SUCCESS STORIES OF NATP - ITD COMPONENT

OF

JHARKHAND

JULY, 2004

STATE AGRICULTURAL MANAGEMENT & EXTENSION TRAINING INSTITUTE

(SAMETI, JHARKHAND)

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A. K. Sarkar
IAS.
Secretary

FOREWORD

Innovation in Technology Dissemination Component of NATP calls for improvements in the methodology of transfer of improved farm technologies to the farmers for a better livelihood. NATP has helped immensely to develop linkages and institutional mechanisms to have an impact among farmers within a predifined time frame.

I am glad to learn that SAMETI in collaboration with ATMA has made an impact assessment & documented the success achieved so far in the technology transfer in areas such as Information Technology, Sericulture, Poultry, Lac cultivation, Fisheries and Seed Production using a participatory approach. What is needed is to expand such successes horizontally so that the impact is visible statewide.

I am confident that such documentation will help in disseminating new ideas among people & ignite their minds. I congratulate Director, SAMETI for taking a lead in this direction.

20.7.04.

(A. K. Sarkar)

Govt. of Jharkhand

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Sri V. Jayaram
IFS
Director (Agriculture)

FOREWORD

After five year testing of NAID-ITD project, the challenge before us is to strengthen the existing ATMA unit and to promote the new ones. In this direction, documentation and dissemination of success stories is most important and necessary.

This compilation on 23 success stories of SAMETI and ATMA district viz. Dumka, Jamtara, W. Singhbhum, Palamau is praiseworthy. I am sure these success stories will strengthen the information base of all stakeholders and motivate them in replicating the spirit of success.

I sincerely thank the Project Directors, Dy. Project Directors and Faculty Members of NATP-ITD, Jharkhand who have contributed to this success and acknowledge the excellent guidance of Director, SAMETI in bringing out this publication.

I sincerely hope that, the co-operation of DOE, Government of India, MANAGE and each PIA would continue to contribute to this success.

(V. Jayaram)

SAMETI, JHARKHAND
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Dr. A. K. Sarkar
Director

PREFACE

Faster transmission of improved farm technologies can revolutionalize Jharkhand agriculture. Matching the speed of technology transfer with that of farmers acceptance can bring prosperity among farm families. Agriculture is an age old practice and farmers have vast experience thus their sentiments, perceptions must be respected. Focus now should shift to groups rather than individuals in programme implementation.

During the last couple of years a silent revolution is underway through the ITD component of National Agricultural Technology Project. Ensuring active involvement of farmers in programme planning & implementation the process of technology transfer has been simplified. Farmer's acceptance to new ideas have started to bear fruits even in remote areas. Farmers have now understood that 'ATMA' can guide them to better future. SAMETI on its part is providing active support through bringing in innovative ideas in technology transfer & provide training to agriculture extension officers. It is hoped that the success achieved by the farmers groups will replicated manifold in days ahead & the state will be self-reliant in food production.

Documentation is a difficult process but the immense help from Sri Nanda & Sri Nag of Hindustan Times made it look so easy.

I hope people will find this publication useful.

(A. K. Sarkar)

CONTENT

INTRODUCTION

Under the World Bank aided National Agricultural Technology Project (NATP), the Innovation in Technology Dissemination (ITD) component, envisages institutional and operational reforms, will integrated technology development and transfer system, decentralized decision making and a financially sustainable extension system. The strategic thrust is on Farming system innovations,. Farmer organizations, technology and institutional gaps, natural resource management and strengthening R-E-F-M linkage. Two aspects of ITD i.e. Agricultural Technology Information Transfer and Human Resource Development for technology dissemination need greater emphasis than that at present. For operationalisation of ITD, institution like Agricultural Technology Management Agencies (ATMAs) have been established in 28 districts, four in each state, covering Andhra Pradesh, Maharashtra, Bihar, Punjab, Himachal Pradesh, Jharkhand and Orissa. In the state of Jharkhand, ATMA has been established in Dumka, Jamtara, Palamau & Chaibasa. These have been made fully functional with appointment of Project Director & Dy. Project Director for each ATMA.

In order to develop a competent structure for providing demand driven consultancy services and capacity building of the stakeholders in Agricultural Extension Management, Agriculture Management and Extension Training Institute (SAMETI) in each state has been established. SAMETI, Jharkhand has started functioning from February 2003 in the Krishi Bhawan Campus. Kanke Raod, Ranchi- 834008.

With interventions by ATMA in the four district of the State (Dumka, Jamtara, Palamau & Chaibasa) the farmers have been encouraged to have a better livelihood. Some of these success stories have been documented in the present compilation.

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CASE - I

SAMETI, JHARKHAND

A. Title : Revolutionising agriculture the InformationTechnology way

B. Background :

That Information Technology has taken the world by storm is a forgone conclusion. In Jharkhand too, the computers have done wonders in several spheres but the agriculture sector has by and large remained untouched. The State despite having much potential to be agriculturally prosperous could not do so by avoiding the benefits of Information Technology. The word computer till the recent past was a taboo for most of the officials associated with agriculture in the State and for the farmers it was an alien term. Neither the farmers nor the officials were aware of the landmine of information they could have by becoming computer literate. The ignorance was also preventing the dissemination of farming know-how.

SAMETI, to do away with the lacuna, conducted its survey and came to the conclusion that the numerous training programmes were not bringing in the desired results, as computers had no role to play in it. Though various research projects were being successfully completed, the farmers were not benefiting from them, as the result seldom percolated to the grassroots. SAMETI took upon itself to set the record straight and embarked on an intensive computer literacy programme. It was not an easy task, as shivers ran down the spine of the officials on listening the word computer. SAMETI was equally determined and instead of imposing the 'friendly' computer on them, gradually motivated them by organizing seminars, where projections and presentations were made using computers and other electronic gadgets. SAMETI keeping a close watch on their attitude found that the officials were being gradually drawn to computers. The colourful projections made using the computers and the laser printouts did the trick.

C. Intervention and process :

To start with SAMETI decided to discourage data entry by using typewriter and encourage the same through computers. Data entry is supposed to be the introductory chapter of computer literacy. The ATMA officials who came to SAMETI office, Ranchi, for managerial and technical training started raising demand for computer training. SAMETI grasped the opportunity with both hands and organised

training for the officials of four districts, where ATMA was functional in the State. The first training was organised at Dumka in which 25 officials from Chaibasa, Jamtara and Palamau took part apart from the host district in June, 2003. The Project Director and the Deputy Project Director of ATMA in these districts were the first to be exposed to the world of computers. They were supposed to encourage their subordinates and other officials associated with agriculture to become computer literate. At the end of the five-days training, it was found that the officials were no more reluctant to work on computers. The participants voiced demand for more such training to clear their remaining doubts. SAMETI in response asked them to 'explore' the computers on their own, as it would not only answer their queries but also make them aware of many new things. Soon after, ATMA offices requested SAMETI to organise such trainings in each district so that the block, Krishi Vigyan Kendra and Zonal Research Station officials too could take part in it. SAMETI obliged the demand by organizing the same in each of the four districts from which over 100 officials benefited. Computer was fast gaining root in ATMA offices was for all to see. The training programme also ensured that the computers already with the ATMA offices and its line departments were put to good use. Another encouraging sign was the participation of a few farmers in the training.

With computers becoming acceptable, it was decided at the Executive Council meeting to formulate a training programme for prevention of distortion of information. It had come to SAMETI's notice that precious research results by the time it reaches the end users were getting distorted or diluted. But before embarking on this mission, SAMETI Executive Council decided to strengthen the basics by further organizing preliminary training programmes.

Apart from preliminary exposure to computers, the participants at the training were also acquainted with videoconferencing and other '***I.T. Revolutions***' in the agriculture sector by experts from MANAGE.

The State Agriculture department requested SAMETI to organise such trainings for its staff in non-ATMA districts. SAMETI fulfilled this by organizing two training programmes for district agriculture officers and district soil conservation officers. SAMETI also arranged a workshop for ATMA officials to prepare district-specific websites. This resulted in the hosting of two ATMA websites and the work on remaining two is in progress. SAMETI too has hosted its own website.

D. Benefits & Impact :

The officers associated with agriculture, who till the other day were under the impression that computer was of no help to them, have realised their folly and are using it more in their day to day work. Computers have also enabled them to become more systematic in their work and are now more frequently using it to store information. Majority of them have started using e-mails, which has considerably cut down on correspondence time and cost incurred. The officials too have started to realize that earlier the information before reaching the end users was getting distorted, which by the use of computers can be removed. They are now able to deliver the research outcome to the farmers in more lucid terms. Some of the officials have even started exploring the Web for more information on agriculture. With the power of knowledge in their repertoire, the ATMA officials feel more comfortable to face the farmers.

E. Lessons Learnt :

1. Computers should not be imposed on the agriculture officials but gradual exposure through colourful presentations can draw them to computers.
2. At first step, the trainees should be imparted training about the basics and tough chapters should be avoided.
3. The new computer literates should be encouraged to explore the computer on their own.
4. The senior agriculture officials should volunteer for computer training for the subordinates to follow suit.
5. Incentives should be given for utilisation of computers in day-to-day work.

CASE-II

SAMETI, JHARKHAND

A. Title : SAMETI : Managing agriculture better

B. Background :

It is now widely accepted that for well-being of the residents of the state, a sound policy on agriculture development is essential. The economy of the State will depend on sustained and healthy growth of agriculture.

After Independence, Administrative Training Institutes were established at the State level to provide managerial as well as administrative training for the State department personnel. However, there has been little thinking over the years about the need to provide in-service training for agriculture and allied sector officers. The State government through the Department of Agriculture with technical backup from the agriculture university provides training to its officers and staff members. But there is hardly any provision for training on management aspects, resulting in poor utilization of resources.

Under the World Bank-aided National Agricultural Technology Project (NATP), Innovation in Technology Dissemination (ITD) component provides for establishing a State-level institution i.e. State Agricultural Management & Extension Training Institute (SAMETI) to provide extension and management inputs for field-level functionaries. SAMETI is an autonomous body with greater flexibility in structure and functioning and is responsible for organising need-based training programmes for agriculture and allied sectors, and exposure visits for members of the farming

View of Documentation workshop of ITD

View of Review Workshop on NATP-ITD on 28-30 January' 04

View of 2nd PPM Programme

IT Training at Chaibasa

Training Programme for State Officials

Training Programme on Leadership Development

Training Programme on Leadership Development

Computer Training for District Soil Conservation Officers

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community. This institution is linked to other technical and management institutes at the state level to provide the desired training inputs. SAMETI functions under the technical guidance of MANAGE, Hyderabad.

SAMETI has its own administrative set-up which is given below :

The General Council is the policy-making body of SAMETI, which is headed by the Agriculture Minister of the State. Agriculture Production Commissioner (APC), Director (SAMETI), State Nodal Officer (NATP), Director (Agriculture) and Additional Secretary (Agriculture), Vice-Chancellor, SAU, Principal, Extension Training Institute, Director (Horticulture), Director (Soil Conservation), Head (ICAR) institute of the State and Project Director, ATMA are members of the council. The Executive Council, which is responsible for the execution of programmes of SAMETI, functions under the chairmanship of APC of the state. For smooth running and coordination between all line departments at the state level, there is a state level committee – Interdepartmental Working Group (IDWG) headed by the APC.

C. Intervention and process :

After the intervention of MANAGE, Hyderabad in January 2003, SAMETI came into existence in Jharkhand under the able guidance of Commissioner & Secretary (Agriculture), Jharkhand and Director of Agriculture as the State Nodal Officer.

Under the dynamic leadership of Dr. A. K. Sarkar as Director, SAMETI has been playing a pivotal role for the all-round growth of the agriculture sector in the State.

It is important that to meet the requirements of capacity building, a large number of training activities are needed in the area of managerial, technical as well as human resource management and information technology in agriculture and allied sectors. Within a very short period, SAMETI has formulated and conducted 15 such training programmes/workshops/exposure visits that are as follows.

