

ANNUAL REPORT OF FINANCIAL YEAR 2012-13

Project Name: Extension of SRI Promotion in the poverty regions of Chhattisgarh, Bihar and Assam with small farmers

Funding Agency: Sir Dorabji Tata Trust (SDTT), Mumbai

Lead Agency: Professional Assistance for Development Action (PRADAN)

Implementing Agency: Agrocrats' Society for Rural Development (ASORD)

Project Districts: Gariyaband, Bilaspur & North Bastar

Duration of Project: 2010 - 2013

Project Budget in FY 12-13: Rs. 5,20,439.00

Introduction & Objective of the Programme:

Farming livelihoods are severely affected owing to high costs of production, lowering net incomes which are resulted from deviation of production practices from sustainable resources and technologies. In the era of modern agriculture, external dependency has become a main feature in terms of almost every input in agriculture, viz., seed, plant nutrients, pest management, machinery and even advisories. Often the solutions are creating new problems and aggravating the existing distress. Several reports confirm the fact that the present ecological crisis has contribution from agricultural inputs viz., chemical fertilisers, pesticides, machinery etc. The factor productivity of chemicals has come down and the



economic burden on the nation is severely growing. In this context, there is need for safe, internalised and productive alternatives in agriculture production technologies.



The primary objective of the project is to introduce Systematic Rice Intensification in Paddy through community managed sustainable agriculture (CMSA) systems by the mode of demonstration in fields of the participating farmers. Sustainable agriculture works on basic principles like internalisation of inputs, using natural

resources and processes, and skills. It reduces the costs of production thereby giving higher returns. As it internalises the use of resources, resource management is very essential



component. Particularly in this package of sustainable agriculture technologies, women actively involve and make significant impact in their livelihoods. This technique results in substantial enhancement of agricultural production without increasing the input cost. It is therefore ideally suited for poor farmers who do not have resources.

Relevance of the Project to the Sector:

The Green Revolution increased agricultural production for many farmers in the state and achieved significant gains in terms of food security. However, many of the small-farm holders in rain-fed and resource poor areas did not benefit much from Green Revolution technology and credit. Of the small-farm holders who have been using chemical fertilizers and pesticides, many are caught in the debt trap due to the high cost of those fertilizers, lack of credit, poor access to markets, and lack of surplus. This has resulted in low profitability agriculture, and many smallholders have dropped out of the sector and either migrating from the villages or engaged in the labour job in urban areas.

During Rabi 2010, ASORD has initiated a six months pilot project on sustainable agriculture being implemented in 5 villages of each with 200 farmers in Churra and Gariyabandh block of Raipur district. The experiences on Non Pesticide Management and other soil fertility sustainable agriculture practices driven through community managed system shows a significant change in involved farmers. Women also worked interestingly in making homemade pesticides and organic manures. Yield economic data illustrated that the farmers' able to reduce 10 percent input cost and yield has been increased up to 10 percent. At the end of the project period, 100 more farmers identified from the same villages those are ready to adopt the SA techniques including SRI.

The huge proximity enjoyed by the organization with the farmers in the project area through-out and the understanding of various programmes and tribal dynamics, certainly will derive added advantage for the proposed programmes implementation to the organization. Also the organization is sufficient with skills, resources, technologies and institutions which are usually required for any agricultural and livelihood initiations. Last but not the least the organizations past experience on income generating methods specially agriculture related issues, SHG managements and agricultural experiments already carved out a separate niche for the organization in the state and its influencing power on govt, will act as contributory factors for the proposed programme.

Brief About Implementing Agency:

ASORD was established on 28th November 1995 under Society Registration Act (Regd. No. 2833) was established for an artistic change in the rural social system of small and marginal community through diversified and sustainable system. We moved ahead in direction, of social and economic upliftment of downtrodden tribal families by providing inputs for economic development for sustainable livelihoods through various income generating activities in agriculture, animal husbandry, horticulture, MFP & allied enterprises with our commitment for sustainable development with **vision of "Vasudhev Kutumbakam & advancement of human welfare" & mission "Growth with Equity"**.

