</b>     |



**Table-5: Cost of Silk Cocoon Production**

| Sl. No. Particulars   | Old Technology              |       |                  | New Technology              |       |                  |
|---|-----------------------------|-------|------------------|-----------------------------|-------|------------------|
|   | Quantity                    | Rate  | Value            | Quantity                    | Rate  | Value            |
| Silkworm race   | Cross Breed                 |       |                  | Bivoltine hybrid            |       |                  |
| Chawki/Youngage   |                             |       |                  |                             |       |                  |
| worms   | Farmers' level              |       |                  | Chawki Rearing Centre       |       |                  |
| Disinfectants   | Formalin & Bleaching powder |       |                  | Bleaching powder & Sanitech |       |                  |
| Rearing house   | Dwelling/Separate room      |       |                  | Separate Rearing House      |       |                  |
| Rearing type  | Tray                        |       |                  | Shoot                       |       |                  |
| DFLs/year (No)  | 3000                        |       |                  | 3750                        |       |                  |
| Mounting  | Bamboo chandrike            |       |                  | Rotary moutage              |       |                  |
| <b>A. Variable Costs</b>  |                             |       |                  |                             |       |                  |
| 1 Leaf  |                             |       | 55904.75         |                             |       | 53450.20         |
| 2 Dfls/chawki   | 3000                        | 2.50  | 7500.00          | 3750                        | 5.50  | 20625.00         |
| 3 Disinfectants   |                             |       | 6000.00          |                             |       | 12525.00         |
| Bed disinfectants   | 90                          | 30.00 | 2700.00          | 150                         | 30.00 | 4500.00          |
| 4 Labour (Mandays)  | 690                         | 60.00 | 41400.00         | 675                         | 60.00 | 40500.00         |
| 5 Transportation and marketing                                      |                             |       | 2015.00          |                             |       | 3246.88          |
| 6 Other costs   |                             |       | 1000.00          |                             |       | 1000.00          |
| 7 Interest on working capital                                       |                             |       | 606.15           |                             |       | 823.97           |
| <b>Total variable costs</b>   |                             |       | <b>117125.90</b> |                             |       | <b>136671.04</b> |
| <b>B. Fixed costs</b>   |                             |       |                  |                             |       |                  |
| Depriciation on building and equipments and interest on fixed costs |                             |       | 27095            |                             |       | 45158.33         |
| <b>Total costs</b>  |                             |       | <b>144220.90</b> |                             |       | <b>181829.38</b> |
| <b>C. Revenue</b>   |                             |       |                  |                             |       |                  |
| Cocoon yield (kg/100 DFLs)  |                             |       | 55               |                             |       | 65               |
| Average cocoon price (Rs/kg)  |                             |       | 110              |                             |       | 125              |
| Cocoon production (kg)  |                             |       | 1650             |                             |       | 2437.5           |
| Income from cocoon  |                             |       | 181500.00        |                             |       | 304687.50        |
| Income from by-products   |                             |       | 9075.00          |                             |       | 15234.38         |
| <b>Total revenue</b>  |                             |       | <b>190575.00</b> |                             |       | <b>319921.88</b> |
| <b>Net revenue</b>  |                             |       | <b>46354.10</b>  |                             |       | <b>138092.50</b> |



productive strength of the silk, with the implementation of various programmes, the country can aim at high productive strength with the domestically evolved technologies. As of now India can support the production of at least a minimum of 2A – 3A grade of silk, thus making the sericulture industry a lucrative subject.

The average annual income from the sericulture with the evolved technologies can be increased two folds on an average sericulture farm with the productive standards achieved through the various programmes those are implanted in India. Thus it is evident that sericulture once termed as a subsidiary enterprise has been turning out to be a more economically feasible

endeavor for an innovative farmer. The success in sericulture has been possible with the improvement in the technologies which were genuinely departed to the target group for adoption. In this regard the developmental projects in sericulture, not only worked as the model for various extension programmes, but also effectively addressed the field related problems, thus paving way for success in sericulture.

**Economic Feasibility**

A feasibility analysis was done to analyse the performance of sericulture under two situations representing traditional or under old technology conditions against the adoption of new technology conditions. A detailed feasibility analysis (Gittinger, 1980)

was done adopting the project appraisal techniques such as Net Present Value (NPV), Internal Rate of Return (IRR) and Discounted Cost Benefit Ratio analysis (CB Ratio). The estimates of individual operations in sericulture were drawn out of the performance of crops under different projects were derived. The crop production norms under two different situations viz., ‘old technology’ situation which existed prior to the project period say before 1990 and ‘new technology’ situation after the implementation of developmental projects in sericulture, say after 1990 were considered and studied. The cost of production of mulberry silk cocoon was estimated in the Table No.5, taking in to consideration all the accountable costs and returns from

**Table-6: Cashflow analysis**

(Value in lakh Rs./ha/year)

| Particulars               | Old Technology<br>Years |             |             |             |              | New Technology<br>Years |             |             |             |              |
|---------------------------|-------------------------|-------------|-------------|-------------|--------------|-------------------------|-------------|-------------|-------------|--------------|
|                           | 1                       | 2           | 3           | 4           | 5-15         | 1                       | 2           | 3           | 4           | 5-15         |
| Mulberry cultivation      |                         |             |             |             |              |                         |             |             |             |              |
| Establishment             | 0.40                    |             |             |             |              | 1.13                    |             |             |             |              |
| Maintenance               | 0.27                    | 0.53        | 0.53        | 0.53        | 5.86         | 0.23                    | 0.46        | 0.46        | 0.46        | 5.05         |
| Silkworm rearing          |                         |             |             |             |              |                         |             |             |             |              |
| Buildings& Equip          | 2.79                    |             |             |             | 0.28         | 6.20                    |             |             |             | 0.62         |
| Rearing cost              | 0.32                    | 0.64        | 0.64        | 0.64        | 7.03         | 0.45                    | 0.91        | 0.91        | 0.91        | 9.98         |
| <b>Total cash outflow</b> | <b>3.78</b>             | <b>1.17</b> | <b>1.17</b> | <b>1.17</b> | <b>13.16</b> | <b>8.02</b>             | <b>1.37</b> | <b>1.37</b> | <b>1.37</b> | <b>15.65</b> |
| <b>Income</b>             |                         |             |             |             |              |                         |             |             |             |              |
| Silk cocoon               | 0.91                    | 1.82        | 1.82        | 1.82        | 19.97        | 1.52                    | 3.05        | 3.05        | 3.05        | 33.52        |
| By-product                | 0.05                    | 0.09        | 0.09        | 0.09        | 1.00         | 0.08                    | 0.15        | 0.15        | 0.15        | 1.68         |
| <b>Total cash inflow</b>  | <b>0.95</b>             | <b>1.91</b> | <b>1.91</b> | <b>1.91</b> | <b>20.96</b> | <b>1.60</b>             | <b>3.20</b> | <b>3.20</b> | <b>3.20</b> | <b>35.19</b> |
| <b>Net cash flow</b>      | <b>-2.83</b>            | <b>0.73</b> | <b>0.73</b> | <b>0.73</b> | <b>7.80</b>  | <b>-6.42</b>            | <b>1.83</b> | <b>1.83</b> | <b>1.83</b> | <b>19.54</b> |
| <b>Pay back period</b>    | 4 years 6 months        |             |             |             |              | 4 years 4 months        |             |             |             |              |
| <b>NPV @ 12 %</b>         | Rs. 1.71 lakh           |             |             |             |              | Rs. 4.87 lakh           |             |             |             |              |
| <b>IRR</b>                | 24 %                    |             |             |             |              | 27%                     |             |             |             |              |
| Disc. C : B Ratio         | 1:1.17                  |             |             |             |              | 1:1.32                  |             |             |             |              |



sericulture.

The analysis revealed that under any possible situation, the adoption of 'new technologies' in sericulture had a greater edge over the 'old technologies'. The estimated total cost of production per hectare was found to be Rs.1,44,220.90 under 'old technology' condition as compared to Rs. 1,81,829.38 under 'new technology' condition. Similarly the revenue derived from sericulture using 'old technologies' was found to be 1,90,575.00 as against the income derived using 'new technologies' at Rs. 3,19,921.88. This clearly suggests that the income derived in sericulture is considerably high when cost effective labour saving 'new technologies' were adopted.

Further a detailed cash flow analysis was carried out (Table 6) using the variable and fixed costs in mulberry leaf and silk cocoon production, which indicated that the additional income generated from sericulture using new technologies was significantly higher than with the old technologies.

Based on the cash flow analysis, it was found that the Net Present Value (NPV) under 'old technology' was found to be 1.71 lakh when compared to Rs. 4.87 lakh under 'New technology' situation. Similarly the Internal Rate of Return was 24 percent by adopting 'old technology' when compared to 27 per cent under 'new technology' conditions. The adoption of new technologies in sericulture yielded a higher Cost Benefit ratio (1:1.32) than under the conditions using old technologies, which was found to be 1: 1.17. This clearly suggests that, the technologies in sericulture have a significant bearing on improving the productivity and thereby income of the farmers. Therefore the advent of new

technologies in sericulture has an edge over the traditional methods of crop rearing in sericulture, which has helped the farmers attaining higher income especially during the project period. Hence technological dissemination in sericulture and its concurrent influence on the level of productivity and the income is a reality, which in turn has helped many farmers reap maximum economic benefits.

### Conclusion

Sericulture, which constituted the subsistence economy in India, has now been considered as one of the important sector contributing to income and employment. Though known for the production of value added lustrous silk, the generation of employment through the various process involved has been vital. The advancement made over the years in developing the relevant technologies, which are otherwise cost reducing, and profit maximizing are necessarily making the industry stronger over the years. The introduction of many of the projects in sericulture has necessarily guided the industry to forefront by evolving technologies that suit the requirement of the farmers. Hence the sericulture enterprise is appearing to be highly remunerative than any other competitive crops in agriculture where there is a continuous adversity in terms of trade. In general the significant breakthrough in the technologies developed in sericulture has been effective and with an appropriate ToT programmes, the sericulture sector is prospering in the states of Karnataka, Tamil Nadu and Andhra Pradesh. Further, such benefits are to be trickled down to many other important silk producing states of India. Days are not far ahead in doing so, as there is a continuous

effort going on with this farm enterprise in many of the non-traditional sericulture zones.