Sl. No	Title of course/programme	Dates	Participants
1.	Training Programme on *"Principles & Practices of Management"*	22-26 April'03	PDs, DPDs, KVK/ ZRS Scientists, Line dept, Faculty, SAMETI
2.	Banner Programme on *"New Dimension of Agriculture Extension Management"*	12-16 May'03	PDs, DPDs, KVK/ ZRS Scientists, Line dept, Faculty, SAMETI

3.	Orientation Workshop on "NATP"	26-30 May'03	BTT, FAC, Line Dept.
4.	Training Programme on *"Basic Skills on Information Technology"*	23-27 June'03	PDs, DPDs, Line Dept, BTT of ATMAS
5.	Training Programme on *"Promotion of Farmers Group & Farmers Organization"*	4-8 Aug'03	DPDs, FAC, BTT, FIG group leaders.
6.	*"Operational skills in computer"* for DAOs of non-ATMA districts of Jharkhand	25-27 & 28-30 Aug'03	District Agriculture Officers.
7.	Course on *"Leadership Development"*	1-4 Sept'03	DPDs, KVK/ ZRS Scientists, Line dept, SAMETI
8.	*"Basic Skills in Information Technology"*	16-18 Aug'03	Line Dept, BTT, ZRS Scientist
9.	*"Operational Skills in Computer"* for Dist Soil Conservation Officers of Jharkhand	Nov.10-12	DSCOs of Jharkhand
10.	Workshop on *"Web Designing & Hosting with Multimedia Application"* for ATMA districts, SAMETI and Agriculture Dept. in Jharkhand	Nov 3-5, 03	IT Facilitator and Other computer persons from ATMA
11.	Exposure Visit on *"Medicinal & Aromatic Plants"* of 5 farmer leaders each of 4 ATMA districts to RR & TTS, Semiliguda, Koraput & ATMA, Koraput	Nov 15-17, 03	FIG Leaders from ATMA districts
12.	*"Principles & Practices of Management"* for Facilitation skill development.	Dec 14-19' 03	ZRS/KVK Scientists, NGOs, PDs, DPDs, SAMETI Faculty, BTT, FACs
13.	Regional Review Workshop on *"ITD Component of NATP"*	Jan 28-30' 2004	PDs, DPDs, Directors (SAMETI), State Nodal Officers (SHQ) of Bihar & Jharkhand

14.	Training on "Operational Skills in Computer"	Feb 14-17' 04	Line Depts, BIT, ATMA officials of Palamau
15.	Workshop on "*Documentation of Success Stories*" on IID Component of NATP, Jharkhand	March 23-27' 04	PDs/ DPDs/ Faculty members of SAMETI
Total Participants Trained : 329		**Total Resource Person used : 48**	

Altogether, **329** persons participated in the above courses conducted for **64** days with **49** resource persons. SAMETI has brought about multi-faceted changes in the training module. Traditional training methods like lectures have been replaced with group discussion and participatory learning. With the introduction of modern information and communication technologies, training methodology too has been given a facelift.

SAMETI has established systematic and close linkages with regional, national and international institutions to achieve the desired success. It has identified need-based modern management tools and techniques with a problem-solving approach, utilising personnel management, resource management, input management and conflict management at the organisation level. The institute has developed the skills of the State extension machinery and has helped identify the priorities and adoption of a problem-solving approach. SAMETI conducts programme-oriented research in the area of agricultural extension management as a sequel to provide feedback from training programmes.

It has developed close linkage with KVKs, ZRS, State Agriculture University, NGOs, Management Institutes, MANAGE, XISS, RK Mission, SRI, HARP, ILRI, Institute of Sericulture and uses appropriate faculty resource for providing training and consultancy services to ATMA and non-ATMA district functionaries in the state.

SAMETI has documented its efforts through publication of leaflets, booklets and postures for effective and sustainable transfer of frontier agriculture technologies for the benefit of the farming community. One such innovation in technology dissemination was the publication of an ***Annual Calendar' 2004*** providing information on time and methods of major agriculture operations for crops. SAMETI has created awareness among agriculture and allied department officials on working with a group approach at the state level with coordination by Inter Departmental

Working Group (IDWG) so that a collective effort is made for target achievement. For effective and timely transfer of technologies, SAMETI has provided technical support to develop Strategic Research and Extension Plan (SREP) for ATMA districts.

D. Benefits and impact :

The institute has conducted 15 training/workshop/exposure visit programmes within a year for PDs, DPDs of ATMA, KVK/ ZRS scientists, line department officials, BTT members, NGOs and farmers' group and farmers' organisation. This has ushered in attitudinal changes, working pattern and helped develop linkages. Field functionaries are now encouraged to work in groups effectively in a team and cooperate with each other at their respective workplaces. This is helping to perform jobs through process planning and time management. Through the six training programmes on basic skills on Information and Communication Technology, participants are now able to operate computers to meet their work needs. For creating new ideas, SAMETI has organised brainstorming sessions with participation of scientists, farmer leaders, block/district level officers of various departments. Chairman, SAMETI-cum-Commissioner & Secretary (Agriculture) and the State Nodal Officer-cum-Director, Agriculture, are regularly monitoring the functioning of SAMETI and have wholeheartedly welcomed the initiatives undertaken by SAMETI. SAMETI is now planning to provide managerial and technical training to 300 district and block level officers of the state on various issues related to agriculture extension management with close collaboration with the state agriculture department.

CASE -I

ATMA, DUMKA

A. Title : Basmatta basks in attention

B. Background :

Located 32 km off the district headquarters town of Dumka, Basmatta village of Jarmundi block comprises 18 families of Pahariyas – a primitive tribe battling extinction. Lack of awareness about the modern trends in agriculture and other income-generating programmes had left the villagers a hapless lot. With a paltry 15 hectare of land under cultivation – mono cropping – the tribals weren't assured of food security round the year. Almost half of the village population used to migrate to the neighbouring West Bengal during the months of February-March or June-July to eke out a living. Besides, alcoholism was rampant among the tribe.

C. Intervention and process :

The Project Director of ATMA, Dumka, paid a visit to the village on August 8, 2001 to have a feel of the villagers' problems. While interacting with the villagers, it was learnt that they relied heavily on government assistance to change things for the better. Also, the village folk had little knowledge about the type of crop that could be successfully planted in midlands and uplands, thereby leaving such areas barren. Whatever agriculture activities were undertaken by them were in the lowlands where they grew paddy the traditional way. Community participation was lacking.

ATMA felt the necessity to develop and strengthen people's organisations like Farmers Interest Group, Self Help Group, Gramsabha and Mahila Mandal and encourage community participation for sustainable agriculture development and initiation of other income-generating programmes. It also outlined more utilisation of the locally available resources and their better management at the micro level. Besides, diversification from traditional agriculture practices to the modern trends was also felt mandatory.

The areas to be improved upon identified, ATMA embarked on organising the villagers and provided them adequate training according to their needs. Some new varieties of upland paddy, oilseed and pulses were also introduced. Villagers were encouraged to undertake vegetable cultivation to supplement their income. Maize

was introduced as a cash crop. Villagers were given demonstrations on the farming of upland paddy, sunflower, mustard and mulberry. They were persuaded to use indigenously prepared pesticides, i.e. cow urine, neem leaves and neem cakes.

D. Benefits and impact :

The total land under cultivation in the village increased from 15 to 37.8 hectares. Barren area was brought down considerably. The villagers took to joint cultivation in the barren lands. They are also involved in Tasar rearing and weaving works, thereby getting access to supplementary sources of income. Migration of villagers has been almost curbed. Now, mono cropping is passé. Mixed and multiple cropping have taken over. Villagers cultivate maize thrice a year. Vermicompost production has been initiated. Villagers now prefer to use organic fertilisers in place of chemical ones. Two FIGs and an equal number of SHGs have been formed in the village. The villagers have come together to undertake joint cultivation on barren land and forestry of Tasar host plants (Arjuna, Mulberry). The village was on the itinerary of the Governor of Jharkhand during one of his visits. Outsiders frequent the village to learn the techniques being adopted by the villagers to turn their lives around. Better water management has eased the over-dependence on monsoons. Horticulture has tiptoed into the village as an added source of income. Villagers are now much happier and prosperous, thanks to the efforts put in by ATMA.

E. Lessons learnt :

(i) Community participation can work wonders. The need is to organise the villagers and get them to help themselves.

(ii) The formation of FIGs and SHGs in the village has brought the villagers closer, instilling a sense of camaraderie among the tribals.

(iii) With resources in the backyard, one doesn't need to bank heavily on outside support. It's advisable to put them to the best of use. They too can do the trick.

CASE -II

ATMA, DUMKA

A. Title : Fishing no more in choppy waters

B. Background:

Kendkhapra village of Ramgarh block is located 50 km off the district headquarters town of Dumka. Around 10 families in this hamlet used to take to fish farming in addition to agriculture. But despite putting in a lot of hard work, they were reaping very low dividends. Blame it on their lack of awareness with regard to scientific fish-farming procedures and technological know-how. They mostly used friads and that too the ones produced by way of induced breeding as it came cheap. Besides, the ponds weren't cleaned properly, and the water medium wasn't conducive enough to promote fish growth.

C. Intervention and process :

A team of ATMA personnel paid a visit to the village to get a feel of the plight of the farmers there. At an interactive session with the villagers, Chotelal Marandi and Premlal Marandi didn't hesitate to put forth their problems outright: ***"Why is it that the yield is abysmally low compared with our investment? Doesn't fish farming pay?"*** The other villagers too had similar queries. ATMA, that has been doing a pioneering job promoting pisciculture among the farmers in the district, was well aware of the problems. But, it had the solutions too. It told the villagers where they had gone wrong. The farmers were made aware of broadly three aspects: (a) ***selection of the variety of fish,*** (b) ***fish feed management,*** and (c) ***water treatment/pond preparation.***

Villagers were advised to use Ganga fish seeds (generally naturally bred Rohu and Catla) which grow faster. Besides, they were told to undertake mixed fish culture for getting more output from the same input.

The farmers were also sensitised with regard to the choice of food diet. To maintain the adequate amount of food level in their tanks, they were told to go in for doses of mustard oil cakes, rice brawn, and cakes made from cow dung and pig litter. These come quite cheap and are readily accessible.

Besides, fishery experts dwelt at length on the procedures to be adopted for congenial water treatment. Villagers were told to maintain a slight by alkaline medium that promotes luxuriant fish growth. As the soil type of the area is predominantly

acidic, the farmers were told to resort to lime treatment when the water medium tended to deviate from alkaline. In addition to this, preparation of ponds were advised in such a fashion that sufficient amount of food reached the various layers so as to cater to the requirements of the various types of fish that were bred in case of mixed fish culture. The Farm Information Advisory Committee (FIAC) also demonstrated various programmes related to composite fish culture in various blocks of the district.

The introductory tips given, Chotelal Marandi and Premlal Marandi accompanied a 20-member farmer team comprising members drawn from different villages for a 15-day training programme at the Birsa Agricultural University (BAU) at Kanke.

D. Benefits and impact :

The efforts by the FIAC and the subsequent training camp at the BAU endeared the farmers to take to fish farming in a more pragmatic way with the use of scientific procedures. The villagers lapped up the idea of composite fish culture. Presently, they are very much open to the idea of cultivating six varieties of fish in their ponds, viz, Catla (10%), Rohu (30%), Mrigal (15%), Silver Carp (20%), Grass Carp (10%) and Common Carp (15%). Being enriched in the knowledge of modern fish farming techniques, farmers were able to realize the lacunae that resulted in low output lay. The farmer duo, which used to get Rs 2,000-Rs 5,000 by taking to fish cultivation in a pond spread across one acre, are now reaping as much as Rs 10,000-Rs 12,000 by taking up the same venture in the same space. Seeing the wonders that modern fish farming techniques can spring forth, other farmers of adjacent villages are showing interest in adopting similar procedures. The number of farmers, who are currently engaged in this venture the scientific way, is between 15 and 20. Their problems have, to a large extent, subsided. The gloom that had eclipsed their lives has given way to hope and a strong determination to surge ahead. They have stopped looking back. Problems are passé. It's time to move on.