The organization is governed by 7 member executive managing board and project coordinators supported by field executives & village executives. The head office is situated at capital of Chhattisgarh and 5 regional offices are established in different districts i.e. Bilaspur, Naryanpur, Kanker, Kabirdham and Gariyabandh. During past years, we had

implemented many development projects in the tribal and rural areas of approximately 450 villages. The impacts of the projects were quite attractive and enthusiastic and due to result of which the villagers had gained very much to join the stream of development. We have formed 1300 CIG's in order to earn their livelihood. The organization is having well experienced technically qualified human resources in the field of rural technology, economics, anthropologist, agriculture, horticulture, survey monitoring and evaluation etc. Its young enthusiastic and energetic team carries out the planning and implementing activities.

ASORD had specially implemented many agricultural development related projects for livelihood promotion in the five districts of the state. The major projects implemented by agency are related to ASORD badi model, community bore wells, national horticulture mission, income generating activities related to cultivation of fruit plantation, medicinal & aromatic crops, etc. ASORD is having the expertise & experienced man power in the field of agriculture. The experts belong to the field of agriculture entomology, agriculture extension, rural technology & management & agriculture engineering.

In relation to SRI in rice, we had provided trainings to the farmers' common interest groups with the support of Indira Gandhi Agricultural University last year. These farmers groups had adopted SRI in 15 acres in last year Kharif. During Rabi 2010, organisation had implemented a pilot project on Community Managed Sustainable Systems in Paddy through SRI in collaboration with Centre for Sustainable Agriculture, Hyderabad with the support of World Bank. During this season 15 farmers adopted the SRI systems under technical guidance of ASORD and got successful results.

Selection of Farmers, Area & village:

ASORD had implemented the project in villages of Chhura, Narharpur & Takhatpur block of Gariyaband district (undivided Raipur District), North Bastar & Bilaspur District in this year. The farmers were selected as per their attitude towards adopting innovative techniques of crop production to increase their crop yield. The total villages selected under the project are 42 (Chhura – 29, North Bastar – 6 & Bilaspur – 7). During current financial year in all 1304 farmers were benefited out of which in Chhura – 1004, North Bastar – 200 & Bilaspur – 100 i.e. 462 old farmers and 842 new farmers. The average area is 0.39 acres in comparison to the last year area of 0.27 acres.

Process & Methods followed through out the project period:

The project was implemented through field level demonstration with the selected farmers and trainings followed by handholding support. This intervention will be used for expansion of SRI with in the project through CMSA techniques. The interventions taken under the project were following:

- Selection of healthy seeds through salt treatment, cow urine, cow dung & wood ash
- Introduction to Systematic Rice Intensification technique



- Training and building skills
- Introduction of community managed sustainable agriculture systems like ecological farming with the application of various cow urine – dung based mixtures (Jeevamruit, Ghan Jeevamruit, Panchgavya, etc.), botanicals (chilli garlic paste, neemastra, etc.)
- Field level demonstration

The main strategies adopted to implement the project was: a) Identification of farmer having the nature to adopt something innovative; b) They will be trained to understand the process of SRI through training & video shows; c) Mass awareness campaigns will be organised by wall writing, pamphlet distribution, meetings, etc.; d) Selection of healthy seeds through salt treatment, cow urine, cow dung & wood ash; e) Prepare the nursery bed & the land; f)



Sowing the 10-12 days seedlings in the field; g) Two weeding, one after 30DAS & another 55 DAS; h) Application of various cow urine – dung based mixtures (Jeevamruit, Ghan Jeevamruit, Panchgavya, etc.), botanicals (chilli garlic paste, neemastra, etc.) in regular intervals. The special strategy was organisation of Farm Field Schools (FFS) for introducing the methods to non-beneficiary farmers.

Inputs & Implements supplied:

The Ambika weeder and organic manure was mainly distributed among the farmers with the project budget, but in convergence support of seed, fertiliser, bio fungicide, etc. was distributed among the farmers. The details of inputs and implements supplied are following:

Sl. No	Component(s)	Unit	Rate	Number	Govt liverage (INR)	Contribution from CSOs (INR)	Total cost (INR)
1.	Weeder	No.	620.00	230	67200.00	144900.00	212100.00
2.	Marker	No.	225.00	64	0.00	14400.00	14400.00
3.	Organic Manure	No.	100.00	350	0.00	35000.00	35000.00
4.	Seeds	Kgs.	1611.00	1200	1933200.00	0.00	1933200.00
5.	Zinc	Kgs.	640.00	50	32000.00	0.00	32000.00
6.	Bio pesticide	Kgs.	410.00	1	410.00	0.00	410.00
7.	Bio fungicide	Kgs.	300.00	50	15000.00	0.00	15000.00
8.	Micro nutrient	Lts.	250.00	50	12500.00	0.00	12500.00
9.	Seed Drum	No.	1900.00	2	3800.00	0.00	3800.00
10.	Tricoderma	Kgs.	100.00	15	1500.00	0.00	1500.00
11.	Weedicide	Lts.	499.00	50	24950.00	0.00	24950.00
12.	Land Preperation	Ha	1200.00	50	60000.00	0.00	60000.00
							2344860.00