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*H Jayaram, Scientist-C, Central Sericultural Research and Training Institute, Srirampura, Mysore;*  
*Indumati S, Professor of Economics, Department of Studies in Economics and Cooperation, Manasagangotri, Mysore University, Mysore, Karnataka*



# Organic Farming – Concept, Production, Processes, Marketing and Control

Gagnesh Sharma, C M Sharma,  
K L Sharma and Mona Sharma

*Organic agriculture is an approach, which is not confined to production alone. Inter-related co-operation between farmers, environmentalists, technologists, traders, quality controllers and consumers is a very common characteristic of organic agriculture. This is for the benefit of both nature and humanity. The basic principle of organic farming is to enhance organic matter content of the soil which has a profound impact on soil quality, enhancing soil structure and fertility and increasing water infiltration and storage. Organic farming maintains soil biological activities at high level. Biological means of pest and disease management, produce residue free and quality harvest agricultural produce. Above all organic farming maintains environmental quality.*

## Introduction, Concept and Background

Organic farming is a type of agriculture that relies on ecosystem management and it is a holistic production management system that promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. Chemicalization of agriculture has resulted in the deterioration of soil health, thereby culminating environmental pollution and stagnation in productivity. Agricultural chemicals (pesticides and herbicides) have resulted in residue accumulation in food and also have reduced the biodiversity. Further depletion of non-renewable sources of energy and escalating prices of fertilizers and other external inputs have brought in to question the sustainability of conventional farming system. The aforesaid points have necessitated to identify organic farming as a potential alternative of

conventional agriculture. The basic principle of organic farming is to enhance organic matter content of the soil which has a profound impact on soil quality, enhancing soil structure and fertility and increasing water infiltration and storage. Erosion of soil is reduced due to bacterial activity in producing humus in soils. Organic farming maintains soil biological activities at high level. Biological means of pest and disease management, produce residue free and quality harvest agricultural produce. Above all organic farming maintains environmental quality.

Organic farming is a system devoid of the use of any chemical or genetically modified inputs (seeds and planting material), in which the biological potential of the soil and of the organic sources and understood water sources are conserved and protected by adopting suitable cropping pattern including agro-forestry and methods of organic

matter replenishment for sustainable environment management also.

The US Department of Agriculture defines organic farming as a system that is designed to produce agricultural products by the use of methods and substances that maintain the integrity of organic agricultural products until they reach the consumer

The first “scientific” approach to organic farming can be quoted back to the Vedas of the “Later Vedic Period”, 1,000 BC to 600 BC. The essence is to live in partnership with, rather than exploit, nature. *The “Vrkshayurveda”* (Science of plants), the *“Krishishastra”* (Science of Agriculture) and the *“Mrugayurveda”* (Animal Science) are the main works. Farming system is one among the priority areas of research for improving the profitability in Agriculture on sustainable basis. The farming systems are: Traditional, Conventional, Integrated production



system and Organic or bio-dynamic Agriculture.

The word biodynamic has been derived from Greek words Bios (i.e. life/living) and dynamics (i.e. energy). The word life / living is related with soil flora and fauna, living plants and leaves etc. being used as composting materials and animal dung/urine is also from the living animals. All these are providing energy to the crop plants. For pest and disease management also botanicals are being used. So all these living matters are forming the base of agriculture, presently being termed as biodynamic agriculture (*Jaivik Krishi*).

The British botanist, Sir Albert Howard often called “the father of modern organic agriculture” studied traditional farming practices in Bengal, India. He observed and concluded that such practices were superior to modern agricultural science and recorded them in his book in 1940, *An Agricultural Testament*. In Germany, Rudolf Steiner’s *Spiritual Foundations for the Renewal of Agriculture* published in 1924 led to the popularization of biodynamic agriculture, one of the first organic farming systems. In 1939, Lady Eve Balfour influenced by Sir Howard’s work, launched the first scientific, side-by-side comparison of organic and conventional farming in England. Named as the Haughley Experiment, it was documented by Lady Balfour in her book, *The Living Soil*, (1943). Its influence led to the formation of the Soil Association in 1946, a key international organic advocacy group.

The first use of the term organic farming is usually credited to Lord North Bourne, in his book, *Look to the Land* (1940), wherein he described a holistic, ecologically balanced

approach to farming. In the 1970s, global movements concerned with the environment took organic farming to the top. As the distinction between organic and conventional food became clearer, one goal of the organic movement was to encourage consumption of locally grown food, which was promoted through slogans like “*Know Your Farmer, Know Your Food*”.. In 1972, the International Federation of Organic Agriculture Movements (IFOAM) was founded in Versailles, France. IFOAM was dedicated to the diffusion of information on the principles and practices of organic agriculture across national and linguistic boundaries

Because of the coming of modern agriculture, the traditional and organic principles were forgotten but this traditional knowledge /agriculture has been sustained by many communities (especially tribal and dry land areas) in India and has gained renewed importance recently for present agriculture, especially organic agriculture. It can further be referred that there is a large scale organic farming going on in some areas and there is a need to tap the potential of such areas. Also the chemical fertilizers and pesticides are not easily available and even if they are, small and marginal farmers would hardly be in a position to buy them. These farmers need motivation and awareness on how to proceed for organic farming in a big way and what are the hidden benefits behind the scene.

Globally there has been a rapid growth in organic agriculture in the past decade and presently there are more than 100 countries practicing organic agriculture. The international trade in organic foods have shown 20-22 per cent annual growth rate. A recent

survey has revealed that 6-7 per cent farms in USA and Germany are registered as certified organic farms. At world level there are different agencies dealing with organic food production and the major one is International Federation of Organic Agriculture Movement (IFOAM) with head quarters at Germany.

The organic agriculture movement in India started when Govt. of India, Ministry of Agriculture constituted a task force. The report of the task force submitted in May 2000 to the Govt. of India recommended that organic farming is quite prevalent in many parts of India, particularly under rainfed agro-ecosystem, tribal regions and Northeast of India. With further intervention of Ministry of Commerce and Industry, Govt. of India have established Agricultural and Processed Food Products Export Development authority (APEDA), New Delhi which mainly deals with the processing and marketing of the organic produce. India is member of IFOAM, Germany which has over 700 organizational members from 120 countries. Its member in India is All India Federation of Organic Farming (AIFO), having in its fold a spectrum of NGO’s, farmer’s organizations, promotional bodies and corporate units. The agencies as AIFO and INDOCERT (Indian Organic Certification Agency) are the competent agencies for the purpose of approval and certification of organic produce with certified organic symbol.

Presently, in India the total organic farms are 1500 with total organic production of 15,500 tons. During 2002, the organic produce amounting to 11925 tons were exported mainly constituting Tea, Coffee, Spices, Rice, Oilseeds, Vegetables, Fruits, Cotton and herbal plant products.





Organic agriculture is an approach, which is not confined to production alone. Inter-related co-operation between farmers, environmentalists, technologists, traders, quality controllers and consumers is a very common characteristic of organic agriculture. This is for the benefit of both nature and humanity.

#### **Objectives of Organic Farming:**

- To produce food of high nutritional quality in sufficient quantity.
- To work with the natural systems rather than seeking to dominate them.
- To encourage and enhance the biological cycles within the farming system involving micro-organisms, soil flora and fauna, plants and animals.
- To maintain and increase the long-term fertility of the soil.
- To use as far as possible, renewable resources in locally organized agricultural system.
- To work as far as possible, within a closed system with regard to organic matter and nutrient elements.
- To give all livestock, conditions of life that allow them to perform all aspects of their inmate behaviour.
- To avoid all form of pollution that may result from agricultural techniques.
- To maintain the genetic diversity of the agricultural system and its surroundings including the protection of plant and wildlife habits.
- To allow agricultural procedures an adequate return and satisfaction from their work including a safe working environment.
- To consider the wider social and

ecological impacts of the farming system.

- To work for the cause and rectification of the environmental pollution and degradation.

#### **Need for Organic Farming**

With the increase in population our compulsion would be not only to stabilize agricultural production but to increase it further in a sustainable manner. Now we have realized that 'Green Revolution' with high input use has reached its peak and is now sustained with diminishing return of falling dividends. Thus, a natural balance is needed to be maintained for sustaining of life and property. Following are the main points which led one to think why to go for organic farming:

Dependence on synthetics is the result of GR. Use of synthetic fertilizers, herbicides, pesticides and fungicides have polluted the agricultural land. Synthetic fertilizers have affected the soil flora and fauna.

Use of high yielding varieties and straight fertilizers (N, P and K) initially resulted in higher production, but resulting in the removal of micronutrients without replenishing them. Exhaust of micronutrients from the soil has induced their deficiency in soils. For example Zn, Mn, Fe deficiency.

Indiscriminate use of pesticides have resulted in resistance of insects pests, residue in food products, human health hazards and threat to bio-diversity e.g.. Soil flora and fauna.

Indiscriminate use of ground and surface water has brought more land under irrigation and delta areas have experienced high rate of fertilization also. But now ground water table has gone to critical level. Encrustations of salts in top layers are another effect

of indiscriminate use of ground water.

When the pesticide residues are alarmingly high, the quality of agricultural produce will go down. Due to high residue content in agricultural produce, the products are turned down at global markets.

Due to soil, air and water pollution, the beneficial microbial load in the soil has reduced. Food residues have reached critical levels.

Due to increased prices of external inputs, small farmers and dry land farmers continued to be down trodden as dry land agriculture has become perfect gamble with monsoon. The research has shown that the productivity of the rained areas could be sustained at a higher level under organic agriculture compared to chemical based agriculture. Where as farmers closer to irrigation sources prospered.