E. Lessons learnt :

(i) Not all farmers are unwilling to accept change. They just need to be told how they would benefit from the new venture, and how to go about it.

(ii) The farmers' eagerness to change traditional techniques of fish culture, and the supportive stance adopted by ATMA was instrumental in making a difference.

(iii) The FIAC-organised community demonstrations with regard to composite fish culture went a long way in instilling confidence among the fish farmers that they too could go in for the same and reap much more benefits.

CASE -III

ATMA, DUMKA

A. Title : Majdiha no more at the crossroads

B. Background :

Located 21 km off the district headquarters town of Dumka, Majdiha village is inhabited by around 33 Santhal families. The village was marked by the absence of proper water management system besides rampant alcoholism. Although the villagers used to take to mono cropping, about 90 acres lay barren. Because of the use of traditional agriculture practices, yield was low and villagers were compelled to migrate to the neighbouring West Bengal in search of jobs to keep their hearths going. Lack of awareness among the villagers and inadequate communication facilities with relevant government departments and agencies had deprived the village of any external support.

C. Intervention and process :

ATMA, Dumka officials paid a visit to the village in the month of May, 2000. After speaking to the villagers and going round the village, they were aware of the problems bogging the hamlet. Planning and community participation were lacking. Uplands were barely brought under agriculture for lack of proper irrigation facilities.

ATMA felt the necessity to develop and strengthen people's organisations like Farmers Interest Group (FIG), Self Help Group (SHG), Gram Sabha and Mahila Mandal and encourage community participation for sustainable agriculture development and initiation other income-generating programmes. It also stressed enhancement of strategic planning with technical support for sustainable development besides formation of FIGs and SHGs. ATMA was of the belief that significant changes could be brought about only if the villagers diversified to modern farming techniques.

The grey areas identified, ATMA took upon itself the task of organising the villagers and provided them adequate training according to their needs. Some new varieties of upland paddy, oilseed and pulses were also introduced. Villagers were encouraged to undertake vegetable cultivation to supplement their income. Villagers were given demonstrations on the farming of upland paddy, maize, mustard and mulberry. The people were advised to grow vegetables instead of maize in their kitchen gardens.

Besides, they were prodded to undertake mixed cropping of paddy (Vandana variety) and arhar (One row of arhar after every third row of paddy).

D. Benefits and impact :

ATMA played the role of a facilitator and guide in sharing knowledge, idea and the approach to sustainable development. The total cultivable land in the village has increased from 149 to 189.18 hectare. Barren land has been brought down considerably (from 90 to 49.9 hectare). To better irrigation facilities, villagers have developed a 2,800-feet channel through community participation to facilitate multi cropping. Now the number of families that grows vegetables in kitchen gardens has gone up to 36. Mono cropping has moved over to accommodate multi- and mixed-cropping. Villagers have been able to supplement their income by taking to production of vegetable and oilseed crops, and making handicraft items from palm leaves. They have taken to the cultivation of paddy, arhar, maize etc on the uplands, thereby ridding them of their barren status.

E. Lessons learnt :

- Proper planning holds the key to development.
- Community participation has brought the villagers closer, encouraging them to undertake seemingly risky ventures.

CASE -IV

ATMA, DUMKA

A. Title : Flowers too can pay

B. Background :

The problems faced by the farming community of Agoya village, about 18 km from the district headquarter town of Dumka, have much in common with those staring at their brethren in other parts of the district. Inadequate irrigation facilities coupled with no rainwater harvesting have been a running sore for long. Besides, sticking to traditional farming patterns, continual usage of perennial seeds, and improper use of fertilisers haven't served the purpose of increased agricultural yield. The farmers here have been cultivating paddy, wheat and vegetables.

C. Intervention and process :

When the Block Technology Team (BTT) of Jama visited the village the farmers complained of extremely low inputs though they had been putting in a substantial amount of money and labour. Forty-year-old Deo Chandra Rout didn't hesitate to lay bare his heart. "We are struggling to make both ends meet. ***Why is it so when we don't hesitate to toil hard, which we have had been doing?***" A one-day awareness camp was organised by ATMA to have a feel of the farmers' woes.

It was found out that the farmers relied heavily on mono-cropping, be it paddy, maize, or wheat in a small scale. Besides, the farmers who had no idea about hybrid seeds, used to rely on the same seeds for more than five years on the trot. They were totally alien to the concept of seed exchange. Besides, the farming community in this village used to bank on the local *haat* to sell their produce, thereby fetching them paltry amounts. Marketing of their products was a problem.

When asked if they wanted to try out something new, Rout readily agreed. ATMA, Dumka, arranged for his exposure visit to the Indian Institute of Horticulture Research, Bangalore, in the year 2002. The trip prodded him to take to marigold cultivation. A community demonstration on the beneficiary's plot was organised by the Farm Information Advisory Committee (FIAC), Jama, on a cost-sharing basis. BTT, Jama, provided all the technical know-how for the demonstration.

D. Benefits and impact :

Since floriculture was not in practice among the farmers of the block, the venture paid rich dividends. Besides, this has good scope for expansion. The cultivation is

comparatively less risky, and can be propagated by the adoption of various methods like root cutting and nursery growing. The first beneficiary of the venture in the village, Deo Chandra Rout, now grows marigold throughout the year besides cultivating wheat and vegetables. As the village is located close (approximately 8-10 km) to Basukinath Dham, a pilgrimage thronged by thousands daily, there is huge demand for flowers. So, marketing is no more a problem. Purchasers now even come to the farmers directly to buy their produce. There is also heavy demand for flowers during the wedding season. Flowers are being sold for anywhere between Rs 12 and Rs 30 per kg. Currently, Deo Chandra earns as much as ***Rs. 9,000*** by growing marigold on a ***0.3-acre plot***. Realising that the venture could contribute significantly in terms of profits, two more farmers of the village, Mohilal Rout and Indrakant Rout, evinced keen interest in the enterprise. They have also started growing calendula in their fields and are economically better off. Now, the total area under floriculture in Agoya village has gone up to 8 acre. The farmers have also started growing as many as five varieties of flowers (three varieties of marigold besides Gladula and Rajnigandha). Some additional employment avenues have also been generated through engaging a few persons to carry the flowers to the temple site and sell it there. This pays a little bit more than waiting for the purchasers to come to the village.

Presently, about 13 persons of the village have come together to form a Farmers Interest Group (FIG) that focuses on floriculture. They share problems and strive hard to improve upon, learning from each other's mistakes. Life is no more a burden, and the continuous carp about low outputs have vanished. Farming has suddenly become an area of interest rather than a compulsion.

Besides, upon the advice and the guidance of ATMA, villagers have taken to cultivation of off-season vegetables, which enables them to make a killing. They were also made aware of the nutritious food value of the same and prodded to consume a part of their produce themselves. The pressure of the over-dependence on mono-cropping is now gone. This has also given the farmers access to other more profitable options. Besides, the village now breathes in an air of prosperity.

E. Lessons learnt :

(i) Floriculture can be taken up as a profitable enterprise.

(ii) Community participation in a venture pays off quite well.

(iii) Farmers are not that averse to change. They just need to be told how to do it.

SUCCESS STORIES OF ATMA - DUMKA

SUCCESS STORIES OF ATMA - DUMKA

CASE - V

ATMA, DUMKA

A. Title : Weaving a good fortune

B. Background :

Located 35 km off the district headquarter town of Dumka, Dumarsol village is inhabited by about 100 Santhals. The villagers here practise single-crop farming. But since the village is nestled amid dense forests, they have access to very little cultivable land. Lack of awareness about modern farming trends has compounded their woes. Though they are hard working, they struggle to maintain food security for the whole year. The farm produce is not even sufficient to keep their hearths going round the year. So during the off-season, most villagers migrate to the neighbouring states to eke out a living as daily labourers.

C. Intervention and process :

The villagers were unaware of the importance of forest as a natural resource. But upon the intervention of CASA, an NGO, they formed a forest committee to prevent deforestation. In August 2002, a member of the Block Technology Team (BTT) of Dumka paid a visit to the village. He was pleased to learn that the villagers were keen to undertake some other venture that could supplement their income. He told them that they could earn more from the existing resources without causing any threat to the ecology of the village. A month later, ATMA and BTT urged the villagers to form a Farmers Interest Group (FIG). A 37-year-old woman, Fullin Murmu, was chosen the group leader. The group arranged weekly meetings to discuss the plight of the people, and stressed the need to stop exodus during the off-season. In consultations with ATMA and BTT, it was decided that Tasar rearing could be taken up in the village forest. ATMA arranged for a training programme about the venture in the village itself. The BTT provided 700 disease free laying (DFL) for community demonstration. ATMA and BTT officials provided all technical support for the venture, including the know-how about how to protect the DFLs from diseases.

D. Benefits and impact :

The FIG got good results from Tasar rearing and produced 5175 DFLs from the first crop. It sold each DFL at the rate of Rs 2 to other villagers who showed interest in taking up a similar venture. Enthused by the result, the FIG evinced interest in

procuring more DFLs from the State Sericulture Department. The villagers are now able to generate an average additional income of about Rs 3,000-Rs 4,000 each month by way of selling Tasar cocoons. Empowered with technical and moral support from ATMA, the villagers selected Fullin Murmu as ATMA Farmer Representative for Dumarsol village. She remains in constant touch with BTT, Dumka and ATMA officials for suggesting measures to upgrade the financial and social status of her co-villagers. The BTT suggested to the FIG members that they add more value to their produce by making threads from the chopa (wasted) cocoons for which the buyers previously gave less money. The group members decided to seek a trainer from ATMA; the villagers agreed to arrange for his lodging and boarding. It was also decided that all rearers' families contribute 1 Pan (80 Cocoons) for the training purpose. ATMA arranged a technician and a three-phase training programme in spinning threads. Trained, the villagers now don't sell the chopa cocoons for a lesser price; instead, they spin threads from it and earn more money. They also decided to make loom from that thread. For this purpose they selected Fullin's husband Suniram Hansda to be trained as a weaver. Nobody in the village had exposure to weaving, so they wanted the ATMA to impart them with this knowledge. ATMA obliged by a three-phase training programme. After the completion of the session, Fullin and Suniram decided to set up a handloom in their village and arranged logs/wood from the nearby forest with the help of FIG members to make the equipment. Some parts of the handloom, which couldn't be arranged locally, were arranged by ATMA. On June 26, 2003, the handloom of Dumarsol was formally inaugurated by Project Director, ATMA, Dumka, in the presence of ATMA members from Palamau, Chaibasa, Jamtara and the State Consultant, NATP, of Jharkhand.

Now, Fullin provides part-time employment to around 15 group members who are inclined to weave fabrics through handloom. The group members earn Rs 800 per month additionally through spinning of Tasar cocoons.

The family income of Fullin Murmu has now increased to Rs 2,000 per month and the other group members also manage as much as Rs 1,000 a month. The initiatives taken by ATMA to generate an additional source of employment have paid off. Exodus from this village has now been contained to a considerable extent. The villagers of Dumarsol are currently involved in all aspects of sericulture, starting from Tasar rearing to weaving fabric from the cocoons. Now Fullin Murmu has been elected the FAC member for the sericulture wing of Dumka block.

E. Lessons learnt :

(i) The change in approach of the villagers needs an initial external stimulus.

(ii) Through proper training and upon being shown the right track, villagers themselves can bring about a sea change in their lives. Fullin Murmu is a living example of what wonders determination can bring about.

(iii) Targeting a group when introducing an enterprise in villages reaps better results as it instils a good deal of confidence besides a sense of teamwork.