Awareness Programme:

This year different mass awareness programmes like exposure visit, trainings, field visits, village adhiveshan, farmers meeting, etc. were organised. There are a number of government-funded programmes for supporting farmers to improve their productivity, improve their soils, the diversification of cropping patterns and the transition to organic farming. Due to a lack of design and implementation capacity, the resources for these programmes are presently underutilised. Establishing a good learning and management system on technical aspects The details of which are following:



i	Awareness Generation (30 person per Event) - Number of Events	5
ii	Number of Farmers Exposed to Local Demonstration	82
iii	Training and on field support to farmers (Number of farmers supported)	471
iv	No. of KISAN MELA organised (Number of Event)	2
v	Sample collection (No. of farmers)	358
vi	Training of village level Resource persons (15 CRPs per Event, per 50 Farmers 1 CRP)-No. of Event	1

Salient Achievements:

a. Yields and Net incomes

The results shows that yields of paddy in both organic and chemical farming are on par, whereas the net incomes are high as the costs of cultivation are lower for organic production systems. While the yields in chemical and organic/NPM gave almost similar yields, the higher costs of external purchased inputs like seed, chemical fertilisers and pesticides have made chemical farming



unviable. The yields can be increased at least by another 10 % by having good quality seeds, improving soil fertility and moving into diversified farming.

This year the average grain yield of 20.51 quintals/acre was achieved by farmers, whereas the straw yield of 12.69 quintals/acre. The average duration of variety is 128 days with plant height of 117.63 cms. The average number of tillers is 14 tillers/hill & panicle length of 23.31 cms, having 213.74 filled grains and 5.36 chaffy grains per panicle. The test weight of 1000 grains is 25.94 grams and crop cutting yield of grains and straw is 13.40 kgs and 8.51 kgs, respectively.



The main impact of the project was the food availability to the farm family has been increased from 206.26 days to 238.92 days, whereas the income increased from Rs. 7350.61 to Rs. 9985.49 by selling paddy and straw.

b. Knowledge and skills:

The farmers were not having vital skills on sustainable practices. They were not proactively engaged in managing pests, soil fertility but very reactively. The farmers were resorting to chemicals for pest, soil and disease management. Even the village level available resources were not handled properly. Especially the FYM was being badly stored and after they were trained on aerated composting, nearly 200 heaps were set up in this block. All the farmers have the capacity and skill to prepare Jiwamrit. 50 percent of the farmers acquired the knowledge of classifying the insects in their crop ecology based on the insect behaviour.

c. Women Empowerment

The main objective of the initiative was to empower the women from tribal villages to handle their food production in a more sustainable way. Being highly traditional areas where women participation and exposure to outside world is minimal, mobilising women to take active part in the initiative was an uphill task. While initially the women never turned up, slowly the FFS progressed women started participating. Encouraged by the results from the Rabi crop harvests, women started taking active part in the FFS trainings.

Cost Benefit Analysis:

The costs of cultivation (rupees per acre) were recorded from the 25% sample of the participating farmers. The values are from the Kharif season. The shift has shown that there is a significant impact on reduction of costs of cultivation. The savings for organic farmers were mainly in fertiliser and pesticides consumption, but the savings were almost negated by the use of organic preparations like jeevamrit, more of FYM, panchagavya etc as it was the first year where farmer could not learn how to do it. These products can be internalised as farm produced products which can reduce these costs. Another scope is to develop group enterprises which produce such products and make their livelihoods. There is scope for internalising the seed costs as well. The cost benefit analysis of 358 farmers and 0.34 acres SRI area is as follows:

Sl. No.	Item	Amount
A.	Cost of Production	
a	Input	451.87
b	Human Labour	1616.00
c	Machinery Rent	788.52
	Total Cost of Production	2856.39
B.	Total Yield	
a.	Grain Yield	9429
b.	Straw Yield	373.2
	Total Yield	9802.2
C.	Total Income from 0.34 acre	9802.2
D.	Net Income from 0.34 acre	6945.81
E.	Cost Benefit Ration	2.43