

# RICE VALUE CHAIN

## QUARTERLY NEWSLETTER

ASSAM AGRIBUSINESS AND RURAL TRANSFORMATION PROJECT (APART) 3<sup>rd</sup> Edition November 2019

### STRENGTHENING SEED SYSTEMS AND THE ADOPTION OF HIGH YIELDING STRESS-TOLERANT RICE VARIETIES

It's the need of the hour to strengthen seed systems for adopting of high yielding stress-tolerant rice varieties in Assam.

Given below are the types of demonstrations that have been carried out in Assam by Assam Agricultural University under APART with the technical support of International Rice Research Institute (IRRI). Mini kit demonstrations are also carried out by Department of Agriculture.

#### MINI-KIT DEMONSTRATION

##### Objectives:

- To introduce new STRVs to the appropriate stress-prone areas and among the farmers
- To create exposure, awareness and acceptance of new STRVs among farmers
- To promote self-learning through observation and experience of growing a new variety
- To trigger informal farmer-to-farmer information and seed dissemination within community



*Mini-kit demonstration*

#### CLUSTER DEMONSTRATION

##### Objectives:

- To generate evidence about the variety in considerable scale, and spread widely across diverse geographies/localities.
- To create awareness, sensitization and mass visibility of new STRVs
- To create speedy diffusion of STRVs at different localities, communities and partners/scaling agents
- To encourage adoption and farmer-to-farmer seed dissemination across neighbouring villages
- To create linkages and awareness among key seed value chain stakeholders for the new STRVs by engaging with input (seed) dealers
- To make community/local people aware, and notice the variety and its performance
- To encourage quality seed production and strengthening the local seed systems.



*Cluster demonstration*





*On-farm adaptive demonstrations*

### DEALERS' NETWORK DEMONSTRATION

#### Objectives:

- To engage private sector players like seed dealers, agro-vets or farmer producer groups /seed sellers in the varietal extension program
- To stimulate varietal promotion and thereby better adoption by engaging agents /institutions who have direct benefit/incentive by promoting variety to farmers(the demand reflected as higher sales volume)
- To build capacity and knowledge of seed dealers and agro-vets /or other players
- To create awareness and share information with the agents



*Head-to-head demonstration*

### CROP CAFETERIA (CLIENT ORIENTED VARIETAL EXHIBITION)

#### Objectives:

- To accelerate the uptake and sustainable adoption of the STRVs at key selected locations
- To engage private and public seed sector players, and their market channels like distributors, dealers, FPOs, associated agro-vets/extension agents in the evaluation of different varieties against STRVs
- To create linkages in the mainstream seed system
- To strengthen learning and adoption behaviour by systematic evaluation of multiple varieties in laid out crop cafeteria
- To create mass awareness and sensitization about different STRVs, their characteristics and performances.
- To promote the seed- and varietal-replacement for improved productivity of rice in the region
- To help to generate seed demand for multiple varieties

### ON-FARM ADAPTIVE DEMONSTRATIONS

#### Objectives:

- To evaluate the new varieties under local conditions and management in the farmer's field, KVK/RARS farm, closely monitored by the scientists
- To infer and acknowledge the consistency of varieties under local circumstances, actual farming system and local preferences.
- To establish and generate reliable evidence about the newly introduced varieties



*Dealers' network demonstration*

### HEAD-TO-HEAD DEMONSTRATION

#### Objectives:

- To enable farmers to compare the performance of two varieties; their own variety against the newly introduced STRV
- To test the performance of new STRV exactly with the available technology, resources and constraints of farmers
- To enhance the evaluation-based learning skills of the farmers
- To promote better adoption of variety through self-evaluation



*Crop cafeteria (client oriented varietal exhibition)*

## DETAILS OF DIFFERENT DEMONSTRATIONS IN SALI SEASON 2019

Demonstrations	Implementing Agency	Sali season 2019			
		Target	Achiv.	Benef.	Area (ha)
Mini-kit	AAU	3000	3000	3000	300
	DoA-ATMA	5000	5000	5002	500
OFAD	AAU	350	350	350	140
Cluster	AAU	350	350	3046	1750
Dealer Network	AAU	400	400	401	100
H2H	AAU	600	600	605	150
IPM in OFAD	AAU	160	160	160	-
IPM in Cluster	AAU	350	350	350	-

Content Courtesy: IRRI - APART

### KVK NALBARI BRINGING THE SMILES ON PADDY FARMERS' FACES



Assam Agricultural University with technical support of International Rice Research Institute (IRRI) distributed the Stress Tolerant Rice varieties (STRV) under the World Bank-funded APART. Equipped with the SUB1 gene, these varieties, impart tolerance to complete submergence for up to two weeks.