CASE - I

ATMA, JAMTARA

A. Title : Making a difference through the greens

B. Background :

The north-eastern district of Jamtara has for long been the Rain God's stamping ground. But the necessary accessories seem to water down the bounty – the majority of 1400 mm of rainfall bucketing down in just three months hasn't quite served the purpose of agriculture. Besides, the red lateritic soil type of the area being both porous and equally permeable, and the absence of perennial rivers is a running sore. So, one can expect agriculture to bear fruit only through proper irrigation facilities, which the district is devoid of. Given the handicaps, vegetable cultivation holds a lot of promise. The demand for vegetables in the region is particularly high, given its location (along the Howrah-Delhi main route) and proximity to towns like Dhanbad, Asansol and Chittaranjan. Through water harvesting and its judicious use, farmers can indeed ease out all bottlenecks and reap profits.

C. Intervention and process :

A farmer of Karmoi village of the district, 28-year-old Santo Mandal was the first to blaze the trail. His village is nestled between two hills about 12 km off the block headquarter of Narayanpur. In the foothills, a water harvesting structure is also available. Mandal came down to the ATMA office and discussed his personal and social problems.

"I find myself at the crossroads. I don't shy away from labour, but don't know how to make both ends meet. Can you help?" Mandal's eyes didn't betray the slightest hint of his privations. Though Mandal was frustrated, he wanted to turn his life around. ATMA, Jamtara saw hope and arranged for his training at Hehal, Ranchi and an exposure visit to Orissa. After that he organised separate farmer groups for males and females. While Mandal led one, Purnima Devi, his co-villager, took charge of the other.

The groups worked in close coordination with the Farmer Advisory Committee (FAC) and Block Technology Team (BTT) of Narayanpur. ATMA, Jamtara organised a one-day visit of Deputy Commissioner Sri Mohanlal Ray and other district officials

to the village. The BTT also organised several awareness campaigns in the village which helped the farmers forge a sense of understanding and companionship among themselves. ATMA notched up success in motivating the farmer groups to go in for water harvesting and its proper utilisation through inception of lift-irrigation facilities and introduction of high-yield vegetables.

D. Benefits and Impact :

Prior to ATMA coming into the picture, Karmoi farmers took to agriculture the traditional way. Water harvesting wasn't given its due. But now, it stands out as a striking example of the wonders the concept can bring about in the field of vegetable cultivation.

By way of collective efforts, farmers renovated the existing water harvesting structure, strengthening the receptacle so that it could hold more water. The farmer groups also availed of bank loans for procuring a pump set and delivery pipes to facilitate irrigation at the uplands. Now, the farmers feel free to frequent the ATMA office for technical inputs and suggestions about marketing and other problems. Presently, 15 farmers in Karmoi are engaged in vegetable cultivation, mainly cauliflower and cabbage. Borax application in soil is also a common practice in this village. They sell their produce both in Jamtara and Dhanbad (about 30 km). They have taken to high-yield varieties and are able to earn much better than what they used to. In 2003-04, farmers grew vegetables on a six-acre plot, and reaped returns @ Rs 6-10 per kg as per the market demand. Now, the farmers are a happy lot. The change has revolutionised their lives. ATMA, Jamtara continuously organised exposure visits of different farmer groups of the district to this village so as to prod them to undertake similar ventures in others areas.

E. Lessons learnt :

(i) For village-level extension work, farmers as resource persons will hit the nail on its head.

(ii) Frequent visits of officers to the target areas left a better impact on farmers.

(iii) Camaraderie between farmers and extension workers is vital to the fruition of the project.

CASE - II

ATMA, JAMTARA

A. Title : Yesterday's waste is today's buzz

B. Background :

The Jamtara district is a classic example of poverty amidst plenty. Despite adequate rainfall, the farmers practice mono cropping. The district's topography is largely to be blamed for limiting the otherwise hardworking farmers. Approximately 50 per cent of the land in the district falls under upland *tanr* category, which remains barren throughout the year. The percolation rate in upland *tanr* is so high that it remains fallow even during the monsoons.

C. Intervention and process :

ATMA, sensing the helplessness of the farmers, decided to step in and acquaint them with modern agricultural techniques for putting the upland *tanr* to good use. In the first step, awareness campaigns under the aegis of Block Technology Team (BTT) were organised, where the farmers were made to realize that even the upland *tanr* could be cultivated, provided modern agriculture techniques were implemented. The BTT also organised community demonstration of mixed/inter cropping of maize and arhar for the interested groups on participatory mode. The farmers were acquainted with latest techniques like *Rhizobium* inoculation and use of NPK fertilizers.

After demonstration, farmer groups were formed at Jagannathpur, Karmoi and Baramajladih villages in Narayanpur block and in Jamtara block similar groups were formed at Chalna, Virgaon, Tulsichak and Kundith villages. The ATMA procured improved arhar seeds like Bahar and Birsa Arhar-1 and Suwan for maize from Birsa Agriculture University (BAU), Ranchi. *Rhizobium* culture was made available for the farmers from BAU's Soil Science and Agricultural Chemistry Department.

D. Benefits and Impact :

While the local arhar variety yielded 3 to 4 quintal per hectare land, the improved arhar seeds yielded 10 to 12 q/ha. The farmers could also reap maize on the land, which till yesterday was wasteland for them. The results have taken the farmers by surprise and farmers from neighbouring villages are queuing up at ATMA office for implementing the practice on their land. Arhar cultivation has also improved the

water retention capacity of the upland areas. Apart from making some fast buck, the farmers use the remains of arhar plants as fuel.

E. Lessons learnt and Inferences drawn :

- Promotion of a new farming procedure is easy when done in a group rather than an individual.
- Villagers prefer to take up this venture along with paddy rather than maize, owing to local food habits.
- Farmers need to be made aware of the wonders that improved seed varieties can spring forth; they won't mind paying that extra buck.

CASE - III

ATMA, JAMTARA

A. Title : Laying golden eggs

B. Background

Backyard poultry is a common vocation among the Tribal and Muslim families in rural areas of the Jamtara district. Backyard poultry does not require any extra investment. Poor farmers not only rely on it for regular income but also for nutritive food. Women are mainly engaged in this activity and take pride in contributing to the family income. But the farmers are unable to reap good benefits despite backyard poultry being so popular in the district. They mostly rear the *deshi* hens, which lay only 50 to 60 eggs annually and gain only 1 to 1.5 kg bodyweight.

C. Intervention and process

Sensing the potential of backyard rearing, the ATMA decided to introduce a more profitable breed of birds called Divyayan Red among the farmers. These birds not only lay much more number of eggs than the deshi birds, but also gain weight faster. The Block Technical Team (BTT) organised awareness programmes for the farmer groups. Following which, the farmers at the FAC and BTT joint meetings demanded intensive implementation of the scheme throughout the district.

ATMA, in the first phase, decided to introduce the birds in three villages each in Narayanpur and Nala blocks, as a pilot run. It was decided to implement the scheme in other villages only after gauging the success of the project in these villages. BTT experts provided training in scientific rearing and arranged for exposure visits of farmers to Ranchi Veterinary College and Ramkrishna Mission, Ranchi. Community demonstration of Divyayan Red in the district was started on February 2003.

Farmers drawn from Tituliyatar, Badamanjhaladih and Khalkokundi of Narayanpur block and Mohanpur, Saluka and Jagannathpur of Nala block were selected for the allotment of Divyayan Red units. Each of the 120 farmers was given a unit comprising 4 females and 1 male chick. The cost of one unit was Rs 200. Block Animal Husbandry Officer provided the technical support. These birds start laying from the age of 7 to 8 months.

D. Benefits and Impact

Shivlal Marandi of Mohanpur village expects to earn around Rs 1,000 from his one unit in the first year itself. The growth of the birds has taken him by surprise.

Shivlal was pleasantly surprised to see that the birds had gained 2.5 to 3 kg in 11 months. The women in the families are also a happier lot, as the Divyayan Red lays 230-250 eggs annually. They are now not only able to feed their children with eggs on regular basis, but also are selling the surplus. Earlier, taking care of the backyard poultry was a compulsion for many of them. Now, it's more of a pleasure.

More and more farmers from neighboring villages are now approaching the ATMA officials for the introduction of Divyayan Red in their villages. The ATMA officials are now encouraging the farmers not to sell or consume all the eggs but allow some to hatch. Each Divyayan Red egg fetches Rs 3-5 in the market, which is tempting enough for the farmers. But some farmers are showing enough wisdom and allowing a portion of the eggs to hatch. Because of lack of awareness, the innocent tribal villagers at times slaughter hens for feast, which they invariably repent later and promise not to repeat again. They all have realized that patience holds the key to prosperity.

Divyayan Red has certainly brought smiles on the faces of the farmers. ***Call it the Wonder Hen.***

E. Lessons learnt and Inferences drawn

(i) For lack of awareness, farmers at times overlook long-term gains and sell eggs or slaughter the birds.

(ii) Introduction of new schemes in groups than through individual is more preferred by the tribals.

(iii) Improvising need based enterprises fetches quick and desired results.

CASE - IV

ATMA, JAMTARA

A. Title : Earn lakhs from lac

B. Background :

The Purulia district in neighbouring West Bengal is considered the hub of lac cultivation in the country. Keeping in mind the geographical similarity between Jamtara and Purulia district, ATMA, Jamtara decided to introduce this enterprise among the farmers. The primary requirement for lac cultivation, 'palash trees', is found in abundance in this region.

ATMA, which thrives to make the hardworking people self-dependent, decided to popularize the concept more among the womenfolk. Through extensive awareness campaign, farmers were made to realize that from negligible investment they could reap good benefits. Furthermore, the practice would not disturb their routine activity also.

C. Intervention and process :

Villages with thick palash tree cover were identified and intense awareness campaigns with the help of Shidhu Kanhu Alp Sankhyak Samiti, an NGO of repute were launched. Consequently, Farmers Interest Groups (FIG) were formed. From these groups, 30 farmers were selected for seven-day training at Lac Research Institute, Namkum between March 26 and 31 in 2003. The Farmers Advisory Committee (FAC) had recommended live demonstration of the latest technologies involved with this activity.

Indian Lac Research Institute, Namkum, was more than helpful in acquainting the farmers with the latest technologies. His encouragement played a crucial role in successfully implementing the project. The farmers were provided with lac seeds, seed net and scicattiors by the institute on cost basis. Inoculation of brood lac on about 1,000 plash trees was performed in some villages of Narayanpur and Nala blocks. Under Narayanpur block, the villages were Jagannathpur, Sahajpur, Hutumtar, Hathbandha, Ranitarand and Yadudih. In Nala block, Ambabank, Murgabani, Lakrakunda Mohanpur and Seed Production Farm were selected for the pilot project.

ATMA also appointed Saktidhar Koiri, an expert lac cultivator from Purulia as the advisor.

D. Benefits and Impact :

Under the supervision of ATMA officials, the first inoculation on palash trees was done in the month of July, 2003. In October, the produced lac was transferred onto other palash trees by trained farmers. Now the farmers are waiting for the first commercial harvest of lac, which will take place in May this year. The farmers, who had invested just Rs 7 per tree, expectedly would reap 3 to 5 kg lac from each plant. At the prevailing market price of around Rs 80 per kg, each palash tree, which till the other day was of no use to the farmers would fetch them around Rs 200, that too twice a year.

There are several farmers in the district who own over 100 palash trees. The district has every potential to push Purulia behind in terms of lac cultivation.

Now that the ground has been prepared, it won't be much difficult to popularize the concept.

Apart from low investment, there is no fear of theft associated with the activity, which makes it further attractive among the farmers.

Rajomani, a lady lac farmer of Ambabank village, now repents cutting some palash trees to expand the cultivable land.

E. Lessons learnt and Inferences drawn

1. In the absence of lac experts, many queries of farmers remain unanswered. A lac specific department is much required at Jamtara.
2. Involvement of officials can do wonders.
3. In the absence of qualified officials, help from expert farmers should be sought.

