

## SEEDS FOR LIFE

### Action with Farmers in Uttar Pradesh IGP region to enhance food security in the context of climate change

#### Rationale

The wheat and rice growing areas of the Indo-Gangetic Plains, where this project is being implemented, play a prominent role in Food Security as it produces about 50% of the total food grains feeding 40% of India's population. Yet most of this production is guaranteed by small-holder farmers working under the harsh conditions of underdeveloped infrastructures, limited access to the latest developed technologies and know-how, lack of capital, and a number of other constraints belonging to the life of a poor farmer. Furthermore, farmers now have to deal with ever increasing problems related to environmental degradation and climate change. Farmers urgently need to be better equipped with knowledge and skills to cope with multiple challenges in order to fulfill the demand for food security and to improve their livelihood.

#### The project at a glance

The ITPGRFA supported project "Seeds for Life" was implemented by Humana People to People India in partnership with Bioversity International from May 2012 to October 2014 in 50 villages in Badaun and Unnao districts near the Ganges River in Uttar Pradesh State, where farmers are cultivating mainly wheat and rice under rice-wheat cropping system. Most of the participants were small and marginal farmers of which 49% own less than 0.75 hectares of land. More than 2300 farmers, men and women, participated in the project activities throughout the entire project life. Moreover, 2200 farmers participated in particular crowdsourcing actions for large scale dissemination of selected seed varieties in the two districts.

CROP	5 year average yield of districts Badaun and Unnao 2009-2014	High yielding varieties in PVS* trials	Yield in PVS trials (q/ha)
WHEAT	32.0 q/ha (Badaun) 29.0 q/ha (Unnao)	DPW 621-50 HD 2967	51.0 49.3
RICE	20.1q/ha (Badaun) 18.5 q/ha (Unnao)	Pusa Basmati 1121 Sugandha 5	48.3 44.9

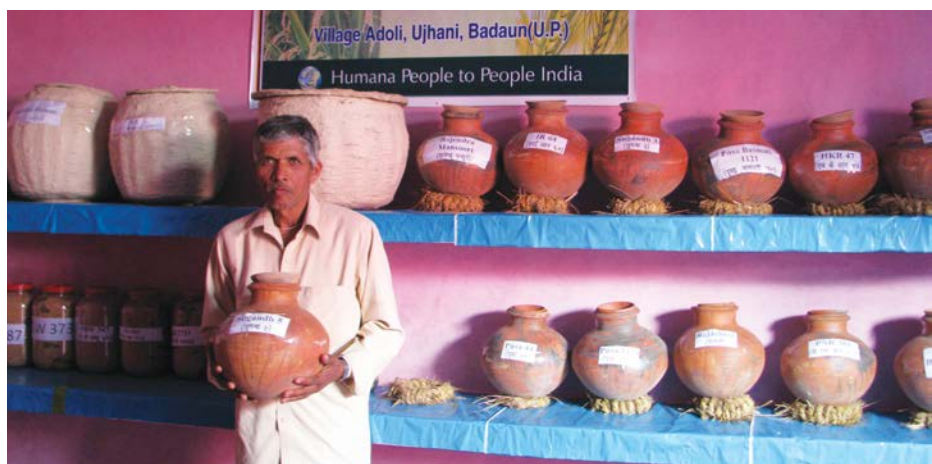
PVS\* Participatory Varietal Selection

- 2300 farmers, men and women, participated in the project
- 2200 other farmers participated in crowd sourcing of 50 rice and wheat varieties
- Average yield increase of 30-50%



The objectives of the project were:

- To establish on-farm seed conservation practices and facilities, operated and maintained by farmers
- To achieve significant increase in rice and wheat yields among the farmers through application of System of Rice intensification (SRI), and improved wheat cultivation methods
- To have new crops and more varieties of rice and wheat available as optional choices for cultivation



### Main results and impact produced by the project:

Under the project, most of the farmers have been able to increase their rice and wheat yield by up to 33% and some of the rice growers have doubled their yield.

- As a direct result of the trainings on seed production participating farmers who have become first time seed producers have been able to augment their family income by up to 75-90% while cultivating the same area of land they did prior to the project launch.
- In Badaun District it has been noticed by the KVK "Krishi Vigyan Kendra" or Agriculture Science Centre, that more than 10% of all farmers in the entire district have benefitted from the project by having adopted new seed varieties and improved cultivation practices.
- Seven seed banks established, with over 50 varieties of rice, wheat, pulses and chillies.
- Women from more than 1800 households have participated in nutrition & cooking programmes including cultivation of drumstick trees and green leafy vegetables for mineral and vitamin rich diet.
- 22 farmers have applied for registration of local varieties of rice, wheat and pulses at the PPV&FRA (Protection of Plant Varieties & Farmers' Rights Authorities, an autonomous body under the Government of India).
- Farmers in 50 villages have successfully linked with local agriculture resource persons for continued improvements on cultivation of rice, wheat and other important food crops.





## How the target population has benefitted/ What has changed in their livelihoods:

Through their active participation in the project activities the beneficiaries have gained crucial knowledge and skills, which has enabled them to get 30 to 50% increase in output from their rice and wheat cultivation.

