

VILLAGE SEED BANK THROUGH INFORMAL SEED PRODUCTION



**Odisha Tribal Empowerment &
Livelihoods Programme**
(ST & SC Development Department)

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Introduction

Seed is the basic input in Agriculture. The quality of seed used by the farmers determines the status of agriculture they practise. Farmers have realised that productivity of different crops increases significantly due to use of quality seeds. But it is almost impossible for the organised seed sector (government & private) to meet the demand of seeds by the farmers. Moreover, it becomes difficult for supply of quality seeds to most of the inaccessible areas. The availability of appropriate kind of seed is highly significant for agriculture. The ways that farmers obtain seeds are as old as agriculture and most small scale farmers routinely have their seed from one harvest to the next. The formal seed sector in Odisha is represented by Odisha State Seeds Corporation Ltd. (OSSC), Department of Agriculture, Odisha University of Agriculture and Technology (OUAT) and private seed growers / dealers with support from OUAT. Informal seed sector includes own saved seeds, borrowing from others, village seed bank and local seed trade which contribute to about 75% of seed requirement of the farmers of the state.

Need of Village Seed Bank (VSB)

The village seed bank (VSB) advocates village self sufficiency in production and distribution of quality seeds with utmost transparency, mutual trust and social responsibility of the farmer towards fellow farmers. Besides, the seed bank helps the farmers in getting the seed in right time at the door step at lower price than the market price. It is promoted to reduce their dependency on external inputs.

Concept of Village Seed Bank (VSB)

A network of farmers is organized for exchange of seeds, exchange of information and ideas. The seeds are supplied to the farmers which are procured from the farmers who are already cultivating them in the local area and surrounding areas or from authentic sources. Farmers who are interested in cultivating these varieties are given the technical knowhow on production of seeds. At the end of the production season, the farmers supply the seeds to the seed bank operated



by SHG. The seeds procured by SHG are given to other farmers in the next season which has a multiplying effect. The seed bank is organized in such a manner that the collection made on sale of seeds creates a revolving fund and the community takes over the management of it in due course of time.

Interventions to strengthen informal seed supply systems, such as establishing seed banks, and multiplication of preferred varieties of seeds are gaining popularity among Non Government Organisation (NGO) and public sector institutions engaged in the area of seed supply. Village seed banks are one of the important methods to provide seed security and conserve agro biodiversity. They guard depletion and pollution of water, mono cropping and peasants' indebtedness which are among the many disadvantages of using genetically engineered high yielding varieties that require the use of large quantity of pesticides.

Functioning of Village Seed Bank (VSB)

Seed Bank is not just a store house where seed is kept for distribution or marketing or a sophisticated storage facility which is controlled for temperature and humidity. It is an important self help strategy for maintaining genetic diversity in crop and plant species on farms. Farmers through this seed bank develop skills to meet their specific needs relating to quality of seeds, resistance to pests and diseases.

Traditionally, seed preservation has been women's role, and their knowledge of seeds has been extensive. Therefore, women play a major role in the conservation of diversity at the farm level. The SHG members therefore identify the progressive farmers of the village interested for seed production. The seed productions of different crops with varieties are decided by the SHGs depending upon the demand in the locality. The inputs required for seed production is arranged by the seed grower at his own cost. The SMSs of the ITDAs in the districts facilitate in obtaining inputs for the seed growers. The seed produced by the growers is procured by the SHG. After processing and packing the same, are stored in the seed banks operated by SHGs and marketed to the farmers of the village



and local areas. It is women of self help groups who decide on the quantity of seed and selections of varieties to be stored in the seed bank.

Process

i. Formation and management of village seed bank:

The Agriculture Officer/Horticulture Expert/Watershed Development Team (WDT) Agriculture identify one Women Self Help Group (WSHG) in the seed production village willing to promote seed bank in consultation with Village Development Committee (VDC) / Village Level Sub-Committee (VLSC). No member from the identified WSHG takes up seed production. Village seed bank has been considered as an enterprise and WSHGs have availed credit required for the purpose available under Rural Financial Services (RFS) as revolving fund. The revolving fund is available with the VDC. The VDC releases funds to the respective WSHGs depending upon their plan and programme. The WSHG avail loan from VDC which is to be refunded with interest to VDC. The revolving fund with VDC increases day by day as WSHGs pay the interest for the loan taken by them.

ii. Survey:

Agriculture Officer / Horticulture Expert /WDT, Agriculture carries the survey work to assess the ground situation and ascertain the demand for different types of seeds for various crops. The potential farmer (progressive farmers) and lands (good soil fertility, leveled land, bunded plots, with irrigation facility) are identified after which the requirement of different seeds is assessed.

iii. Capacity building of seed growers:

The seed growers are trained on production of quality seeds, storage and distribution twice, once before sowing and second after harvest of crops in clusters preferably in one of the seed production villages. Potential trainers for capacity building of the farmers on production of pure and healthy seeds of a specific crop and variety are identified. Course modules





Seed Bank Training at Nawrangpur

on technical details of seed production are also finalized by the potential trainers in consultation with Agriculture Officer / Horticulture Expert. The course content of the training programme includes purity of seeds, maximum isolation distance in cross pollinated crops, roguing of off type before flowering, pest and disease management and separated threshing of each variety, proper drying and storage management. The agriculture officers of Odisha Tribal Empowerment Livelihoods Programme (OTELP) are also exposed to Odisha State Seed Corporation Ltd. to learn more about seed production, processing, preservation and pest management. The capacity building programmes are organized for the farmers twice to three times in the districts on different processes of seed bank where the seed banks are established.

iv. Arrangement of seeds and inputs for seed growers:

Agriculture Officer / Horticulture Expert / WDT Agriculture facilitate the seed growers (where seed bank established) for procurement of breeder /



foundation / certified seeds of different crops and their varieties sufficiently ahead of the season. The Agriculture Officer / Horticulture Expert / WDT (Agriculture) also facilitate the seed grower for procurement of different agro inputs (FYM / Compost / Vermi Compost, Bio-Fertiliser other organics, Neem pesticides as per requirement, Gypsum and Borax in case of groundnut seed production).

v. Sowing and cultural practices of the crops by seed growers.



Line transplanting by women farmers



Land Preparation by farmers

The Agriculture Officer / Horticulture Expert / WDT (Agriculture) facilitate timely sowing of seeds with proper treatment following cultural practices i.e. seed rate, right spacing, seedling technique, nutrient management, appropriate soil & moisture conservation measures, pest and diseases, surveillance and management, removal of rogues before harvesting, right harvesting time and avoiding mixing of different varieties while harvesting / threshing. Adopting this practice will not only increase the production but also enhance the knowledge of the seed growers.



Weeding by a farmer



vi. Monitoring of Seed Production

The Agriculture Officer / Horticulture Expert / WDT (Agriculture), Seed growers and WSHG members jointly inspect the seed production plots. The seed growers are assisted with appropriated technical guidance by the experts in different steps of seed production such as identification of varietal characters, removing the off – types, management of the diseases and pests, timely harvesting and proper threshing.



Roguing by women farmers in the field

vii. Seed Procurement by women SHG from Seed Growers



Graded paddy seed-close up view



Grading of seeds before procurement

After harvest of crop, the seeds are dried to the prescribed moisture content. Prior to procurement, the quality of seeds is inspected by grower, other farmers of the village and women SHG members. Being satisfied with the quality, the seeds are procured after proper cleaning and grading. The cleaning are done with the help of winnower. For grading purposes, the sieves fitted to a wooden frame are used. The procurement price of seeds excluding the cost of container and other allied materials are fixed by women SHG members and seed grower in consultation with VDC / VLSC members taking into consideration of prevailing market price.



viii. Seed Storage Management

The seeds procured by WSHG are stored in the VDC Building having proper ventilation, hi plinth, free from leaks and dampness, rodent and bird damage. The Agriculture Officer / Horticulture Expert / WDT (Agriculture) facilitate the WSHG for proper storage of seeds. The self help group members are provided with stitching machine for packing of seeds in High Density Poly Ethelene (HDPE) bags.

ix. Selling Price of seeds by women SHG to farmers for next season.

The women SHG members and seed growers in consultation with VDC / VLSC members fix up the selling price of seed for the next season taking into consideration the market price of seed



Packing of seeds in HDPE bags



Storage of seeds in Godown

and grains along with procurement price, interest on investment for procurement of seeds, cost of packing materials, storage charges, processing charges and incentive to SHG.



Achievements

The quantities of different kind of seeds procured by WSHGs of different ITDA during 2011-2012 to keep in seed banks and net profit on sale of seeds are indicated below:

Sl.No.	Name of ITDA	Nos of Blocks	VDC	SHG	Crop	Quantity (Quintals)	Procurement Cost(Rs.)	Selling Cost (Rs)	Net Profit (Rs.)
1	Koraput	4	4	4	Paddy	80.0	71,784.00	96,000.00	24,216.00
					Ragi	6.2	7,406.00	10,200.00	2794.00
					G.Nut	6.0	12,207.00	18,000.00	5,793.00
					Niger	0.80	1,631.00	2,400.00	769.00
					Chick Pea	1.2	5,031.00	7,000.00	1,967.00
2	Malkangiri	3	11	11	Paddy	127.5	1,09,036.00	1,52,280.00	43,244.00
3	Gunupur	5	13	17	Paddy	470.00	4,36,500.00	5,64,000.00	127,500.00
					Black Gram	3.5	12,250.00	13,300.00	1050.00
					Green Gram	1	4,000.00	4,300.00	300.00
4	Paralakhemundi	2	9	10	Paddy	433.5	4,94,190.00	5,05,461.00	11,271.00
					G.nut	6.00	18000.00	21000	3.000.00
					Chick Pea	1	5000.00	6500.00	1500.00
5	Nawarangpur	3	9	9	Paddy	173.0	1,62,000.00	2,07,600.00	45,600.00
6	Th. Rampur	2	15	15	Paddy	76.5	57,375.00	84,150.00	26,775.00
					Chick Pea	0.30	1,500.00	2100.00	600.00
7	Balliguda	4	17	17	Paddy	64	72,448.00	83,200.00	10,752.00
					Pigeon Pea	1	4500.00	5,000.00	500.00
					Chick Pea	2	10,000.00	14,000.00	4,000.00

Way Forward

In the light of success of village seed bank through informal seed production during 2011-12, the informal seed production programme has been taken up during khariff 2012-13 in different ITDA areas as given below.

Sl.No.	Name of ITDA	Production target (Quintal)								
		Paddy	Ragi	Koda	Suan	Ground nut	Niger	Black Gram	Pigeon Pea	Dhan icha
1	Koraput	320.00	30.00	15.00	6.00	150.00	8.00	0.00	0.00	4.00
2	Malkangiri	320.00	10.00	6.00	0.00	0.00	0.00	0.00	0.00	4.00
3	Gunupur	800.00	20.00	18.00	1.50	0.00	0.00	20.00	0.00	20.00
4	Paralakhemundi	480.00	20.00	6.00	1.50	0.00	0.00	0.00	0.00	20.00
5	Nawarangpur	400.00	0.00	30.00	1.50	15.00	0.00	10.00	16.00	4.00
6	Th. Rampur	360.00	10.00	9.00	0.00	0.00	0.00	0.00	0.00	10.00
7	Balliguda	320.00	8.00	6.00	1.50	0.00	0.00	0.00	400.00	16.00
	Total	3000.00	98.00	90.00	12.00	165.00	8.00	30.00	416.00	78.00

Success Stories

GAJAPATI

"The villagers will no longer go the block / seed dealers to collect seeds standing in a queue. Our self help group will provide the quality seeds with desired variety and quantity from seed bank formed by us". Says Smt. Rukuna Naika, the president of Jihobajeri Self Help Group.



The seed bank concept emerged in Gajapati district in May 2011 out of the capacity building trainings that are imparted at district level. Two nos. of SHGs were selected that is Jyoti SHG, Patusahi and Jihobajeri SHG of Chudangapur of R.Udayagiri & Mohana block respectively in Gajapati district to conceive the seed preservation through seed bank. OTELP provided small financial support of Rs.30,000/-each as revolving loan fund under Rural Financial Services (RFS) component. Along with it, the technical supports were also extended to WSHGs for effective crop production, harvesting, threshing, procurement, processing and preservation in HDPE bags.

These SHG members have been able to collect 108.00 qntls. informal seed of three varieties of paddy locally to sell among the farmers with a genuine price with anticipation to get some profit out of it. The SHG members have decided to sell some quantities of seeds on credit and the farmers will pay the cost of seeds with minimal rate of interest in terms of cash or in shape of a paddy after harvesting. This intervention impacts the poor tribal farmers with a benefit of reducing transaction cost, timely procurement of seeds at the door step for sowing, seed replacement and exchange with genuine price.

The nearby villagers are also influenced by this intervention and also demand to purchase rare varieties of paddy seeds like Lalata and Nabina from the self help groups because these high yielding varieties are not available as per requirement of the farmers. It is self evident that Seed Bank initiative will play as a better up scaling strategy in the tribal pockets.



BALLIGUDA



Emanuel Self Help Group of village Dungerikia in Balliguda Block stepped to the venture of paddy seed bank procuring 10 quintals of seeds like Lalata and MTU-100 variety and sold to the interested farmers of the village. The self help group members were supported by the SMS (Agriculture) of OTELP, FNGO and the agriculture volunteer during procurement. The self help group invested Rs.1132/- for procurement of one quintal of seed which includes the cost of seed, HDPE bag, sieve and godown rent and sold at Rs.1300/- to the farmers incurring the profit of Rs.168/- per quintal. Although the same variety of seed is supplied by the Government at Rs.1200 per quintal, the farmers preferred to purchase the seeds from seed bank because of assured quality seed and available in right time at the door step. Looking at the profit from this paddy seed bank, the SHG has planned to establish the seed banks for crops like paddy, ragi, koda, suan, black gram and dhanicha having high demand in the areas.







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