CASE - V

ATMA, JAMTARA

A. Title : Farmers' sweat sweetens bitter gourd

B. Background

Small and marginal farmers mostly inhabit Khijuria village in Kundhit Block about 22 km from the block office. These farmers despite being hardworking were unable to get good benefits from farming because of varied reasons. The Block Technology Team (BTT) took it upon itself to change the face of the village inhabited by hardworking farmers. It conducted intense awareness campaigns about bitter gourd cultivation on upland tanr, which otherwise remained barren throughout the year. ***Abdul Miyan and Gangadhar Pandit*** took the leadership in forming Self Help Group/Farmers Interest Group. The BTT did not face much difficulty in convincing the farmers, as the land required for bitter gourd farming was upland *tanr.* Now the fields, which before the implementation of the scheme remained barren, are under a green canopy throughout the year. The Khijuria villagers for the last four years are successfully cultivating bitter gourd on land, which earlier gave them no returns.

C. Intervention and process

In the first year, a handful of farmers took up bitter gourd farming and many more joined after seeing the results. The BTT too was waiting for this opportunity and introduced more scientific input as the number of such farmers increased. ATMA's role was limited to providing training and exposure facilities to some farmers. It also showed the farmers the marketing avenues. Apart from reaping 'gold' from barren land, bitter gourd farming has also enhanced the water retention capacity of upland *tanr*. As the soil is highly porous, the land is unable to retain water despite the region receiving approximately 1,400 mm rainfall annually. The web or the canopy, which is essential for bitter gourd farming, enables the rainwater to trickle down slowly, thereby enriching the soil's moisture content.

D. Benefits and Impact :

For bitter gourd farming no additional irrigation facility is required, as the activity is totally rain-fed. The canopy on which the bitter gourd climbers rest not only enhances the water retention capacity, but also prevents soil erosion to a great extent. After a few years of bitter gourd farming, the same arid land would become highly fertile.

SUCCESS STORIES OF ATMA - JAMTARA

SUCCESS STORIES OF ATMA - JAMTARA

Presently in Khijuria village, bitter gourd is grown on about ***20 acres*** of land owned by ***15 farmers***. The land, which till the other day was of no value to hardworking farmers, is today fetching them around Rs ***15,000 per annum***.

The best part of this experiment is that the neighbouring villages without the intervention of BTT or ATMA are taking up bitter gourd cultivation and farmers on their own approach ATMA for technical support.

E. Lessons learnt and Inferences drawn :

(i) Seeing is believing. Only after witnessing the result of the first phase of experiment, more villagers volunteered to cultivate bitter gourd.

(ii) Lack of awareness about pesticides and plant protection cut down on profit margins.

(iii) In the absence of irrigation facilities, bitter gourd cultivation in tanr lands can change the scenario in the long term.

CASE - VI

ATMA, JAMTARA

A. Title : 'Shipping' goodwill and success

B. Background :

Mostly inhabited by Muslim and Tribal farmers, Birgram village, on the banks of the Baraker River, is 12 km off the district headquarter town of Jamtara. Crossing the river is the shortest route to reach Jamtara and Dhanbad. Apart from agriculture, some Muslim families also make a livelihood from ferrying passengers. They also transport sand. The tribal youths mostly work as labourers on boats owned by their Muslim counterparts who are comparatively well off. These youths nursed a strong desire to own a boat for long, but suppressed it knowing their economic limitations.

C. Intervention and process :

ATMA not only envisages imparting technological know-how to farmers, but also aims at bettering their lot through other means as well. In keeping with this line, the Block Technology Team (BTT) of Jamtara arranged for the visit of SBI Field Officer RS Roy to the village, consequently organising a farmers' interest group. The village youths, under the leadership of Shahdev Murmu, were more than willing to make the most out of this opportunity. They decided to purchase a boat and ferry people besides goods, but without compromising on their normal agricultural activities. ATMA officials, who were overwhelmed by the response, approached the bank to make available a loan of Rs 70,000 for the farmers group.

D. Benefits and Impact :

With the loan amount, the farmers' group purchased a mechanised boat. The other boats operating in the area were manual, which took approximately 30 minutes to cross the river. The motor-driven boat does the same in seven minutes. Another advantage with this boat is that wind conditions have no bearing on its speed. They in between ferrying passengers, transport sand and make a fast buck.

Today the group has emerged as the best example of Self Help Group in Jamtara district. *Shahdev Murmu*, the acting chairman of FAC, Jamtara in the beginning of every month doesn't hesitate to visit the bank to pay the instalments.

Apart from being in the good books of the bank for paying instalments in time,

the group also has a consolidated saving of ***Rs 20,000***. They have also evolved an 'intra-loaning' mechanism. This group of ***20 tribal*** youths now earns ***Rs. 300*** every day on the average from the boat, which is an additional income for them, as their primary activity is agriculture.

E. Lessons learnt and Inferences drawn :

- Association of the banks with any development scheme at the grassroots is a must.
- Apart from agriculture, the field officers should motivate the villagers to take up other ventures for supplementing their source of income.
- Group activity achieves better result in case of tribals.

CASE - I

ATMA, PALAMAU

A. Title : Quality seeds no longer a dream

B. Background :

Come the Rabi season, and the majority of farmers in the western district of Palamau take to wheat cultivation. The reason that drives the move is consumption – both by humans and animals. But ever since Jharkhand was carved out of Bihar, there has been a problem with regard to the supply of quality seeds. The State has been relying heavily on outside assistance to meet its quota for the same. This, however, has begotten fresh problems instead of offering solutions to meet the scarcity. Most of the time seeds aren't delivered on time, and when they do arrive they are not quite of the desired standards vis-à-vis the new micro-farming situation prevalent in the State. The Department of Agriculture has its hand on the pulse of this problem and is trying to promote the concept of 'seed villages', wherein farmers are encouraged to grow seeds themselves instead of banking on somebody else's mercy.

C. Intervention and process :

Presently, ZRS, Chianki, is the only research station in the district that produces quality seeds of wheat. But that has not been enough to cater to the growing demands of the farming community. To bridge the gap between the burgeoning demand and scarce supply of quality seeds, ATMA, Palamau in association with KVK, Chianki convened a meeting of all Food Advisory Committee chairmen, District Agriculture Officers and two progressive wheat farmers.

Two wheat growers, who were economically sound and had a feel for technology, were picked. ATMA, Palamau and KVK, Chianki jointly organised training programmes in seed production for the duo, trying to drum into them the fact that seed production was more economical than commercial production of wheat. ATMA also tried to convince the farmers that they wouldn't have problems marketing the seeds, and that their produce would be purchased by both their brethren and the government. The DAO also tried to allay their fears, assuring them that they would be certified as registered seed growers.

The chosen farmer-duo – Rajdev Oraon of Jhangasi village under Patan block

and Rajendra Pal of Jamune village under Daltonganj block were imparted two days training at KVK, Chianki under the supervision of wheat seed production specialists. They were detailed about the nitty-gritty of the new venture apart from being made familiar with the do's and don'ts. Upon the suggestions of ATMA, the DAO provided 200 kg foundation seed of wheat (HUW-234 variety) to both the farmers to be sown across a two-hectare area. The duo was recommended to use a fertiliser schedule of 100:40:20 (N:P:K) along with 10 quintal of Farm Yard Manure per hectare for better yield. Half of the quantity of nitrogen and a full dose of phosphate and potash were mixed together and applied in furrows at the time of sowing. Lindane dust @ 25 kg/ha was mixed with the fertilizer mix to guard the crops against termites. The rest nitrogen was applied in two equal splits on the 30th and the 60th day after sowing. One weeding was done 25 days after the seeds were sown. The procedure followed was in sharp contrast to the traditional wheat cultivation techniques the farmer-duo was accustomed with. What was earlier familiar to them was the broadcast method that encompassed usage of 10 quintal of FYM besides the application of only nitrogenous fertiliser.

D. Benefits and impact :

All the hard work done, it was time to reap the benefits. The view of standing crop never looked so beautiful. Rajdev and Rajendra were over the moon, for the yield had left their expectation far, far behind. And they commanded respect from fellow farmers who paid a visit to their field to have a look at what till now seemed impossible. Some requested the duo to exchange some quality seeds. The ATMA kept its promise. It worked in tandem with the DAO to prevail upon the seed certification agency to register both Rajdev and Rajendra as wheat seed growers.

The yield statistics too had bettered. The duo harvested 30 q/ha whereas other farmers in the village harvested only 18 q/ha. Their gross income through seed production was Rs 32,000 /ha, but others managed only Rs 7,200 /ha. The rate of return per rupee was also found high. While it was 4.58 under seed production practices, it touched 2.10 under grain production for food purposes.

The visible changes have prodded other farmer groups to lap up wheat seed production as an enterprise. At least, 20 farmers have shown their inclination to take up the project in 48 hectare of land in different blocks of the district and be registered as wheat seed producers.

Buoyed by this success, a concentrated plan has been mooted to propagate

seed production technology in other crops also on a wider scale through proper coordination of all related departments both at the district and State levels.

E. Lessons learnt :

(i) Cultivating wheat for seed production is more profitable than doing so for the sole purpose of consumption.

(ii) The venture if taken up by a group rather than an individual will reap greater dividends by way of effective marketing and reduced investment risks.

(iii) Usage of improved seed varieties will not only boost higher yield (by 15%) but also give local farmers a sense of security, besides not making them dependent solely on external assistance.

CASE - II

ATMA, PALAMAU

A. Title : Mushroom fillip for Palamau

B. Background :

None doubts that the advent of improved agriculture technology can revolutionise rain-fed farming patterns, thereby resulting in impressive yields. But what is also required is the know-how of the crop that can flourish best under the existing environmental conditions.

After agro-ecosystem analysis through participatory learning and action (PLA) exercises taken up by the ATMA team, mushroom cultivation was identified as the most suitable enterprise in rural as well as urban areas of Palamau district. Mushroom has now been recognised universally as a nutritive food and is grown in many parts of the state on a commercial scale. Wild mushrooms are very much in demand but their availability is generally restricted to 2-3 months, i.e. July-September. Of nearly 50,000 valid species of fungi, about 2000 varieties of edible mushroom species have been reported and only 25 widely accepted for consumption purposes. However, only three to four species have been brought under cultivation, namely paddy & wheat straw mushroom (*Volvariella volvacea) Dhingiri (Pleuratus Sps)*, button mushroom (*Agarics bispourus)* and milk mushroom (*Calocuba indica)*. Keeping in view the importance of mushroom cultivation as a subsidiary enterprise as well as its nutrition aspects, it was decided to introduce improved methods of mushroom cultivation in rural as well as urban areas so as to provide a source of gainful employment to the needy.

C. Intervention and process :

ATMA, Palamau, had published an article in a vernacular newspaper, giving a detailed account of different aspects of mushroom cultivation. The fact that the venture could reliably be taken up to provide a meaningful source of employment was all the more highlighted. Interested persons were requested to contact the Project Director, ATMA for details. In response to the publication, two groups, including one headed by Anjali Kuwaner of Bhargawa village under Chainpur block and the other comprising Rajkishore Choudhary and Suresh Anand of Daltonganj evinced interest. The PD took keen interest and contacted KVK, Chianki, requesting that eight persons from each group along with the group leaders be sent on a

training session. After successful completion of the programme, each farmer was given five bottles of spawn for starting production. At present 9-10 groups of rural youth lapped up the opportunity either on a full-time or on a part-time basis, with the number of beds per cycle varying between 50 and 100. Each group that took to 60-70 beds per cycle was provided with an infrastructure support for developing a soaking time for paddy straw by investing Rs 1,500 provided by ATMA.