#### **Designing the Organic Farm**

Organic farming is a specialized type of farming which needs a bit of conscience with nature. Organic farms are therefore designed and developed based on constraint analysis of a particular site while ensuring use of existing natural resources for soil nutrients and water for food production. While designing organic farm following objectives are to be kept in mind.

- Identification of farm problems with priority to diversification in crops including organic livestock production.
- To keep in mind the efficiency of farm operations and losses of nutrients to be minimized.
- Agro-chemical and other external inputs are substituted with environmentally friendly products and practices e.g. biological control agents or plant preparation. Crop residues



and other waste plant biomass are to be composted or recycled in situ.

### Area of Organic Farming and Conversion Period

The rainfed, tribal, north eastern and north-western hill regions of the country are still practicing traditional agriculture with nil or low fertilizer and pesticide use, are the potential areas for organic farming. In these regions there is need to organize small farmers into bio-villages and introduce the system of marketing and certification for desired results.

The period required during conversion process to transform a chemical based agricultural farm to organic farm is termed as Conversion Period. It depends on the history of the farm, package and practices followed in the past. It basically aims at the elimination of toxic residues associated with conventional farming that inhibit the biological process and biota of the soil. This starts from the date certification agency receives the application form, from the producer. Normally for cereals and vegetables this period is 24 months and for plantation crops it is 36 months.

### Soil And Water Conservation

Soil and water conservation are the strong pillars of organic farming

#### Soil conservation measures

Afforestation in trenches or 'V' ditch; Bench terracing for steep slopes; Diversion channels; Gully protection/ Check Dams; Vegetative barriers on contours (Hibiscus or suitable spp. of the area)

#### Water conservation

Construction of check dams for irrigating farm lands on slopes; Digging of ponds that can collect stream water, which also help to replenish the water table; Small water harvesters and rain water harvesting;

Mulching-In-situ moisture conservation; Construction of bunds.

### Soil Fertility Management

Supply of the nutrients under organic farming has to be met through organic sources. Management of nitrogen requirement of crop through organics is a complex problem. Often organic manures are added once in year and it is difficult to synchronize the N release from organics with crop demands. Deficiency during maximum nitrogen requirement limit plant growth, whereas N release in excess of crop demands will be lost to the environment. Crop yield reduction under organics system compared to conventional system has been generally attributed to a mismatch between N supply and crop demands. So optimization of organic N management requires the response from different organic sources.

Organics are the main source of N to crops. Phosphorus content in organics is generally low. Under organic farming input standards the use of natural mineral phosphate rock is recommended. By enriching the FYM with phosphate rock and preparing phosphocompost from the waste plant biomass and crop residues, P requirement of crop can be optimized and be used both under acid and alkali soil conditions where P availability is low. Soil fertility management is discussed hereunder: Mixed livestock and arable farming- The excreta/urine of livestock including term animals, sheep and goat and poultry are the potential sources of organics to maintain soil fertility in cultivable lands.

### Green manures-Agro forestry

The method of incorporating green leaf matter directly into the soil is called green manuring. Green

manuring helps to improve soil quality in following ways.

Increase in organic carbon in soil, increased nutrients availability, improvement in soil tilth, restricts growth of weeds, increase in biological activity in the soil

Growing legume green manure crops increase particularly N availability in soils. The important green manure crops are Sunhemp (*Crotalaria juncea*), Dhaincha (*Sesbania aculeate*) and Cowpea (*Vigna catjung*) etc.

**Mulching:** under temperate climate, due to high temperate CO<sub>2</sub> loss is more. On the other hand under cold climatic condition soil temperate is low for proper germination of the crop plants. Mulching materials as crop residues and agro residues are helpful in moderating temperature and moisture regimes in soils. It promotes healthy root system essential for nutrient mining.

**Agroforestry:** Green manures can also be obtained from trees. The practice of growing trees along with agricultural crops is called agro forestry. The selection and planting of trees is planned in such a way that it cause least interference with the agricultural crops. If green manuring trees (leguminous) are grown, the benefits like N<sub>2</sub> fixation, addition of manure through leafy fall, fuel and fodder can be obtained. The trees around the farm serve as live fence also. The characters one has to look for while choosing green manure trees are fast growth, tolerance to stress, resistance to pests, easily decomposable and produce sufficient quantity of biomass. Some of the commonly used trees are *Sesbania* sp, *Leucaena* sp. etc. For live fencing the trees like *Hibiscus* sp. *Acassia* sp. etc. can be used, depending on the



climatic conditions for their growth.

*Recycling/composting of vegetative matter.* The nutrients required for living organisms are continuously recycled in nature due to continuous birth and death cycle which is always associated with decomposition of dead bodies of animals, plants and microorganisms. Composting is the process of converting organic residues of plants and animals origin in to manure, rich in plant nutrients. Recycling of organic residues like crop residues and waste plant biomass (weeds) through composting is an old practice yet some renewed interests have been shown in the process of composting. For example quality of compost has been found to be improved by enriching the same with indigenous materials as phosphate rock, a recommended mineral under organic standards.

**Vermicomposting** - Composting by using earthworms is called vermicomposting and the product is Vermicompost. The art of rearing the earthworms is Vermiculture. Along with earthworms bacteria, fungi and actinomycetes also participate in the biological process of Vermicomposting. The product vermicompost means the castings of the worms.

Different spp. of earth worms are used for this purpose. Red worms (*Eisenia foetida*) and African night crawler (*Eudrillus eugenia*) are the main. There are two major advantages of vermicompost. First it provides a method of quick disposal of waste material without using external energy in an ecofriendly way. Second big advantage is the supply of nutrients, most suitable for all crops in addition to improving physical and microbial environment of the soil. The nutrient composition of vermicompost depends upon the type of organic

| Manure                           | Nutrient (%) |                               |                  |
|----------------------------------|--------------|-------------------------------|------------------|
|                                  | N            | P <sub>2</sub> O <sub>5</sub> | K <sub>2</sub> O |
| Vermicompost (tea leaf litter)   | 1.75         | 0.40                          | 1.25             |
| Vermicompost (shade tree litter) | 1.50         | 0.35                          | 1.00             |
| Vermicompost (weeds biomass)     | 1.15         | 0.30                          | 0.75             |

residue fed to the worms.

Other organic manures: Farmyard manure, Bio gas slurry, Poultry manure, Birds litter, Panchaghavya, Bone meal, Groundnut and neem cakes

### Microbial Fertilizers (Bio fertilizers)

Biofertilizer are preparations containing microorganisms in sufficient numbers helping plant growth and nutrition. It is a low cost supplement to chemical fertilizers and has no deleterious effect on environment. These are grouped as under:

Biofertilizer fixing Nitrogen; Rhizobium (Symbiotic): Fixation of 30-100 kg N/ha; Azotobacter (Non symbiotic); Azospirillum (Associative): Fixation of 20-25 kg N/ha also promotes the growth promoting substances; Blue green algae: Phototrophic fixation of 20-30 kg N/ha; Azolla (Symbiotic) : Fixation of 30-100 kg N/ha

### Biofertilizers aiding phosphorus nutrition

**Phosphate solubilizing microorganisms** – In most soils there is problem of P fixation and the fixed phosphorus is very less available to plants. Certain bacteria act as phosphate solubilizers due to their secretions. Examples are *Bacillus polymyxa*, *Pseudomonas striata*, Among the fungi are *Aspergillus awamori* and *Penicillium digitatum*.

**Mycorrhizal Fungi** - These

fungiform symbiotic association with the roots of plant and help in the uptake of phosphorus. They are called Mycorrhizal fungi. Ex. Endomycorrhizae (VAM).

### Weeds, Pests and Diseases Management

The word management implies the directing of situation by judicious use of various methods of control, with the attention of decreasing the harm caused by weeds to a level that is economically acceptable i.e. to reduce the weeds population to a level where their presence has no effect on the areas of economic use. One of the important parameter of weed management is to know the critical period of crop weed competition

**Preventive method** - This embodies the measures which deny the entry and establishment of new weeds in an area: (i) Use of weed free crop seeds; (ii) Use of certified seed which is genetically pure seed of a crop; (iii) Weeds laws-Weed laws are essential to prohibit legally the entry of seeds of noxious weeds which possess economic and health hazards.

**Control Measures** - Mechanical weed control – It involves the removal and control of weeds with various tools and implements through tillage, hoeing, hand weeding, digging, burning, flooding and mulching.

**Cultural weed control** - (i) Any practice which benefits the cropping in enhancing its competitive ability against weeds has to be considered. Competitive ability of the crop is



affected by seedling vigor, growth rate, early rooting, more tillering and height. So if the crop is managed well right from sowing, competitive ability of the crop can be obtained. (ii) Crop rotation – It is a technique employed to manage weed population. Rotation helps in interrupting the life cycle of weeds and prevents any weed spp to become dominant.

**Planting** - Planting geometry and density and seed rate are the other cultural manipulations to manage weeds.

**Water management**- Irrigation management has direct and indirect effect on weed intensity. Effective management of irrigation and drainage at the field level makes the plant growth factors more optimum and puts certain weeds at competitive disadvantages.

**Biological Weed Control** - (i) Use of living organisms to attack weed population without injury to desirable plants particularly under conditions where there is large infestation of a single weed species; (ii) Use of bio-herbicides.

**Organic Crop Protection** - This includes the insects, pests and disease management control. Following components are included in organic crop protection.

**Prophylactic Measures** - Resistant varieties, clean seeds and healthy seedlings, suitable cropping system, balanced nutrient management, input of organic matter, good water management, promotion of natural enemies, sowing time and planting density.

**Curative measures** -

**Light traps** – night flying insects are killed.

**Pitfalls** - Creeping insects and slugs are managed

**Sticky traps** - Colour attracting certain pests.

**Biological Control** : The natural enemies of insects pests are common in nature which may be parasitic, predators or parasitoidic. These enemies may also cause diseases in the insects and insects later die. Similarly certain viruses and fungi are helpful in plant protection.