Nalbari is a flood-prone district, where the STR varieties make a perfect fit case. During the Sali season 2019, KVK Nalbari distributed the STRV seeds to the farmers, who regularly face this natural calamity. Mr Tarak Deka, a farmer from Kaurehagi village, Nalbari district received 125 Kg of Ranjit-Sub1 variety seeds for cluster demonstration from KVK Nalbari. Till 20 days after sowing the seeds in the nursery bed, everything went well but eventually, there was the onset of floods and the seedlings in the nursery bed were submerged underwater for seven days.

This was a regular phenomenon for Mr Deka, as in the previous years, but this year he was confident that the seedlings will survive, as he had sown the Sub 1 gene containing variety of rice. As the water dried up, Mr Deka noticed that the seedlings had survived, but yet again before the seedlings could emerge out, the 2nd flash

flood occurred at an interval of six days after the first one. The nursery was once again underwater for another 10 days. This time around, Mr Deka lost hope of survival of the seedlings in the nursery, as this time the flash floods lasted for a longer duration. He started looking out for other seedlings to transplant in his fields but failed, as most of the other nurseries were also submerged in water due to floods in the village, which had impacted the entire district, as well. Mr Deka was worried as to how he will manage the seedlings to transplant in his empty fields. But, after the recession of the floodwater, he found that “the nursery had survived”. Ranjit-Sub1 managed to withstand under such a long shock of flash floods. Mr Deka was overwhelmed and shared this story with his fellow farmers. It was like magic for them. He then transplanted the survived seedlings in his field as suggested by the AAU and IRRI teams. He also followed the best management practices for better survival of the flood soaked seedlings, as advised. The plants are at Milky stage now (mid-Oct) and Mr Deka is expecting a bumper yield from the field. Looking at the performance of the Ranjit-Sub 1 variety, Mr Deka thanked the KVK Nalbari, IRRI and APART for bringing the latest technology to his doorstep. He even said that it’s a boon for the farming community, especially for the flood-affected areas. He was pleased with the variety and he is now willing to adopt the variety in subsequent seasons also, looking at its performance.

Expressing his gratefulness, Mr Tarak Deka added “*When the seedlings were underwater for the second time, I had left all hopes of survival of the seedlings but I was really stunned to see that the seedlings survived, and I was able to transplant the seedlings in the main field. Now my crop is growing healthy and I am very happy with these new beginnings!*”



Utpal Nath, a young and energetic farmer from Darrang district was working with a private company for the past one year. Though he was from a farming family, he could not give time and help his father in the fields. Since childhood, he had experienced rice cultivation and has observed that every year during the peak season of rice cultivation i.e Sali and Boro, his father had to struggle for labourers for transplanting the seedlings in the field. He even had to witness his father stop cultivating rice due to these problems.

With this experience, Utpal started looking for some viable alternatives. He finally quit his job and started engaging in farming. During this time, he came in touch with the officials of International Rice Research Institute (IRRI) and Krishi Vigyan Kendra (KVK) Darrang with whom he discussed his concerns. IRRI officials suggested that a transplanter will be able to help him solve the problem in transplanting the seedlings. He need not hire labourers and can also save time. With limited finance at hand, he was not able to procure the transplanter immediately, but he was determined and with additional support from his family, he could finally buy a paddy transplanter for himself.

He started using the transplanter to transplant the paddy in his own land. It was a matter of great relief for him and his father. As he experienced the benefits from the transplanter, he wanted to reach out to his fellow farmers and in that process build a business out of his investment too. It was a challenge for the young farmer, and he is trying hard to achieve his goal and motivate the farmers to shift from their traditional method to a newly introduced technology.

*In his own words, Utpal says "I feel lucky that the knowledge*

*disseminated by International Rice Research Institute (IRRI) and Assam Agricultural University (AAU) through Krishi Vigyan Kendra (KVK), Darrang under APART worked magic for me. They introduced machine transplanting technology through training and guidance to the farmers. This helped me to reach out my fellow farmers too. In last season, they included few farmers from our village under their different demonstrations. The farmers were trained on mat nursery; machine and also experienced the performance and the feasibility of the technology in different fields through exposure visit".*

The farmers who were already trained by IRRI and APART and were aware of the technology started contacting Utpal. Interestingly, not only farmers from his village but also from nearby villages eagerly started to book his transplanter for ongoing Sali season rice transplanting. Finally, due to his limited time, he agreed to help ten farmers from his native village and five farmers from nearby villages for that season. All these farmers agreed to raise mat nursery on their own. IRRI guided the farmers to raise the mat nursery, and Utpal took the responsibility to transplant with his machine by charging Rs. 450 per bigha. He transplanted 50 bighas of land that accrued him a gross earning of Rs. 22,500 in the Sali season. The zealous young farmer has seen his investment bearing fruits and wishes to see his fellow farmers also realize technological gains.

*"In the current Sali season, the revolution finally kicked off in my village. I thank IRRI and AAU for their support and motivation of farmers to shift from their traditional practices to a modern technological intervention. I am sure that technology will be rolling out through the state as a business very soon." Says Utpal.*

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