D. Benefits and impact :

Both the groups started with 15 beds of mushroom cultivation, upon being demonstrated by ATMA officials. Later on the groups rotated the fund generated out of the demonstration and continued mushroom cultivation with 60-80 beds per cycle per person. On an average, additional employment opportunities of 10 man days per month were generated, and on an intervention of one bottle of spawn including other materials, one person received Rs 150 through production of 3.5 kg of mushroom in three flashes sold @ Rs 45/kg in such a way that he could earn an additional income of Rs 2,500 each month. The greatest advantage was that by sparing hardly 2-3 hours per day villagers were able to earn substantially. The most eye-catching aspect of this venture was that it required less time and less drudgery but provided rich dividends.

In the mean time all the mushroom growers imparted training to other members of the society who took up this enterprise as a cooperative undertaking. At present about 10 groups, mostly women, are engaged in the venture.

E. Lessons learnt :

(i) Mushroom cultivation as an enterprise requires less time and investment, but is much more paying.

(ii) The availability of paddy and wheat straw, which is a requisite for the enterprise, is in abundance as a by-product of the existing farming system.

(iii) Involvement of FAC members in encouraging groups to take up mushroom cultivation contributed significantly towards boosting the confidence of the farmers.

(iv) The participation of more groups in the project will bring in economic stability to the region, reducing the over-dependence on the major crop yield.

(v) Being not that painstaking, it can also serve as a gainful source of employment for the womenfolk.

SUCCESS STORIES ON SEED PRODUCTION AT ATMA PALAMAU

SUCCESS STORIES ON VEGETABLE PRODUCTION AT ATMA PALAMAU

CASE - III

ATMA, PALAMAU

A. Title : Riding high on cooperative farming

B. Background :

The horticulture sector, such as fruits, vegetables, flowers, root and tuber crops, mushroom, medicinal and aromatic plants, has great potential in Jharkhand, particularly in Palamau district. Vegetables like tomato, brinjal, cauliflower, French bean, capsicum have established their credibility in improving the productivity of land, generating employment, improving the economic conditions of farmers and entrepreneurs, enhancing exports and, above all, providing economic security to the farming community. But despite the district being endowed with climatic conditions suitable for growing a large number of horticulture crops, particularly off-season vegetables, its potential remains to be exploited. In the plateau region of Palamau, vegetable production is becoming a very remunerative enterprise among the farmers with limited irrigation facilities. However, in the Kharif, Rabi and summer seasons a number of vegetables like tomato, cauliflower, cabbage, capsicum and cucurbita are also grown in a completely rain-fed situation. Generally three types of vegetable production systems are prevalent in the district – commercial, green revolution (GR) and complex diverse and risk-prone (CDR). Commercial or industrial production systems are characterised by fully controlled irrigated, mechanised, pre-dominance of cash crop, high input technology, use of fully hired labour and futile land, and production strategy for higher returns. Thus farmers' production systems are managed by highly resource rich farmers. The green revolution or well-endowed production system is characterised by irrigated/ protective irrigation facilities, combination of good or less fertile land use of family labour in combination with hired labour of cash-earning and food crops. The CDR or a small production system is characterised by interdependency and off-farm activities, complete dependency on family labour, multipurpose use of the product and by-product of each enterprise, and the production system being confined to household food security system. Wide variation in soil fertility due to slope and shed and no control in productivity and, on the contrary, stability and susceptibility are areas of concern.

In Palamau district, mainly the CDR production system exists. However, with

the introduction of small irrigation facilities some pockets have been equipped. Some farmers have started cultivation of vegetables with the increased use of modern inputs.

C. Intervention and process :

Looking at the market demand for vegetables in the state or its adjoining areas, the FACs of all the blocks had proposed exposure-cum-training visits for farmers at MANAGE, Hyderabad. The proposal has been critically discussed by the ATMA Management Committee (AMC) and appreciated by all its members. It was decided that two progressive educated unemployed youths from each block be sent to MANAGE, Hyderabad, on a training-and-exposure visit so that they are encouraged to take to agriculture-based enterprises. The Governing Board (GB) suggested that the visit and training must concentrate on vegetable production. The Project Director of ATMA sent 20 farmers to MANAGE on a six-day visit. After returning, one farmer of Mahuganwa village, Brijesh Kumar Pandey, was so keen about self-employment that he narrated the lessons learnt at MANAGE through an article in a local newspaper. The item headlined "***Vegetable cultivation is the only way for self employment***" motivated about 20 youths who came together to form the ***Harit Kranti Club***. The Club acquired about 5 acre of land for community vegetable cultivation under Pandey's leadership. Pandey was regularly in touch with the Block Technical Team (BTT) in-charge and ATMA office for technical support. The BTT took equal interest, preparing a round-the-year programme for commercial vegetable cultivation. The Project Director, ATMA, and DAHO regularly visited the site and gave technical guidance to the club members from time to time. Within six months, the plot under cultivation became a stamping ground for farmers of the neighbouring village as well as state officials. The Director, Agriculture and Agriculture Production Commissioner also visited the site and appreciated the efforts of the group.

D. Benefits and impact :

Of the 5-acre plot acquired by the group, tomato, brinjal and cabbage were grown on one-acre plots each. The remaining 2-acre space was being prepared for agriculture. The average yield per hectare was 112 quintal tomato, 141 quintal brinjal, 1498 quintal cabbage. When translated to money, tomato yielded Rs 22,000, brinjal Rs 18,000 and cabbage Rs 23,000. The total income of the group in one season was Rs 63,000. Later on, the group rotated the money generated by selling the vegetables

and continued with the practice of growing vegetables.

A local newspaper covered the success story of community farming, thereby popularising the concept in the entire district.

Presently, 7-8 groups are cultivating vegetables under the guidance of ATMA. The total area under vegetable cultivation increased by 10-15% within two years. The advantage of operating in a group would benefit the farmers in assessing inputs, technology and resource collectively. Further, the group can easily manage to drive a good bargain in the market. It is observed that farmers engaged in this process can earn a profit of Rs 2,000 per month in the first year itself.

E. Lessons learnt :

(i) Commercial vegetable cultivation is highly remunerative for farmers.

(ii) Community farming helps in providing self-employment to the rural youth.

(iii) As large quantities of vegetables are required in the district, state as well as neighbouring states, marketing the produce isn't a problem.

(iv) Off-season vegetables will reap more profits for the farmers.

CASE - IV

ATMA, PALAMAU

A. Title : Vermicompost manna for resource-starved farmers

B. Background :

Escalating cost of fertilisers along with probable pollution hazards caused by injudicious use and overuse of the same have evoked awareness among the farmers and extension workers for exploitation and utilisation of organic resources available in Palamau. It is a well-known fact that earthworms influence the physical and chemical properties of soil. Their role in improving soil fertility has been known from time immemorial. Of late, there has been a boom of vermicompost in the district and a considerable number of farmers have shown their eagerness in using it for crop production. Several private organisations have been attracted to commercial production of vermicompost. Some have already introduced their product in the market as a supplement & substitute for costly inorganic fertilisers. Keeping this under consideration, the Department of Agriculture, Government of Jharkhand has promoted vermicompost production through providing training and demonstration. In this context, farmers at least produce vermicompost for their own consumption so that they do not rely solely on chemical fertilisers.

C. Intervention and process :

For promoting vermicompost production, the State department of agriculture launched training-cum-demonstration programmes in each district. District Agriculture Officers discussed the programme with Project Director, ATMA and were given the responsibility to conduct the programme under the technical guidance of ATMA. The Project Director (PD), ATMA put this issue in front of all BTT members in the presence of the Training Organiser, KVK Chianki. Training responsibility was given to KVK. Five progressive vegetable growers selected from each block of the district were sent for a three-day training to KVK Chianki. In the course of the training programme, a brainstorming session was also organised to motivate and convince the farmers about the usage of vermicompost, underling the fact that crops grown using vermicompost as fertiliser are beneficial for human health as compared to those produced by application of chemical fertilisers. It was also informed that there is a high market demand for organically produced vegetables. The DAO also handed over a thousand earthworms to each farmer to start

vermicompost production. Out of 40 farmers, two, namely Sudarshan Singh of Belghara village in Patan block and Gupteswar Prasad Gupta of Arar village under Chatarpur block, lapped up this opportunity and started production. Within three months, they managed to produce 250 kg compost each. The number of earthworms also quadrupled.

D. Benefits and impact :

The quantity of compost produced in the first phase, 250 kg, due to its low nutrient content and slow acting nature alone may not be able to meet the nutritional requirement of high-yield crops. So it needs supplemental use of chemical fertilisers. Therefore keeping this in view, the benefits of organic manures as well as their inherent limitations were not calculated separately. But farmers feel that in the future, vermicompost has the potential to partly substitute chemical fertilisers. After seeing the results of vermicompost used in cabbage cultivation, farmers of the neighbouring villages also evinced interest in taking up vermicompost production. At least 30 farmers enrolled themselves with ATMA for a five-day training camp.

E. Lessons learnt :

(i) Vermicompost is particularly useful for farmers starved of resources.

(ii) The produce generated by the application of vermicompost can fetch the farmers with more financial output in comparison to that which has been fed with chemical fertilisers.

(iii) Vermicompost helps in long-term restoration of soil fertility.

CASE - I

ATMA, WEST SINGHBHUM

A. Title : Growing green with none to envy

B. Background :

West Singhbhum is spread over 5.98 lakh hectare of which 42.5 per cent land is under cultivation and forest cover exists over 21 per cent of the district. Around 36 per cent of the district is barren, expanding rapidly due to deforestation.

Realising the potential of the threat, Natural Resource Management has been identified as the thrust area in the Strategic Research and Extension Plan (SREP). The ATMA, West Singhbhum decided to play an active role in maintaining the ecological balance in the district and for it joined hands with the Department of Forestry. For the extension of forest cover, it was decided to promote timber plantation on barren land among the villagers. Shiv Shakti Plantation, a private firm from Orissa claiming to have developed fast growing tissue culture teak plants, approached ATMA for the promotion of their concept. The firm gave the assurance that the teak plants would mature in 12-15 years. On ATMA's insistence, they agreed to buy back the teak plants from the farmers. Apart from providing planting materials, the firm also agreed to provide the farmers with organic manure. Sensing that this too won't be enough to convince the farmers, ATMA insisted on replacement agreement. Shiv Shakti then agreed on one-year replacement guarantee. In the meantime, ATMA from its sources confirmed the credentials of the company and about their other ventures in Orissa. ATMA then associated itself with the awareness campaign.

Poresh Chandra Biruli of Surjabasa village under Jhinkpani block was the first to approach ATMA in this regard. Biruli owns about 7 hectare land, of which half lay barren. Regardless of best efforts, he was unable to utilise the land.

C. Intervention and process :

ATMA advised Biruli to go in for timber plantation and sent him along with a team of farmers to New Delhi Krishi-Expo in March 2003 for exposure. He was also sent for training to HARP, Plandu. ATMA furthermore arranged exposure visits to RRTTS, Semiliguda and Koraput in Orissa. After all these, he was convinced that his barren land could be made cultivable by plantation of timber trees. For his

convenience, ATMA officials linked him with Forest Department officials. The Forest Department arranged for him saplings of Sal, Mahogani, Gamahar and Neem. The department also acquainted him with the latest plantation techniques.

Biruli embarked on a plantation spree in June 2003 and by the end of the year, he had planted 200 sal saplings, 100 mahogani saplings, and 100 plants of gamhar. He had also planted some saplings of mango, jackfruit, blackberry, neem, karanj and bamboo. All the saplings are now almost a year old and have withstood the harshness of Nature. Baruli had carried out the exercise in two hectares.

Keeping other avenues open, ATMA in April 2003 had arranged a meeting of farmers with Shiv Shakti Plantation officials. During the meeting, Poresh and one more farmer Jairam Devgum of the same village agreed to plant 200 tissue culture teak plants. Later, through the efforts of Farm Information Advisory Committee (FIAC), Shiv Shakti Plantation was able to convince 10 more farmers of the district to grow teak plants. Thus, 10 hectare of wasteland in the district was brought under teak cultivation. The company officials paid regular visits to the plantation sites and also replaced the 'defective' plants as promised. After around a year, the experts too have certified the condition of trees as excellent. In the coming **Kharif** season, 20 more farmers are likely to take up teak plantation on their barren land.