**Bacteria:** *Bacillus thuringiensis* and *Pseudomonas florescence*

**Viruses:** *Nuclear polyhedrosis Virus*

**Fungi:** *Trichoderma* and *Penicillium cyclopium*

**Insects:** Lady bird beetles against scale insects, Red ants against mealy bugs.

**Natural Preparations (Botanicals)**

Neem, garlic, chilli pepper and tobacco based preparations are the few examples of botanicals.

Neem oil – Used for the control of nematodes

Neem decoction – General insecticide on plants

Neem Leaf decoction – General insecticide on plants

Neem seed kernel extract – For foliar pests

Tobacco decoction – Used for spray against thrips, scales, aphids, beetles, caterpillars

Red chilly power – Used against aphids

**Quality Requirement for Organic Produce**

The organic quality control has four components i.e. Accreditation, Standards, Inspection and Certification. Consumer wants healthy and environmentally sound products and is willing to pay premium price. Whereas farmer/processor is producing according to certain standards is giving access to

premium price markets. So there is balance between the two.

**Accreditation:** It guarantees that the certification body is competent to carry out specific tasks. The accredited committee is authorized body for running the certification process according to standards. Ex-INDOCERT-in Kerala state, Spices Board, Tea Board, Coffee Board, Agricultural and Processed Food Products Export Development Authority (APEDA) etc.

**Standards** -Standards are the marks which are not to be deviated with but followed for practicing organic farming. Standards are both regional and international. The contents of the organic standards are as under:

**Inspection:** This refers to on-site visit to verify that the performance of an operation is in accordance with specific standards. It also evaluates the organic produce and processing of organic produce, if any. Inspection requires complete documentation by producers/processors and handlers. Findings of inspection committee are reported to the certifier.

**Certification:** Organic certification is generally acknowledged as playing a vital role in the production and marketing of organic food. Initially it may appear some what bureaucratic burden at the grass root level in organic movement, but it remains the cornerstone of healthy organic market.

Certification agency is concerned with the following functions: a) Assessment of the results of the inspection in relation to the requirements of the organic standards; b) Decides about issueing of certificates, conditions and sanctions' c) Written confirmation that a process or product is in compliance with certain standards; d)



Monitoring the market for misuse of certification mark or label; and e) Certification can be for individuals and for a group of homogenous farmers' practising organic farming (SHG certification).

**Labeling:** When certification agency or organization is satisfied with documents related to organic produce/processing according to established set of organic standards, it issues a business Organic LABEL. Ex. "India Organic" logo.

### Marketing of organic produce

Agricultural marketing has been described as the most important multiplier of agricultural development. It is as critical to better performance in agriculture as farming itself. The importance of an efficient marketing system as a vital link between the farmer and the consumer was recognized way back in 1928 by the Royal Commission on Agriculture (RCA). Since then, a good deal of progress has been made in organizing agricultural marketing by the adoption of various administrative and legislative measures by the GOI as follows:

- Establishment of Directorate of Marketing & Inspection (DMI) in 1935
- Enactment of the Act for grading and standardization of agricultural commodities
- Conduct of commodity market surveys
- The establishment of regulated markets

Recently Govt. of India has set up an authority as Agricultural and Processed Food Products Export Development Authority (APEDA), New Delhi to further enhance the promotion of organic agriculture movement in India. But these

measures were realized to be inadequate keeping in view the considerable progress which India has achieved in the introduction of food grains through technological improvements in agriculture by the use of HYV seeds, chemical fertilizers and by the adoption of plant protection measures. Today when environmental and human health consciousness is on increasing trend world over, the shifting focus from the inorganic to organic produce, the marketing of agricultural produce is going to be very complex and ticklish in nature. Therefore, market reforms ought to be an integral part of any policy for Agricultural Development. It is with this background, certain issues as stated below needs to be addressed.

- Attitudes and perceptions of organic produce growers
- Economics of organic produce in terms of increased cost and increased benefits/returns. Benefit cost ratios
- Attitudes and perceptions of market functionaries involved in the marketing of such products
- Marketing costs, margins, price spreads and marketing efficiencies
- Role of state governments in the regulation and infrastructure development i.e. regulatory mechanism
- Potential markets, consumers and their view points
- And finally future strategies for the efficient marketing of organic produce based on survey/research in developing a module for the marketing of organic produce.

### Promotion for production and trade of organic products in India

To promote organic farming and export of organic products Department of Commerce, Ministry of Commerce and Industry,

Government of India, New Delhi has already launched a "National Programme for Organic Production" in May 2001. Under this programme, Ministry of Commerce is promoting organic farming for export purpose and has established a regulatory mechanism which covers fixing of standards for organic cultivation, accreditation of certification agencies and inspection etc.

The Department of Agriculture and Co-operation, Ministry of Agriculture has formulated a scheme for X plan for giving a major push to organic farming in the country. The scheme envisages setting up of a National Institute of Organic Farming (NIOF) which will be responsible for promotion of organic farming, setting standards wherever necessary, expanding the regulatory mechanism to cover the requirements of small and marginal farmers etc. The Ministry of Commerce and its agencies will continue to promote export of organic products.

### Regulatory Mechanism for Production of Organic products in India

Adoption of organic agriculture necessarily involves a sequence of steps that need to be followed by the growers and verified by certification and inspection agencies. This is necessary to ensure the principle of fairness in organic farming. To ensure this, following steps are being initiated by the Govt. of India and State Governments.

- Formation of organic farmers' group.
- Registration of farmers' groups with district authorities.
- Documentation of individual farms/farmers' records.
- Service providers (KVKs, SAUs,



Agriclinics, Farmers groups, ATMAS, NGOs, private entrepreneurs etc.)

- Accreditation agencies.

### Conclusion

The application of organic manures and biological sources is a fundamental and basic need for sustainable farming. But it may not be practicable for our large country having a burgeoning population, to think of going totally for pure organic farming. This is especially because neither it could be practicable in view of the stringent requirements and parameters of pure organic farming nor we could probably afford to take risk of reducing overall food grain production drastically. Before shifting to pure organic farming, it is necessary to critically examine the pros and cons of such a proposition from a consideration of various aspects (Verma et.al., 2006). There are some practical difficulties in the way of adoption of organic farming such as availability of organic/biological resources for nutrition (sufficient in case of tea plantations as plenty availability of bioresources compared to other crops) and plant protection purposes, procedural

complexities, detailed accounts of farm activities, unaffordable cost of certification etc. Therefore, it would be imperative to adopt it in selected areas by proper delineation of our lands into irrigated and rainfed areas. The really rainfed lands (In areas of Himachal, Uttrakhand, North-East, J&K and South) devoid of any significant use of agricultural chemicals – the fertilizers, pesticides or soil amendments etc. should be used for pure organic farming for raising high value crops such as dry fruits like cashew nut, almonds, dry grapes; fruits like apples, grapes, pomegranate, banana, oranges, kinnow, flowers, tea, cotton, pulses, oilseeds etc. But before taking up organic farming in these areas, due emphasis should be given for development of infrastructure in the form of road connectivity and market outlets. In assured irrigated and fertile lands efforts should be made to promote integrated plant nutrient management and integrated plant protection measures. This way one may steadily emerge stronger both on the front of export of organic foods and also ensure food security to the teeming millions.

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- K.L.Sharma, Professor and Head (Tea Husbandry and Technology), CSKHPKV, Palampur
- Mona Sharma, Project Fellow (Organic Farming), Directorate of Extension Education, CSKHPKV, Palampur

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An idea that is developed and put into action is more important than an idea that exists only as an idea.

Buddha



## बैंकों द्वारा कृषि संबंधी विपणन के बुनियादी ढांचे को विकसित एवं सुदृढ़ किए जाने हेतु वित्तीयन

डा. देशबन्धु राजेश तिवारी

खाद्यान्न, फल एवं वनस्पति के उत्पादन के मामले में हमारे देश ने बहुत तीव्र गति से प्रगति की है। फिर भी, फसलों की कटाई के बाद फसलों का पर्याप्त प्रबंधन एवं विपणन नहीं हो पाता है। फलस्वरूप, बाजार में फसलों की भरमार से उत्पादों की बिक्री कठिन हो जाती है। इसका नतीजा यह सामने आया है कि फसलों की कटाई के बाद २५% से ३०% तक की हानि हो जाती है। इस हानि को काम करने के लिए भारत सरकार ने कृषि संबंधी विपणन के बुनियादी ढांचे के श्रेणीकरण एवं मानकीकरण के विकास व सुदृढ़ीकरण के लिए ऋण सम्बद्ध, एक नवोन्मेषी पश्च सहायिकी योजना की शुरुआत की है। इससे किसान अपने उत्पादों को यथोचित अवधि तक रख कर उनके लिए बेहतर कीमत प्राप्त कर सकेंगे। इससे न केवल श्रेणीकरण, स्तरीकरण, गुणवत्ता प्रमाणीकरण तथा प्रसंस्करण इकाइयों को उत्पादकों से जोड़ने के साथ-साथ विपणन के अतिरिक्त बुनियादी ढांचे को बढ़ावा मिलेगा बल्कि प्रत्यक्ष विपणन से किसानों की आमदनी में भी वृद्धि होगी।

इस विकासात्मक विपणन योजना के द्वारा उन राज्यों/संघशासित क्षेत्रों में स्थित बुनियादी ढांचे सम्बन्धी परियोजनाओं के विकास के लिए सहायता दी जाएगी, जो निजी एवं सहकारी क्षेत्रों के अंतर्गत कृषि विपणन की सुविधा करने और प्रत्यक्ष विपणन एवं ठेके पर खेती किए जाने को प्रोत्साहित करती हैं। फिलहाल, यह योजना - मध्य प्रदेश, तमिलनाडु, आंध्र प्रदेश, पंजाब, हिमाचल प्रदेश, सिक्किम, नागालैन्ड, मणिपुर और अंडमान व निकोबार द्वीपसमूह, जैसे ८ राज्यों में लागू है। योजना की विस्तृत रूपरेखा

इस प्रकार है :

पात्रता :

इस योजना के अंतर्गत निम्नवर्णित लोगों, समितियों, समूहों आदि को वित्तीय सहायता दिए जाने का प्रावधान है :