The farmers are now aware of difference between local varieties and practices and improved technologies resulting in increased production and income. Saving the seeds of improved varieties for future use, assures sustainable high-yielding output.

Farmers identified many improved wheat and rice varieties from varietal trials, which they think are suitable for cultivation under changing climate conditions. These 'new' varieties represent a valuable contribution to the crop diversity in the area.

Adoption of SRI and improved wheat cultivation methods by almost all the 600 farmers in the projects has increased their production and has also resulted in better management of land and water.

The project has proven that such interventions have an exponential impact, as improved yield and subsequent knowledge transfer rapidly spreads much beyond the project area boundary.

Higher yield from limited irrigational area has helped significantly augment the family income of the farming community in the project area, leading to access to quality education for children, better nutrition and improved quality of life.

The project has helped farmers to develop innovative systems for the management of high yielding varieties and paving the way for a co-operative set-up for revenue generation and knowledge sharing.



## Success stories



**August, 2016**

Ram Gopal Sharma, 41, of Parashurampur village in Unnao district of Uttar Pradesh is today a proud owner of 1.5 hectares of high-yielding rice farmland. As one of the several smallholders of the district, Ram benefits from a stable water supply due to the proximity of his land to the Sharda Canal system.

"In June 2012, I became a member of a farmer's club under the HPPI-run project 'Seeds for Life'. I mainly grow rice on my land, and since June is the beginning of the rice cultivation season, I latched on to the opportunity," he says.

Following an initial round of training on Participatory Varietal Selection conducted under the project, Ram and some other members of his farmer's club, started out with preparation of varietal trials. The training introduced them to different rice varieties and the nurturing techniques they require.

"We followed the growth of the planted rice varieties under close guidance from the HPPI field coordinators and many of the varieties were very successful. Now most of the rice growers here are growing Pusa Basmati, Sugandh-5 and Rajendra Mansoori. Before the launch of the project, our access was limited to the seeds which local seed dealers offered, and we could never rely on the quality," says Ram.

In order to augment the yield, HPPI also conducted training sessions on System of Rice Intensification (SRI).

"This is the first time we used SRI. It helped us minimize the use of chemical fertilizers, pesticides and water. Under this system the seedlings are planted one at a time in a line and with proper spacing. This gives ample space for each seedling to develop many more tillers and the field is easier to weed," says Ram.

"By combined use of SRI and better rice varieties, we have been able to double our yield. Earlier, we used to harvest 12-15 q/ha, and today the figure stands at 35 q/ha," he adds.

Ram is one of the 2,330 participants engaged under the project, who is today able to afford better education for his children and better quality of food on his table.

## Success stories



### August, 2016

Akshay Kumar, 47, of Dehmu village in Badaun district of Uttar Pradesh owns 2 hectares of land where he cultivates rice and wheat. Prior to the launch of HPPI's 'Seeds for Life' project in the region, Akshay's crops were limited to locally available varieties of seeds and hence produced curtailed yield.

'I joined the 'Seeds for Life' project after attending the first information session where we were informed about seed production. Since after meeting our regular needs I still had some spare land, I was particularly interested in producing seeds,' says Akshay.

Through the project, Akshay learnt about SRI and

line sowing systems, and got access to good quality seed material.

"Today, apart from producing rice and wheat for the consumption of my family, I produce approximately 500Kg of rice and 1500Kg of wheat seeds. Training sessions conducted under the project taught me ways to secure a high level of seed purity. Since the farmers know that I produce my seeds from a good quality source – mainly using the DPU 621-50 and HD 2967 varieties – and since I keep my seed production clean, there has been a constant increase in the number of farmers buying seeds from me," says a proud Akshay.

Today, more than hundred farmers in the area use high-yielding varieties of seeds that Akshay produces.

Under the project, seven seed banks were established, with one of them located in Dehmu village. Due his exceptional interest in seed production, Akshay was chosen as the President by his Farmer's Club.

"After two and a half years of field trials, we managed to keep samples of 26 varieties of rice and 26 samples of wheat varieties. While we use only a few of these varieties, we keep all the varieties from our seed bank alive by growing a few square meter of each every season," says Akshay.

Since the culmination of the project, 5 more farmers in Akshay's region have started producing seeds at similar output levels as his, and there are 3 farmers at the Unnao project site who also produce seeds for sale. And since they sell high quality seeds at lower price than the established seed dealers, the overall crop yield in the region has witnessed an exponential increase, along with increase in average family income.

## Background of HPPI

Humana People to People India is a development organization registered as a not-for-profit company under section 25 of the Companies Act, 1956 as of 21st May 1998. It is a non-political, non-religious organization.

In 2015-16 HPPI has implemented 50 projects in the states of Rajasthan, Haryana, Uttar Pradesh, Madhya Pradesh, Bihar, Delhi, Tamil Nadu, Telangana, Jharkhand and Uttarakhand reaching out to around one million people. During the year HPPI has worked in partnership with more than 60 partners, which include government sectors, private corporations and international funding agencies.



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