Biruli, for his path-breaking efforts, was nominated member of the Governing Board of ATMA. Enthused further, he took the initiative of organising two animal husbandry camps in his village with the cooperation of Block Technical Team (BTT), Tantnagar.

The Commissioner and Secretary (Agriculture & Cane Development), Government of Jharkhand visited Surjabasa village on March 6, 2004 and appreciated Biruli's endeavours. Praising the role of ATMA, the Commissioner said, "Farmers like Biruli are doing a Yeoman's job in adding to the natural wealth of the district."

D. Lessons learnt :

(i) Policies should be formulated keeping in mind the micro needs of the region.

(ii) Exposure visits encourage farmers to take up innovative concepts.

(iii) While negotiating with private firms, the interests of the farmers should always be kept in mind.

(iv) Incentives like nomination as member of the Governing Board further enthuses the hardworking farmers.

CASE - II

ATMA, WEST SINGHBHUM

A. Title : From battle grounds to the fields

B. Background

Kulaburu village under Kumardungi block in West Singhbhum district is about 40 km from the district headquarters. The village, having a population of 1284, comprises mostly small and marginal farmers. Having a literacy rate of 24.7 per cent, the village fares better than its neighbours. The farmers despite being diligent were unable to become self-reliant in farming, and in the off-season were compelled to work as migrant labourers. Farming here was solely dependent on the monsoons, with 98 per cent of the cultivable land in the district being rain-fed. Farmers here were growing only one crop at a time – paddy, and pulses like **arhar** and **urad**. One small seasonal river named Kulaburu Karma Kola flows through the village holds rainwater till January. In 2002, Kulaburu was selected as one of the representative villages of Agro Ecological Situation II in the district and Participatory Rural Appraisal exercises were conducted for the preparation of Strategic Research and Extension Plan (SREP).

ATMA saw a potential to develop the irrigation system in the village for year-round farming by building check dams on the river. But there was no one in the village willing to take the initiative. ATMA then came across Manmohan Gagrai, who had retired from Indian Army in 1999 after 32 years of service. Post-retirement, he settled down in his native village and took up farming, but even his disciplined approach could not fetch him two crops from his field in the absence of irrigation facility. Initially he was reluctant to cooperate with ATMA but after much prodding by the ATMA technical team, Gagrai was convinced that need-based and location-specific strategic planning by ATMA could change the face of his village. He soon started taking keen interest in ATMA activities and was nominated the chairman of Farmers Advisory Committee (FAC) of Kumardangi block.

C. Intervention & Process :

The ATMA technical team advised Gagrai to persuade the villagers to build check dams on Kulaburu Karma Kola river but neither Gagrai nor the villagers were ready to realize the benefits of building check dams. ATMA in order to encourage him

arranged for his training on leadership development at Xavier Institute of Social Services (XISS), Ranchi, organised by SAMETI, Jharkhand. His visit to MANAGE, Hyderabad was also arranged. ATMA also provided him one-week training on soil & water conservation and vegetable cultivation at Training Centre, Hehal, Ranchi.

The exposure visits gave him enough confidence to emerge a farmer leader of the block and formed four Farmers Interest Groups (FIGs) with 58 farmers. After the 2003 monsoons, he motivated his group members to built two check dams at a distance of 100 feet apart with locally available stones. They also dug a 15 feet deep well beside the river. This effort resulted in the availability of sufficient water in the Rabi season. During the Rabi season 2003-04, the villagers cultivated crops on both flanks of the river as advised by the Block Technical Team (BTT) of ATMA. ATMA had also arranged Arkel variety of pea seeds for the farmers. One farmer of the village, Kulendra Pad Pingua, earned approximately Rs 8,000 from pea cultivation on a half-acre plot. ATMA also succeeded in introducing for the first time in the village Rabi -maize and farmers from nearby villages are also eagerly waiting to see the produce of this newly introduced crop. Members of the FIG have also cultivated mustard and wheat by irrigating their land from the water of the check dam. FIG members were also confident of successfully growing summer vegetables from the water available in the check dam. They have planted bottle gourd, ridge gourd, bitter gourd, French bean etc.

The land now on both flanks of the river projects a green look throughout the year. In appreciation of the villagers' hard work, the Block Development Officer of Kumardungi block has sanctioned two more pucca check dams for the village and work on the project has already started. Because of farmers like Gagrai, the village is all likely to be accorded the model village of the district status.

D. Lessons learnt and inferences drawn :

1. Stress should be given on optimum utilization of natural resources.
2. Risk factor for the farmers should be reduced by formation of groups.
3. Agriculture officers should identify farmers with leadership qualities and arrange for their training and exposure visits for encouragement.

CASE -III

ATMA, WEST SINGHBHUM

A. Title : Sweet is the fruit of labour

B. Background

Due to random deforestation, large tracts of land in West Singhbhum district are lying barren. As most of this fall under the category of tanr land, the laborious farmers were unable to use it for agriculture purposes. Lack of awareness was also posing hurdles on the path of extending the cultivable land. The farmers depending on traditional techniques had, in the past, tried to cultivate the land, but in vain.

However, Benjamin Purty of Gulruwan village in Goelkera Block was determined to fight the adversity. He had inherited large tracts of barren land. Benjamin after matriculating in 1978 wanted to be a teacher in his village school, but economic hardship came in his way. Having no other alternative, Benjamin along with his brothers Jhon Purty and Ignasius Purty decided to take up agriculture for a livelihood. The brothers with limited resources were at their wits end on how to utilise the barren land in their possession. Benjamin during a block-level Kisan Mela met Block Agriculture Officer (BAO) Janakdhari Singh and discussed his problem. Singh gave Benjamin the solution of planting fruit bearing plants, which would not only fetch him good returns but also make his land fertile. The Purty brothers after due consideration successfully planted some local variety of mango saplings. On Janakdhari Singh's guidance, Benjamin went to Ranchi Mullik Nursery, which incidentally was his first visit outside the district to purchase grafts of mango, litchi and guava. Further encouraged by the result, the brothers planted mango, papaya, banana, and naspati saplings.

The land on which not even a blade of grass grew was fast transforming into a green field. However, the villagers were still sceptical about their success, as the plants were yet to bear fruit. In 1993 when the plants started to bear fruit, the Purty brothers faced the problem of marketing it. The produce in the local market was not fetching adequate returns. The brothers decided to take their produce to Rourkela in the hope of better returns. They were pleasantly surprised, when their litchi in the Rourkela market not only fetched them good returns, but also became an instant hit.

C. Intervention & Process :

After the establishment of ATMA in the district, a team of experts visited Gulruwan village in November 2002. The team was surprised to know that no other farmer in the village had implemented the Purty brothers' success story. The team after interacting with the villagers realized that absence of good saplings had prevented them from following suit.

The team advised the Purty brothers to set up a nursery of fruit plants for business purpose. The ATMA team also arranged a training programme for the Benjamin at Horticulture and Agro-Forestry Research Programme (HARP), Plandu, Ranchi. Apart from visiting some private nurseries, Purty also learnt the art of cutting, grafting and air layering. He had started to sell saplings from his nursery to other farmers of the village by 2003 and was also imparting them advanced know-how. To replicate Benjamin Purty's success story, ATMA, West Singhbhum, decided to rope in Benjamin as a resource person and arranged for his visit to MANAGE, Hyderabad, for training and exposure. ATMA, in association with SAMETI, Ranchi, also organsied training and exposure visits for Ignasius Purty to RRTTS, Semiliguda and ATMA, Koraput in Orissa. Now, eight farmers in the village are fully engaged in fruit farming and have successfully planted Dasheri variety of Mango on their barren land. ATMA now plans to develop the village into a model village and has tagged the villagers with NABARD officials for grant of loan or subsidy for purchasing a vehicle to take their produce to the market. The group expects a favourable response from the bank by April-end.

D. Benifits & Impact :

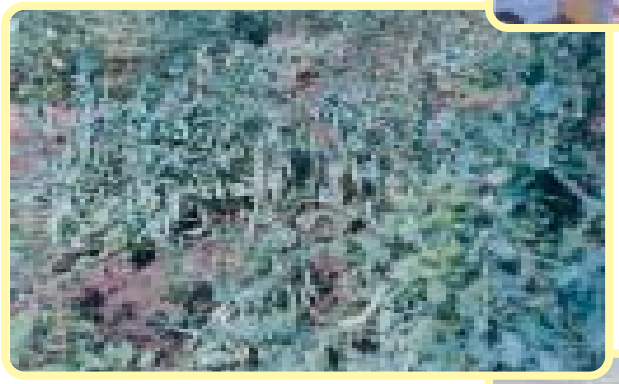
The annual income from the orchards in the village is expected to be around Rs 1.5 lakh. From the 'added' income, the villagers are able to send their children to Ranchi for higher education. Benjamin Purty has already bagged the best farmer award from the Chief Minister of Jharkhand.

Learning from experience, Benjamin adopting modern technology this Rabi season reaped a rich harvest of peas too. He, apart from forming a group of 20 farmers, is also promoting a woman farmers group on the lines of the one he saw in Andhra Pradesh. During his Koraput visit, he saw the farmers use perforated earthen pots for drip irrigation, which he successfully implemented in his village. Under ATMA's guidance, the village is fast prospering.

E. Lessons learnt & inferences drawn :

1. The success story of Purty brothers can be replicated in other regions of the State as well.
2. Timely intervention of experts holds the key.
3. Exposure visits and training programmes work wonders for enterprising farmers. If they encourage their brethren to take to similar ventures, the message disseminates easily.

SUCCESS STORIES OF ATMA - WEST SINGHBHUM



SUCCESS STORIES OF ATMA - WEST SINGHBHUM

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CASE - IV

ATMA, WEST SINGHBHUM

A. Title : Tapping the prosperity crawling beneath

B. Background :

ONE DAY an unemployed graduate named Lalit Mahato of Chainpur village under Chakradharpur block came to ATMA office at Chaibasa seeking job. He had read about ATMA in some newspaper. Chainpur is about 28-km from the district headquarter Chaibasa. The ATMA officials gave him a patient listening and came to know that he owns only a one-acre plot. The Project Director (PD) convinced him to go for self-employment and gave him some literature on off-season vegetable cultivation published by ATMA. However, he was not convinced about the success of off-season vegetable cultivation and was reluctant to take up the activity.

C. Intervention and process :

The ATMA, in order to clear his doubts, then decided to send him on exposure visit to Ranchi in May 2003. In course of his training, Mahato met some successful vegetable growers. The visit gave Mahato enough confidence to take up vegetable cultivation on his one-acre plot. The ATMA team advised Mahato to take up cultivation of tomato in Kharif Season. Mahato's effort was a path breaking exercise in the district. Cultivation of tomato in Kharif was an unheard of concept for the farmers of the districts. While several farmers made fun of him, Mahato was undeterred and abided by ATMA officials' advice. Those who made fun of him were surprised when Mahato reaped a 'moderate' harvest of Kharif tomato. Though the yield was much lower than expected, it fetched Mahato over Rs 10,000. His tomatoes were an instant hit in the local market.

D. Benefits and Impact :

ATMA officials then realising the geographic limitation of his land advised him to take to vermicompost production and use the same to augment vegetable yield. ATMA officials saw reluctance in him to take up the venture and taking into account his hard work decided to include him in the select group of farmer leaders. These farmer leaders were sent to MANAGE, Hyderabad for training in vermicompost. At Hyderabad apart from undergoing extensive training on vermicompost production, Mahato also visited the field of farmers who have successfully adopted

vermicompost production.