- व्यक्ति/यों
- किसानों/उत्पादकों उपभोक्ताओं का समूह
- साझेदारी/स्वामित्ववाली फर्में
- गैर सरकारी संगठन (एन.जी.ओ.), स्वसहायता समूह
- कंपनियाँ, निगम, सहकारी समितियाँ
- सहकारी विपणन संघ
- स्थानीय निकाय
- कृषि उत्पाद विपणन समितियाँ और विपणन परिषद
- मौजूदा विपणन के बुनियादी ढांचे को मजबूत बनाने/उसके नवीकरण करने हेतु बैंक द्वारा सहायता प्राप्त राज्य एजेंसियों की परियोजना।

पात्र मर्दे

- विपणन के लिए प्रयोग में लाई जाने वाली सामान्य सुविधाएं जैसे कि मार्केट यार्ड, लोड करने, उत्पाद के संग्रहण तथा नीलामी के लिए प्लैटफॉर्म, तोलन और यांत्रिक उपकरण इत्यादि।
- संग्रहण/ग्रेडिंग (श्रेणीकरण) मानकीकरण और गुणवत्ता के प्रमाणीकरण, लेबल लगाने, पैकिंग, मूल्य वर्धन सुविधाओं के लिए कामकाजी अवसंरचना।
- उत्पादकों से उपभोक्ताओं/संसाधन इकाइयों/थोक व्यापारियों इत्यादि को

कृषि वस्तुओं के प्रत्यक्ष विपणन के लिए बुनियादी सुविधा।

- किसानों को उत्पादन निविष्टियों की आपूर्ति तथा उनको आवश्यकता आधारित सेवा प्रदान करने के लिए बुनियादी सुविधा।
- इ-ट्रेडिंग, बाजार सूचना, विस्तारण और बाजार उन्मुख उत्पाद आयोजना के लिए बुनियादी सुविधा।
- फसल की कटाई पश्चात् कार्यों जैसे कि श्रेणीकरण, पैकिंग, गुणवत्ता परीक्षण इत्यादि (परिवहन उपकरण को छोड़कर) के लिए चल बुनियादी सुविधा।

स्थान

इस योजना के अंतर्गत उद्यमी, परियोजना की व्यवहार्यता और वाणिज्यिक पहलुओं के आधार पर किसी भी वाणिज्यिक बैंक की शाखा के परिचालनात्मक क्षेत्र में किसी भी स्थान पर अपनी विपणन के बुनियादी ढांचे की परियोजना लगा सकता है, किन्तु परियोजना से उत्पादकों/कृषक समुदायों को कटाई पश्चात प्रबंधन/अपने उत्पादों के विपणन हेतु प्रत्यक्ष सेवा मिलनी चाहिए। बुनियादी ढांचे से संबंधित परियोजनाओं में प्रयुक्त जमीन की लागत, ग्रामीण क्षेत्रों में परियोजना लागत के १०% और नगरपालिका क्षेत्रों में २०% से अधिक नहीं होनी चाहिए और यह परियोजनाकर्ता या उद्यमी के अंशदान का हिस्सा होगा। उद्यमी ऋण की अवधि के दौरान जमीन के स्वत्वाधिकार का अंतरण केवल उन्हीं प्रयोजनों के लिए करेगा जिसके लिए ऋण स्वीकृत किया गया है।



स्वीकृति एवं निर्मोचन की प्रक्रिया :

- प्रवर्तक, मूल्यांकन तथा बैंक से ऋण स्वीकृत करवाने हेतु एक परियोजना रिपोर्ट और अन्य दस्तावेज प्रस्तुत करेगा जिसकी एक प्रति विपणन निरीक्षण विभाग (डी.एम.आई) के क्षेत्रीय कार्यालय को भी भेजेगा।

- परियोजना स्वीकृत करने एव ऋण की पहली किस्त के निर्मोचन के बाद ऋण देने वाली बैंक शाखा एक संक्षिप्त परियोजना रुपरेखा-सह-दावा फार्म नाबार्ड-क्षे.का. को प्रस्तुत करेगी (सहायकी की उपलब्धता सुनिश्चित करने के बाद) और इसकी एक प्रति डी. एम. आई. के. क्षे. का. को भी भेजेगी।

- तत्पश्चात नाबार्ड सहायकी मंजूर करेगा और बैंक को ५०% की अग्रिम सहायकी की राशि का निर्मोचन करेगा ताकि उसे सहायकी आरक्षित निधि में रखा जा सके। उसकी एक प्रति डी. एम.आई. को भी भेजेगा।

- जब परियोजना लगभग पूरी हो जाए तब परियोजना के तकनीकी तथा वित्तीय मानदंडों के अनुपालन को सुनिश्चित करने के लिए इकाई का संयुक्त रूप से निरीक्षण करवाने के लिए प्रवर्तक, बैंक को सूचना देगा और फिर बैंक, अंतिम सहायकी के लिए अपना दावा तीन प्रतियों में प्रस्तुत करेगा जिसकी एक प्रति डी.एम.आई. को भेजेगा।

#### ऋण राशि

सहायकी राशि सहित परियोजना की पूरी लागत ऋण के रूप में मंजूर की जाएगी परंतु इसमें हिताधिकारी द्वारा दिए गए मार्जिन धन को शामिल नहीं किया जाएगा।

#### मूल्यांकन

इस योजना के अंतर्गत आनेवाले सभी प्रस्तावों का सावधानी से मूल्यांकन किया जाना चाहिए, जिससे कि यह सुनिश्चित किया जा सके कि वे तकनीकी और आर्थिक दृष्टि से व्यवहार्य हैं तथा बैंक को स्वीकार्य हैं। यह भी देखा जाए कि परियोजना वाणिज्यिक दृष्टि से कार्य करती है और उसके पास पर्याप्त आय कमाने की क्षमता है तथा उसके पास ऋण और ब्याज दोनों की

अदायगी करने के लिए पैसा आता है। प्रायोजकों/उधारकर्ताओं को भी परियोजना को चलाने का अच्छा अनुभव होना चाहिए।

#### मार्जिन

उधारकर्ता, परियोजना लागत के २५% की राशि मार्जिन के रूप में अंशदान करेंगे।

#### सहायकी

- सामान्य संवर्ग के कर्जदारों के लिए सहायकी की दर, परियोजना की पूंजीगत लागत के २५% होगी।
- उत्तरपूर्वी राज्यों, पहाड़ी और आदिवासी क्षेत्रों और अ. जा//अ.ज.जा. के उद्यमियों को और उनकी सहकारी समितियों के मामले में सहायकी की दर परियोजना की पूंजीगत लागत के ३३.३३% होगी।
- सहायकी की अधिकतम राशि, प्रत्येक परियोजना के लिए ५० लाख रुपये होगी। उत्तर पूर्वी राज्यों पहाड़ी और आदिवासी क्षेत्रों और अ.जा/अ.ज.जा. के उद्यमियों को और उनकी सहकारी समितियों के मामले में अधिकतम सहायकी की राशि, प्रत्येक परियोजना के लिए ६० लाख रुपये होगी।

#### सहायकी के निर्मोचन की विधि

इस योजना के अधीन दी जानेवाली सहायकी ऋण से जुड़ी हुई है। पात्र सहायकी के ५०% की राशि का निर्मोचन, 'नाबार्ड' को परियोजना/की रुपरेखा-सह-दावा फार्म प्रस्तुत करने पर बैंक को अग्रिम रूप से किया जाएगा। प्राप्त सहायकी राशि को, ऋणीवार, सहायकी आरक्षित निधि खाते में रखा जाएगा और परियोजना पूरी हो जाने के बाद उसे बैंक की ऋण राशि के साथ समायोजित कर दिया जाएगा। 'नाबार्ड' द्वारा सहायकी की बाकी ५०% राशि का निर्मोचन तभी किया जाएगा जब संयुक्त निरीक्षण समिति परियोजना का निरीक्षण करती है। संयुक्त निरीक्षण समिति में सहभागी बैंक, 'नाबार्ड' और संबंधित राज्य के

विपणन और निरीक्षण निदेशालय के प्रतिनिधि मंडल शामिल होंगे।

#### सहायकी का समायोजन

ऋण राशि की चुकौती अनुसूची इस प्रकार निर्धारित की जाएगी कि कुल सहायकी राशि का समायोजन, बैंक ऋण और इस पर लगाए गए ब्याज की चुकौती करने के बाद किया जाए। परियोजना मंजूर करते समय बैंक द्वारा निर्धारित चुकौती अनुसूची को 'नाबार्ड' की सिफारिश पर विपणन और निरीक्षण निदेशालय (डी.एम.आई.) के अनुमोदन के बिना परिवर्तित नहीं किया जाएगा।

#### सहायकी के अंश पर कोई ब्याज देय नहीं

सहायकी आरक्षित खाते में रखी गई सहायकी राशि पर कोई ब्याज नहीं दिया जाएगा। इसलिए, ऋण राशि पर ब्याज प्रभारित करते समय सहायकी राशि को शामिल न किया जाए।

सहायकी आरक्षित खाते में रखी गई शेष राशि एस.एल.आर./सी.आर.आर. के प्रयोजन हेतु मांग और मीयादी देयताओं का भाग नहीं होंगी।

#### परियोजना को पूरा करने की समय-सीमा

परियोजना को पूरा करने के लिए १८ महीने की समय-सीमा निर्धारित की गई है, जो बैंक द्वारा ऋण की पहली किस्त मंजूर करने की तारीख से शुरू होगी। परियोजना को पूरा करने में विलम्ब होने की दशा में ६ महीने की अतिरिक्त अवधि दी जाएगी बशर्ते विलम्ब के कारण वास्तविक/न्यायोचित हों।

२ करोड़ रुपये या उससे ऊपर की बड़ी एकीकृत कृषि विपणन बुनियादी ढांचे संबंधी परियोजनाओं के मामले में, परियोजना को पूरा करने के लिए अधिकतम ३६ महीने की समय-सीमा निर्दिष्ट की जाएगी, जो बैंक द्वारा ऋण की पहली किस्त मंजूर करने की तारीख से शुरू होगी। यदि परियोजना को निर्धारित अवधि के भीतर पूरा नहीं किया जाता है तो सहायकी का लाभ नहीं मिलेगा और अग्रिम सहायकी को तत्काल वापस करना होगा।





### निर्मोचन अनुसूची/अवधि

ऋण को ४-५ सुविधाजनक किस्तों में निर्मोचन कर दिया जाना चाहिए, जो कार्य की प्रगति के आधार पर, रकम की वास्तविक आवश्यकता पर निर्भर करेगा और यहाँ, पहले से ही निर्मोचित रकम की संतोषप्रद उपयोगिता पर भी निर्भर करता है। परियोजना के पूरा होने में लगने वाली देरी को रोकने के लिए उसकी सावधानी से निगरानी की जाये।

### ब्याज दर

बैंक की पी.एल.आर. जो अब ११% प्र.व. है।

### जमानत/प्रतिभूति -

ऋण के लिए जमानत के तौर पर भू-संपत्तियों को बंधक रखवाया जाए और ऋण राशि से

सृजित चल संपत्तियों को भी दृष्टिबंधक के रूप में लिया जाये।

### सेवा प्रभार

प्रचलित मार्गदर्शी सिध्दांतों के अनुसार

### चुकौती अनुसूची/अवधि -

चुकौती अवधि, दो वर्ष की रियायती अवधि सहित अधिकतम ११ वर्ष की अवधि के साथ नकदी उपलब्धता के आधार पर तय की जानी चाहिए। पहली किस्त, पहले संवितरण की तिथि से दो वर्ष बाद देय होगी।

इस प्रकार कृषि विपणन को बढ़ावा देने वाली यह ऋण योजना विपणन के क्षेत्र में बैंकों को एक नया आयाम प्रदान करती है। वस्तुतः यह प्रत्यक्ष विपणन का एक नितान्त मौलिक स्वरूप

है। आधारभूत या बुनियादी ढांचे को आर्थिक रूप से संपन्न सशक्त बनाये जाने से, निश्चित रूप से उस पर आधारित कृषि उत्पाद या फसलें अपना अच्छा बाजार बनाएंगी, जो अंततः बैंकिंग विपणन को ही आगे बढ़ाएंगी।

डा. देशबन्धु राजेश तिवारी

प्रबंधक (राजभाषा)

सिंडिकेटबैंक, राजभाषा अनुभाग,

क्षेत्रीय कार्यालय

उडुपि - ५७६ १०१ (कर्नाटक)

## स्वयंसहायतासमूहों द्वारा की गई कृषिवित्त निगम के जमीनीतल प्रयासों की जानकारी - वृत्तसंकलन

### राष्ट्रीय वनीकरण कार्यक्रम - दिनांक जागरण - ३१ मार्च ०८

## पीलीभीत सहित सात जिलों में आरंभ हुआ पायलट प्रोजेक्ट

पीलीभीत, जागरण कार्यालय : केंद्रीय वन एवं पर्यावरण मंत्रालय ने राष्ट्रीय वनीकरण कार्यक्रम के तहत पीलीभीत सहित देश के सात जिलों में लघु एवं मध्यम वन आधारित उद्यम स्थापित करने की एक परियोजना प्रारंभ की है। यह परियोजना प्रायोगिक तौर आरंभ की गयी है।

केंद्रीय वन एवं पर्यावरण मंत्रालय ने जंगल पर दबाव कम करने के लिये जंगल से सटे गांवों में वन आधारित लघु एवं मध्यम उद्यम स्थापित करने के लिये ग्रामीणों को प्रोत्साहित करने के लिये यह योजना देश के सात जिलों में आरंभ की है। यह परियोजना केंद्रीय वन एवं पर्यावरण मंत्रालय के अंतर्गत स्थापित राष्ट्रीय वनीकरण एवं पारिस्थितिकी विकास बोर्ड लागू कर रहा है।

परियोजना के तहत जिले के आरक्षित वन क्षेत्र की तीन वन रेजों में इस योजना को

### ♦ जंगल पर दबाव कम करने की मुहिम

लागू किया जा रहा है। इनमें महोफ, माला तथा बराही रेंज शामिल हैं। पायलट प्रोजेक्ट के तहत इन क्षेत्रों में कार्य आरंभ कर दिया गया है। वन विकास अधिकरण के माध्यम से पूर्व में गठित वन समितियों को इस योजना में प्रभावी भूमिका के लिये तैयार किया जा रहा है।

परियोजना समन्वयक चंद्रा विष्ट के अनुसार तीनों वन क्षेत्रों के समीपवर्ती ग्रामों का सर्वे कर लिया गया है। इस सर्वे के बाद अब गांवों में महिलाओं के स्वयं सहायता समूह तैयार किये जा रहे हैं। यह समूह गांव में वन आधारित उद्यम तथा कुछ ऐसे कार्य करेंगे जो उनके आर्थिक उन्नयन में भूमिका निभायें। इस योजना का मूल उद्देश्य जंगल पर बढ़ रहे दबाव को कम करना है।



कार्यप्रणाली की जानकारी देते शाखा प्रबंधक दिनांक २९ मार्च ०८, दिनांक जागरण

## स्वयं सहायता समूहों ने जानी बैंक की कार्यप्रणाली

पीलीभीत, जाका: राष्ट्रीय कृषि वित्त विकास एवं वन विभाग द्वारा गठित किये स्वयं सहायता समूहों ने गुरुवार को बैंक की कार्यप्रणाली का अध्ययन किया। गुरुवार को राष्ट्रीय कृषि वित्त विकास निगम तथा वन विभाग के संयुक्त प्रयासों से जंगल से सटे गांवों में जंगल पर निर्भरता कम करने के लिये स्वयं सहायता समूहों का गठन किया है। ग्राम डेरम मंडरिया के दो समूह डंगर तथा हरियाली समूहों की २२ से अधिक महिला सदस्य स्थानीय ओरियंटल बैंक ऑफ कार्मस की गांधी स्टेडियम के समीप स्थित शाखा पर पहुंची। इन सदस्यों ने बैंक के शाखा प्रबंधक से बैंक की कार्यप्रणाली की जानकारी ली। शाखा प्रबंधक ने बैंक में खाता खोलने से लेकर लेनदेन करने की प्रणाली की जानकारी दी। समूह सदस्यों ने समूहों के खाते भी बैंक में खुलवाये। कृषि वित्त एवं विकास निगम की प्रोजेक्ट का आर्डीनेटर चंद्रा विष्ट ने जानकारी दी।



## Development Scan

AFC Research Bureau

*Editor's Note: From this issue onwards we are commencing a regular feature series. The feature attempts to scan various ideas, initiatives, innovations and good practices that have relevance to rural and urban livelihoods and sustainable developments. These are drawn from several electronic or print sources that have been published elsewhere. The objective is to give readers a glimpse of the development scene at one place. We do not claim any originality and the sources are duly acknowledged.*

### 1. A lesson in rural economy regeneration

Small farmers of Ghugial village in Hoshiarpur district, under Farmers' Produce Promotion (FAPRO), Kangmai, are showing the way how to regenerate rural economy. They have stopped cultivating wheat and paddy and have shifted to crops turmeric and pulses, and also taken up production of honey and jaggery. FAPRO has set up four processing plants on one acre of land provided by the panchayat of the village. Farmers are handling production, promotion and sale of their produce themselves, with no government help. Registered in 2001, the society was handed over to the farmers by the Government in 2007. The society strives to prepare hygienic products and provide it to the consumer at prices less than the prevailing market rate, and also get the farmers good rates for their produce.

In the very first year of its full-fledged operations, the society provided employment to nearly 50 youth of the nearby villages. It was quite difficult to convince the farmers to give up cultivating the traditional crops. They began with producing pulses and turmeric on a small portion of their land, and shed their inhibitions only when the new produce fetched

them good returns.

Each farmer deposited Rs 1,000 to meet the basic expenditure of the Society. Agricultural Officer Dr Chaman Lal Vashishat and Deputy Director (Horticulture), Hoshiarpur, and Dr Gurkanwal Singh were the brains behind the society. A project plan was submitted to the Central Government under the Planning Commission's Rashtriya Sum Vikas Yojana. Government provided a grant of Rs 76 lakh to set up the plants. The three plants are now unable to meet the growing demand for FAPRO products in Hoshiarpur, added the Manager.

Farmers have already begun to taste success. A US-based company has placed orders for jaggery with FAPRO this year. The farmers are a happy lot because they need not involve middlemen for selling their crop and they get price at the doorstep.

*(Based on Yahoo Newsletter, 20<sup>th</sup> June 2008)*

### 2. Pesticides damage DNA of farmers in Punjab

New research in India suggests exposure to pesticides could have damaged the DNA of people in farming communities, leading to higher rates of cancer. Scientists at

Patiala University, Punjab State, did the study, tracking a group of farmers for several months. But a spokesman for the crop industry trade association said a causal link between pesticide use and cancer could not be established. There have been concerns about potential links for several years. This new study discovered that the DNA of farmers in Punjab has been altered, making them susceptible to cancer.

*(Based on BBC as published in Dev Ex. Com Newsletter)*

### 3. Way Forward to Tackle Infant Mortality

On an average, 57 infants out of 1000 live births die each year in India. The highest death rates are in UP (73), Chhattisgarh (71) and MP (70). The better performing states are Kerala and Goa with an IMR of about 15.

'Breastfeeding promotion' alone contributes to 11.6 percent reduction in IMR if coverage of promotion is 99 percent, and can avert 21.9 million DALYs (Disability Adjusted Life Years) at 3 years, according to the newly published Lancet series. Correct counseling can increase exclusive breastfeeding substantially. The new research points out that even if all other nutrition risks were addressed, a substantial number of



child deaths still require interventions related to breastfeeding practices. 77 percent (1.06 million) child deaths attributable to suboptimal breastfeeding are due to non-exclusive breastfeeding during 0-6 months of life.