The ATMA officials were pleasantly surprised when he one day informed them that he has started vermicompost production on his field. Earthworm the basic ingredient for vermicompost production was found in abundance in his field and being an enterprising farmer he used them for vermicompost production. The ATMA team during one of the visits found that his vermicompost venture was totally indigenous and self-dependent. Apart from earthworms, Mahato was using household waste and cow dung for production of vermicompost. He was producing enough vermicompost to meet his own agricultural needs.

In 2003, he took one more acre of land on lease for vegetable cultivation. He successfully grew brinjal, cauliflower, pea and pumpkin in the 2003-2004 Rabi season and was the first farmer to sell brinjal in Chakradharpur and Chaibasa markets. The brinjals of other farmers, which arrived late at the market, could not match his quality and Mahato went on to earn over Rs 20,000 from brinjal alone. By selling other vegetables like pea, cauliflower and pumpkin, Mahato earned another Rs 20,000. Mahato had a couple of years ago in his wildest of dreams had not thought of earning this much in one season.

With success behind his back, Mahato now contemplates to take up mushroom cultivation and has already undergone a training organised by Farm Information Advisory Centre (FIAC) of Chakradharpur.

Mahato's successful experiments have enthused other villagers to take up off-season vegetable cultivation and he volunteers in giving them the right advice. Other farmers of the village have now approached the ATMA to organise training for them in vermicompost production.

E. Lessons Learnt :

1. Even farmers with small landholding can prosper if the land is put to judicious use.
2. Off-season produce fetches a better price.
3. Farmers should be encouraged to adopt production of vermicompost as it is not only cost effective but also augments yield.
4. Enterprising efforts of farmers should be encouraged by agriculture officers in form of recommending their names for training programmes.

CASE - V

ATMA, WEST SINGHBHUM

A. Title : Hybrid rice breeds content

B. Background :

There is very little lowland in Guda village under Jhinkpani block of West Singhbhum district. In the absence of any irrigation facility, the farmers of the village depend on the monsoons to grow Kharif crops like paddy and this too they are unable to do successfully because of the poor land quality. There was no dearth of laborious farmers in the village and the villagers had more or less resigned to their fate in the face of adverse nature.

But Sanjay Balmuchu, a tribal farmer of the village was determined to change his lot. He was holding five acres of land, of which 3 acres fell under upland category and 2 acres was midland. He also owned a pair of bullocks and a country cow. He has taken education up to the Intermediate level. From farming he was managing his six-member family. He had been growing direct sown paddy and some vegetables in his kitchen garden, which could hardly fulfil his family's need.

Balmuchu came in contact with ATMA during the formation of Farmers Advisory Committee (FAC) at the block level. The Project Director, ATMA, saw in him leadership potential and acquainted him with the activities of ATMA. Balmuchu too was impressed and became a frequent visitor to the ATMA office. He even took the initiative to organise a meeting in his village in which the ATMA officials participated. After the meeting, Balmuchu started forming Farmers Interest Group (FIG) and soon became the chairman of the FAC, Jhinkpani block.

C. Intervention and process

Being the FAC leader, he had the opportunity to participate in various training and exposure visits organised by ATMA. He underwent training in "Leadership Development" at Xavier Institute of Social Service (XISS), Ranchi, and also visited MANAGE, Hyderabad, where he interacted with various Self Help Groups (SHGs) of Andhra Pradesh. He was also given training in off-season vegetable cultivation at the Horticulture and Agro Forestry Research Programme (HARP), Palandu, Ranchi.

Balmuchu was convinced that the land in his possession was capable of giving him a good yield if cultivated using latest techniques. The experts from ATMA advised

him to grow arhar-based intercropping in upland areas of his village on community basis. As an antidote for the acidic soil of the village, the ATMA advised the farmers to use locally available dolomite. Deputy Project Director, ATMA, also gave demonstrations on the use of *Rhizobium* culture for arhar seed inoculation. As *Rhizobium* culture was an alien concept for the farmers, ATMA distributed *Rhizobium* culture packets for arhar.

The farmers planted maize, urad, paddy, moong etc, depending on their choice, between two rows of arhar. Altogether 25 acres of land in the village was brought under arhar cultivation and the farmers despite a drought succeeded in having a good yield.

A small nullah also flows through the village and ATMA intended optimum utilization of its water for agriculture purpose. Though the farmers having land on the banks of the nullah were using it for cultivation but were unable to get high returns for adopting primitive farming technology. ATMA counselled Balmuchu, who had a one-acre plot on the bank of the river, to grow hybrid rice on a trial basis. Earlier he was cultivating local variety paddy, which fetched him hardly 4-5 quintal yield worth Rs 1,500. The high cost of the hybrid seeds acted as a deterrent for which ATMA offered him the seeds at 50 per cent subsidy. To cut down on fertilizer cost, ATMA suggested Balmuchu to use neem cake during puddling, which was found in abundance locally. Soon farmers from neighbouring villages came to see his crop of hybrid rice. Sri V. S. Pangtey, Director (Extension Management), Ministry of Agriculture, GOI and Dr A. K. Sarkar, Director (SAMETI), Jharkhand also visited his field. They all praised Balmuchu for daring to experiment and showing the villagers the road to prosperity.

His hybrid rice crop has given him a 25-quintal yield, whose market price is Rs 12,500. Balmuchu was immensely satisfied for he had invested only Rs 2,000. Commissioner & Secretary, Department of Agriculture and Cane Development, Government of Jharkhand, met Balmuchu on March 6, 2004 and sought his experiences of growing hybrid rice. The Commissioner was particularly interested in knowing whether Balmuchu had faced any difficulty in controlling the menace of pests. He was pleasantly surprised when the farmer told him that the locally available neem cakes he had applied to the fields before transplanting took care of the pests.

Apart from hybrid rice, Balmuchu also cultivated capsicum. This he had learnt during his training programme at HARP. The cultivation of high-value vegetables like capsicum was a pioneering effort in the district.

D. Lessons Learnt

1. Seasonal rivers and nullahs should be exploited to the hilt for developing irrigation systems.
2. Cultivation of high-yield hybrid rice should be promoted among farmers above the poverty line, and help should be extended to them for developing irrigation systems.
3. Training and exposure visits for such farmers can do wonders.
4. The concept of cultivation of high-value vegetables should be promoted among the farmers for supplementing their income.

CASE - VI

ATMA, WEST SINGHBHUM

Title : I.T. Success Story of ATMA, West Singhbhum

Information and communication technology (ICTs) is transforming our lives, creating wealth and impact on leaving every facet of human endeavor. It is time that the full potential of the ICT is harnessed to serve the specific needs of farming communities. New information and communication technologies can accelerate broad-based rural growth and by increasing awareness, help make it a central pillar of overall development strategy.

IT is playing a major role in agriculture sector in the developed countries. Precision Agriculture, decision support systems in agriculture, agricultural marketing, quality control and standards, environment control systems, water management systems, automation in process control are some of the major areas in which I.T. is being used.

Great opportunities exist for the developing world especially in India to harness the power of IT to improve the agriculture sector. The only limiting factor is the access to the tools of I.T., especially the internet, to our rural masses. However considering the massive advantage of I.T. in terms of benefits which will accrue, it will be a most prudent investment to ensure access of I.T. tools to rural areas.

When ATMA started in the West Singhbhum district in the year 2002, the district despite having rich in mineral resources could not have the benefit of I.T. There was some computer shops operating in the district which where doing DTP works. Among the Govt. office situated at the district head quarter only D.C and DDC offices had one computer each in which routine typing work were done. In the year 2003 ATMA office purchased 22 personal computers with printer, UPS, Modem etc. This was the big news in the district as this was the first time that such large number of computer was purchased at a time. To create awareness among officials, ATMA decided to provide the requisite computer training to the officers before giving computer set to the line departments.

The first training programme on "*Basic Skills in Information Technology*" organized at ATMA Dumka from 23rd-27th June 2003 in which six members participated from West Singhbhum. Later ATMA West Singhbhum organized one training programme on "*Basic Skill in Information Technology*" from 16th –18th August, 2003 at ATMA

office, Chaibasa in which officials and line departments, scientist from KVK and FIAC members from different blocks (35 members) participated. This was the first opportunity for many of them to touch the Computer Set. This training created a lot of interest among the participants and every body wanted to have one computer set at their office. After this training programme computers were provided to line departments such as Dist. Agril. Office Dist. Horticulture Office, Dist Soil Conservation Office, Dist Fishery Office, Dist. Animal Husbandry Office, Dist Sericulture Office and KVK, Jagannathpur. PCs were also provided to ten FIAC of different blocks. Since FIAC buildings were not in place at that time so, the computers were given to Block Development Officer (BDO) with a request to provide one room in Block Office for computer from where FIAC can function. To insure that these computers were put in operation, IT Facilitator Sri Sachin Kumar visited all the Ten Blocks and Seven line departments (Including KVK) for two days each. Our IT Facilitator installed the computer sets in all the places and trained one or two person of the office to start the work in the computer. Now our computer has been extensively used by line department and KVK for data entry, report preparation and presentation etc. In the Blocks our computers are also used by B.D.O. thus the computer culture was initiative in the district.

One full Time I.T. Facilitator (Mr. Sachin Kumar) is working in the ATMA office and one lady appointed as a typist now become computer operator and she can able to operate computer and data entry work both in English and Hindi.. through which farmer problems queries are solved through Post Card. We are storing these question and answer on computer and we will supply this frequent Asked Question (FAQ) C.D to all the FIAC Blocks. so that farmer can solve their problems at Block level.

ATMA office at chaibasa had procured a LCD Projector, Digital Camera, OHP, Xerox Machine, Scanner, CD Writter, Laser Jet Printer and One Inkjet Printer. Now our office and conference hall is treated as one of the best-equipped office in the district. We have two-telephone line and one Internet connection. We received near about 20-25 E-Mails from other office per month and about 10-15 Web site are browsed on it in a month. The utility of our multimedia projector was felt when our A.P.C. visited our district on 5-6 March 2003. Through our L.C.D. Projector we are able to present our work done in the farmers field. After seeing our presentation A.P.C. wanted to meet one successful hybrid rice tribal farmer and enquire about the yield got by farmer and highly impressed by it. Thus by utilizing IT equipment we can document, reproduced, our work in effective and efficient

manner. The line department officers, who were hesitant to use computer as they have impression that the computer was no help to them, have realized their folly and are using it efficiently in their day-to-day work. A majority of them has even started using E-mail and exploring web sites for more information related to them. Thus the district line department officers as well as Block levels officials are now become at least computer literate and using it effectively, thus the computer set provided by ATMA along with training has a big role in computer literacy in the district as a whole.

Lesson Learnt

1. Regular-training should be imparted to the district officials, so that they can utilize their computers effectively.
2. At the FIAC the computer lab be used as information box in which the technical information will be stored in a user friendly way.
3. The new computer literates should be encouraged to explore the computer on their own.
4. I.T. equipment can be utilized for effective or efficient communication.

ATMA, West Singhbhum has developed his own web site and uploaded in MANAGE server. The address is **www.manage.gov.in\atma-wsm\home.html.** Prior to our web site their was no web site in the district other that of N.I.C. In this Web-Site we have provided all the background information like, Demographic, Social, Cultural, Geographical & Economical activities of the district. Our SREP is also available in this Web Site.

The general software's used in our office are MS Windows (OS), MS OFFICE (WORD, EXCEL, POWERPOINT, ACCESS), ADOBE PAGE MAKER ADOBE PHOTO SHOP, MS FRONT PAGE, INTERNET EXPLORER, COREL DRAW etc..

We have developed/purchased some CD related to Agriculture Problems. Which has been downloaded in the computers of all FIAC. The CD are related to Crop Production, Plant Protection, SHG, Water Shed Development, MANAGE CD, Technical Bulletin of ATMA and success stories of ATMA. The CD are user friendly and even a lay farmer can operate it to solve their small problems. ATMA West Singhbhum has launched 'JAWABI POST CARD YOJNA"