Partial breastfeeding (breastmilk plus other milks or foods) increases the child mortality 2.8 times as compared to exclusive breastfeeding. The relative risk for prevalence of diarrhea is 3 times higher and for pneumonia 2.5 times higher for partial breastfeeding as compared to exclusive breastfeeding. With the exception of Chhattisgarh, the rest of the Indian states have extremely low rates of exclusive breastfeeding. The national average is close to 46.4 percent, with Haryana being lowest at 16.9 percent. Clearly, exclusive breastfeeding for a period of six months is not a practice among more than 20 million infants of the 26-27 million born each year.

Other recent epidemiological evidence suggests that beginning breastfeeding within first hour would have additional benefit with regard to mortality even in exclusively breastfed infants. The Lancet series reaffirms the recommendation to begin breastfeeding immediately after delivery. According to NFHS 3, the rate of early initiation of breastfeeding is a mere 24.5 percent nationally, ranging between 3.7 percent in Bihar to 66.4 percent in Mizoram.

Given the high infant mortality and undernutrition, India needs a time bound action plan for each state with earmarked budgetary resources to scale up coverage of breastfeeding and complementary feeding promotion to 100 percent.

The World Health Organisation (WHO) has also provided evidence

that suggests that breastfed babies were found to have a lower mean blood pressure and lower total cholesterol, reduced prevalence of overweight/ obesity and type-2 diabetes in adulthood. Concerning obesity, WHO study found that breastfeeding was associated with a 22 percent reduction in the prevalence of overweight/ obesity. For blood pressure, the effect of breastfeeding was less than those derived from other public health interventions targeted at adults, such as dietary advice, physical activity, salt restriction, and multiple risk factor interventions.

In India the main advocacy group for promotion of breast feeding is Breastfeeding Promotion Network of India (BPNI), whose national coordinator is Dr Arun Gupta. He is also Regional coordinator, International Baby Food Action Network (IBFAN) Asia (Email : [arun@ibfanasia.org](mailto:arun@ibfanasia.org), [arun.ibfan@gmail.com](mailto:arun.ibfan@gmail.com), Mobile: 9911176306). The project Coordinator Research, Documentation and HIV at BPNI is Dr JP Dadhich (Email: [jpdadhich@bpni.org](mailto:jpdadhich@bpni.org), [jpdadhich@gmail.com](mailto:jpdadhich@gmail.com); Mobile: 9873926751).

*(Based on Press release of BPNI in Oneworld South Asia online newsletter)*

#### 4. Toilet Truths

The UN General Assembly declared 2008 the International Year of Sanitation. The estimated annual cost to reach the Millennium Development Goal for sanitation is \$10 billion. The expenditure is less than 1 percent of world military spending, about one-third of global spending on bottled water, and about how much Europeans spend on ice cream every year. Universal and efficient sanitation coverage can be achieved over the

next ten years for roughly "0.03 percent of global GDP."

Despite modern marvels such as the space toilet, much of the world still endures a medieval level of sanitation. Across the developing world, slums often have one latrine for every 5,000 people, if any outlet at all. In China and India, internal migrants squeeze into shantytowns without sanitation or running water. The health burdens of insufficient sanitation are worse for women. Destitute urban women are caught in a bind—expected to uphold standards of modesty while lacking access to private facilities. According to a report by the Centre for Science and Environment, women and girls in India have to wait until dark before they can answer the call of nature. At times this exposes them to harassment and even sexual assault. Proper sanitation plays a major role in preventing cholera and other diarrheal diseases. Each day 4,500 children die around the world due to mostly preventable water and sanitation-related diseases.

One of the most successful sanitation initiatives is the Orangi Pilot Project, which encourages and strengthens local initiatives through social and technical guidance, credit for micro-enterprise, and development partnerships with government. The project's strategy is to minimize external support and help households achieve their own local development needs. The project designed an innovative low-cost sewerage system that was financed and constructed completely by the community. The success of this project attracted international donors, and similar projects developed in the Sukker Municipality, Province of Sindh. The program covers 338 settlements in Karachi, and 65 cities and villages



across the Sindh and Punjab provinces. The developed world has its own sanitation problems. Flush toilets are one of the largest indoor users of water and a major source of water degradation. Toilets built before 1983 use 5 to 7 gallons per flush. If we multiply the number of flushes per day with the population of the developed world we get an idea of the volume of water degraded daily. In 2000, about 40 percent of streams, 45 percent of lakes, and 50 percent of estuaries in the United States were assessed not to be clean enough to support fishing and swimming.

*(Based on Abigail Paris's article published in [www.PolicyInnovations.org](http://www.PolicyInnovations.org) Under Creative Common License)*

### **5. Going Green : Green Washing or Corporate Social Responsibility**

Earth Day used to be celebrated primarily by environmental activists, but now companies use the annual event to reach out to eco-conscious consumers. For every traveler flying with Virgin America on April 22, the company donated \$3 to environmental restoration projects in California. Other companies that have jumped into the bandwagon are Dell, Banana Republic, and Wal-Mart. Hilton Hotels recently announced that, since launching an energy saving initiative in Africa and Europe in 2006, the chain has reduced carbon emissions by nearly 11 percent and saved more than \$9 million

Do these initiatives exemplify "corporate social responsibility (CSR)" or are they just "greenwashing", aimed to spur otherwise low sales in the name of CSR? Can companies earn profit by doing good? With the threat of recession, the emphasis on green in business is shifting from the

environment back to dollars. There is, in fact, a decrease in CSR budgets the world over. Investment in so-called vice industries, like tobacco, gambling, and alcohol, has long been considered a recession-proof strategy. While ethics may not be as addictive as vice, fair trade and organic products have been likened to luxury goods, which are less affected by a recession than many other consumer products. Analysts have noted the tendency of ethical funds to experience smaller losses than mainstream funds during economic downturns due to investors' commitments to concerns other than price.

A recent IBM report, surveying 250 business leaders on how to attain sustainable growth through corporate social responsibility, says that more than two-thirds of those surveyed are focusing on CSR initiatives to create new revenue streams, and more than half believe they are already seeing the competitive advantage that CSR gives them over top rivals. CSR may actually be more important to organizations in a recession, according to George Pohle, coauthor of the report. Businesses that have strategically aligned CSR programs may grow investment in CSR because it can offer significant operational cost savings to the business.

*(based on Christina L. Madden's article in [www.policyinnovations.org](http://www.policyinnovations.org) Under Creative Common License )*

### **6. Indian online venture to tackle global disasters**

Though Myanmar's Cyclone Nargis reminds that we can't stop nature's fury, a group of Indian techies and communicators believe they can help people cope with such tragedies via cyberspace. [Worldwidehelp.blogspot.com](http://Worldwidehelp.blogspot.com)

is an online venture started with volunteers following the tsunami of December 2004. It is continuing its work at disaster time in different parts of the globe. Any one who has access to reliable information about the situation on ground and what kind of help is needed can leave a note at our blog section of the site

The group has spawned a number of other online ventures - The South East Asian Earthquake and Tsunami blog, the Tsunami Help Wiki, Tsunami Enquiries and Helplines or Emergency Services, Tsunami News Updates, Tsunami Help Offered, Tsunami Help Needed etc. It also has ventures focussing on Asia Quake, Mumbai Help, Cloudburst Mumbai (which caused widespread flooding in India's commercial capital), Katrina Help wiki, Katrina Help blog, Rita Help blog, Quake Help blog, Quake Help wiki and SMS Quake.

*(Source: Oneworld South Asias Newsletter, May 7, 2008)*

### **7. NREGA : Success or Wasteful expenditure?**

"Wasteful exercise of 'digging ditches', a 'gargantuan guzzler of taxpayers' money', a scheme that seeks to trap India's agricultural poor in an eighteenth century mode of production, a 'colossal failure' etc are the descriptions of the NREGA by its critics. Its admirers describe it as the most 'transforming' and 'revolutionary' step taken by the government. The programme has been touted by government as a key element of inclusive growth aimed at providing social safety net to the poor.

The programme aims to provide 100 days of guaranteed work yearly to every household that demands it. Launching it, the Prime Minister had declared: "It gives employment, gives income, gives a livelihood, and it gives a chance to live a life of self-respect



and dignity.”

In the first phase, 200 rural districts were covered under the programme. It was expanded to 130 more districts in April 2007 and further extended to all rural districts of the country from April 1 2008.

Last year the government's report stated that a “social safety net of this dimension has not been undertaken ever before anywhere in the world.” According to official figures, the programme has provided employment to more than 5.5 crore households in the last two years. The average share of the Scheduled Castes was 25.12 percent; of the Scheduled Tribes 35.84 percent; and of women, 48.59 percent. The programme has generated more than 234 crore person-days of work, taking up more than 26 lakh works of different kinds at a total expenditure of more than Rs 24,500 crores. 49 percent of the works related to water conservation, 15 percent to irrigation facilities, plantation, land development on the land of SC/ST, people living below the poverty line, as also beneficiaries of land reforms and Indira Awas Yojna, 17 percent to rural connectivity, 16 percent to land development, etc.

Government feels that for the programme to be successful, there is a need to adopt a five-pronged strategy of awareness generation, people's participation, transparency, accountability and strict vigilance and monitoring by all the stakeholders. To minimise corruption in the payment of wages, the government had opened more than 1.6 crore bank and post office accounts for wage earners so that wages could be directly credited to their accounts. The government plans to open such accounts for all wage earners. Strongly advocating ‘zero tolerance towards corruption’,

the minister wants to ensure that the benefits actually reach the real beneficiaries.

Sunita Narain, Director, Centre for Science and Environment was of the view that NREGA had helped create durable community assets and had improved the rural infrastructure through projects on water conservation, drought proofing, irrigation, flood protection, rural connectivity, etc., apart from providing an opportunity of livelihood.

Social activist Aruna Roy speaking at a national consultation on NREGA organised by Wada Na Todo Abhiyan in New Delhi on May 5-6 had also emphasised on the positive outcomes of NREGA. This include increased the bargaining power of the poor at every stage – from demanding a job card to ensuring legitimate wages for work, control of distress migration etc.

However, anomalies have also been reported. A survey in Sarguja district of Chhattisgarh by the students of Jawaharlal Nehru University and Delhi University under the supervision of Professor Jean Dreze, found out that there was no proper distribution of job cards, people were being forced to pay up to Rs 60 for photographs; people were not being provided with work within the stipulated 15 days. At almost 70 percent of the worksites, there was inordinate delay in the payment of wages.

A social audit of the NREGA organised by the Akhil Bharati Samaj Sewa Sansthan (ABSSS) in Uttar Pradesh in June 2007 has brought to light fraudulent practices and embezzlement of funds through the NREGA in Chitrakut district. Monitoring by Civil society organisations in Maharashtra, Uttar Pradesh, Jharkhand, Bihar,

Chhattisgarh and Madhya Pradesh have also brought to light anomalies. In Maharashtra only 26.4 percent of the total registered households got job cards and in Bihar this figure stood at 44.6 percent. Madhya Pradesh, Chhattisgarh and Uttar Pradesh fared much better in terms of issuance of job cards. But generally, availability of job cards and their proper use emerged as a major problem. And then there has been a problem of less or no wages, denial of work, lack of facilities at worksites, etc., which have been the common refrain of the people.

Institutional problems relate to delay by state governments in providing their share of finances for the programme and in creating state employment guarantee funds unequal distribution of funds to Panchayats, paucity of funds, inadequate flexibility in the guidelines to address local issues, inadequate staff and infrastructure, politicization etc.

The issue of gender discrimination has also come to fore. No work is said to be available for deserted, aged and single women. This is a complete violation of the provisions of the Act.

(Source: *Rajender Singh Negi in OneWorld South Asia, 19 May 2008*)

## **8. India's children bearing brunt of costly food**

The UNICEF has warned that more than 1.5 m children in India are at risk of becoming malnourished because of rising global food prices. Food inflation could be devastating for vulnerable women and children right across South Asia. The region already has the largest number of malnourished children in the world and levels could get even worse. Even before the current crisis almost half of all Indian children showed signs of stunted growth.

"We have huge numbers of people



living in poverty and a doubling of food prices. Those factors combined mean that we're going to just create tremendous vulnerability.", Daniel Toole, Unicef's regional director for South Asia.

According to Unicef's latest State of the World's Children's report, India has the worst indicators of child malnutrition in South Asia: 48 percent of under fives in India are stunted, compared to 43 percent in Bangladesh and 37 percent in Pakistan. 30 percent of babies in India are born underweight, compared to 22 percent in Bangladesh and 19 percent in Pakistan. Unicef calculates that 40 percent of all underweight babies in the world are Indian. Fifty million Indian under five are affected by malnutrition. Rising food prices, Unicef says mean 1.5 to 1.8 million more children in India alone could end up malnourished.

More expensive food is having an impact on the way how people are eating. "Households that have three meals a day are going back to two. Or if they have two they are going back to one. That has a dramatic impact on child nutrition because children need to be fed frequently."

Elsewhere it's not the number of meals, but the quality of the food they're eating that is changing, he says. "Meat is very expensive and they have dropped that. So they are losing their protein source. So that will have an impact on health and nutrition too." In Bangladesh and Nepal people are using less oil, an important source of calories.

Poor families who cannot afford rising food prices are having to save money where they can, and that also means spending less on healthcare and education. "Families are pulling girls out of school as they need to send them to work," Mr Toole

said. This will lead to more child labour, and less frequenting of school. This has a long-term developmental impact on children and societies as a whole." Food prices, he believes, will remain high for at least the next two years, and in that time it is children who will bear the brunt.

So what needs to be done to tackle this crisis? First the priority must be to feed the hungry across South Asia, Unicef says. In Afghanistan that means additional food aid. In India, Bangladesh and Nepal it means expanding school feeding programmes and midday meal schemes as well as more cash payments to the most vulnerable.

Then countries will have to build up their strategic stocks of food. Bangladesh has already bought 400,000 metric tonnes of rice from India to do this, but wants to triple that amount. It's obviously expecting the numbers of poor and hungry to grow.

But to tackle the root of the problem there needs to be a significant investment in agriculture, especially small-scale farming, in seeds, fertilisers, and infrastructure. Countries need to change, says Unicef. It says India has focused on industrialisation and outsourcing of services, while just 2.2 percent of the national budget is invested in agriculture.

In Nepal it says there has been an almost complete neglect of irrigation systems. The crisis may force governments to face up to years of under-investment.

And if action isn't taken, Unicef is warning there could be social unrest in South Asia.

"This is already a region of vast disparities," Mr Toole warns. "If they can't feed themselves and their

children it could be too much"

(Source: Damian Grammaticas ,14 May 2008, in *OneWorld SouthAsia newsletter based on BBC* )

## 9. Insurance for Indian sex workers

Prostitution, though still illegal in India, is a thriving underground industry. There are about 2 million female sex workers, most of them trafficked or forced into the work by poverty. The Life Insurance corporation of India has broken all barriers of conventional insurance practices by giving life insurance policies to around 250 sex workers in Kolkatta city in April 2008. Without many official documents, prostitutes are rarely able to open accounts in banks or join the financial mainstream. This is a breakthrough in the long drawn out efforts of prostitutes to get legal recognition for their work.

Bharati Dey, a former prostitute, in Kolkata's Sonagachi, is now a proud holder of a policy from India's largest state-owned life insurance company. Dey is a member of the Durbar Mahila Samanwaya Committee (Indomitable Women's Coordination Committee), a forum of 65,000 sex workers in West Bengal, set up in 1995 to campaign for safe sex and the legalisation of prostitution. Mamata Nandy, 35, a sex worker and a policy holder, said recognition by a company like LIC would only strengthen the fight against AIDS and the women's demand for legalisation. In Mumbai, a bank run by sex workers was set up to help prostitutes escape poverty that keeps them indebted to brothel owners. Started by a handful of sex workers in Kamathipura, Mumbai's red light district, it now has hundreds of clients.

(Source: Sujoy Dhar, *OneWorld South Asia Newsletter on 02 May 2008 quoting Reuters and HT* )



## **AFCL organizes a One-day Workshop to Commemorate United Nation's World Day to Combat Desertification**

The World Day to Combat Desertification is celebrated on 17 June every year on a chosen theme. This year's theme was "Combating Land Degradation for Sustainable Agriculture" which is highly relevant in view of the projection that the prospects of meeting the demands for food and other agricultural commodities of a growing population, which is by year 2025 may touch 8.5 billion globally, remains uncertain. Sustainable agriculture is significant also for eliminating poverty as both poverty and hunger are inextricably linked and agriculture has comparative advantage in reducing poverty in developing countries. The problem of desertification that is land degradation in drylands (arid, semi-arid and dry sub-humid areas) is both serious and has global ramifications. A recent survey by the Space Application Centre (ISRO, Ahmedabad) revealed that over 105 million ha of lands in India are under various stages of degradation out of which 86 million ha are in the drylands zones. India as a leading signatory to the UN Convention to Combat Desertification (UNCCD), which is the only UN Convention on land, attaches great importance to the efforts of combating desertification.

AFCL under the aegis of Government of India, Ministry of Environment and Forests organized a one day Workshop at CII Convention Centre, Chandigarh on 17 June 2008 to commemorate the United Nation's "World Day to Combat Desertification" with the theme "Combating Land Degradation for Sustainable Agriculture"

The Workshop was inaugurated by Dr. J. S. Samra, Chief Executive Officer of National Rainfed Area Authority. Sarva/Shri N. K. Das (IAS), Additional Secretary, Ministry of Agriculture, Govt. of India, Sudhir Mital, Jt. Secretary Ministry of Environment & Forests, Govt. of India, A.K. Garg, Managing Director, Agricultural Finance Corporation Ltd, S. K. Nayyar, Principal Secretary (Forests), Govt. of Punjab and B S Bala, Principal Chief Conservator of Forests, Govt. of Haryana graced the occasion. Representatives from the World Bank, eminent international experts in the fields of environment, forestry and agriculture; high level officials from State Governments of Punjab, Haryana, UT Chandigarh; research scholars and academicians of State Governments, bankers and NGOs attended the workshop.

The workshop was aimed at generating awareness about the severity of the problem of desertification and the need for an integrated approach for achieving sustainable agriculture as a way for future to eradicate poverty in the country. The workshop discussed region specific strategies to combat desertification to promote sustainable land management in a synergetic way in the Northern Region. The Chandigarh workshop has a special significance to the state / UTs in Northern Region where over the years agriculture has changed dramatically due to application of new technologies, farm mechanization and use of chemicals and fertilizers to maximize production. The changes have, however, led to adverse affects such as topsoil depletion, ground water contamination and the disintegration of economic and social conditions in rural communities.



## What can Common Man do to Preserve Soil / Water and Nature?

- Keep the environment clean.
- Do not use plastic bags.
- Do not spit on the ground which is not only unhealthy but also disrespect to mother earth.
- Do not use rivers and streams as dumping ground for waste and garbage.
- Participate in community efforts to desilt tanks, wells and streams.
- Join nature clubs and form one in your schools, colleges and towns.
- Use summer holidays to prepare a project on themes related to sustainable development.
- Harvest and store rainwater when it falls using simple technology including rooftop rainwater harvesting.
- Plant a tree in your locality or home during monsoon.
- Do not waste paper. Use the blank side of printed material for doing a rough work.
- While brushing teeth do not keep the tap open all the while.
- Ensure that overhead tank never overflows.
- Repair the leaking taps immediately.
- Do not use running hose to wash vehicles but use a bucket instead.
- For watering plants use a water-can instead of using running hose.
- While taking bath do not keep shower on all the time but turn it off while soaping.
- Ensure that you preserve the nature and its beauty and do not spoil and destroy it.

*“Awareness Raising and Celebration of World Desertification Day - 2008”*

*Regional Centre - NAEB,  
AFC, MUMBAI*