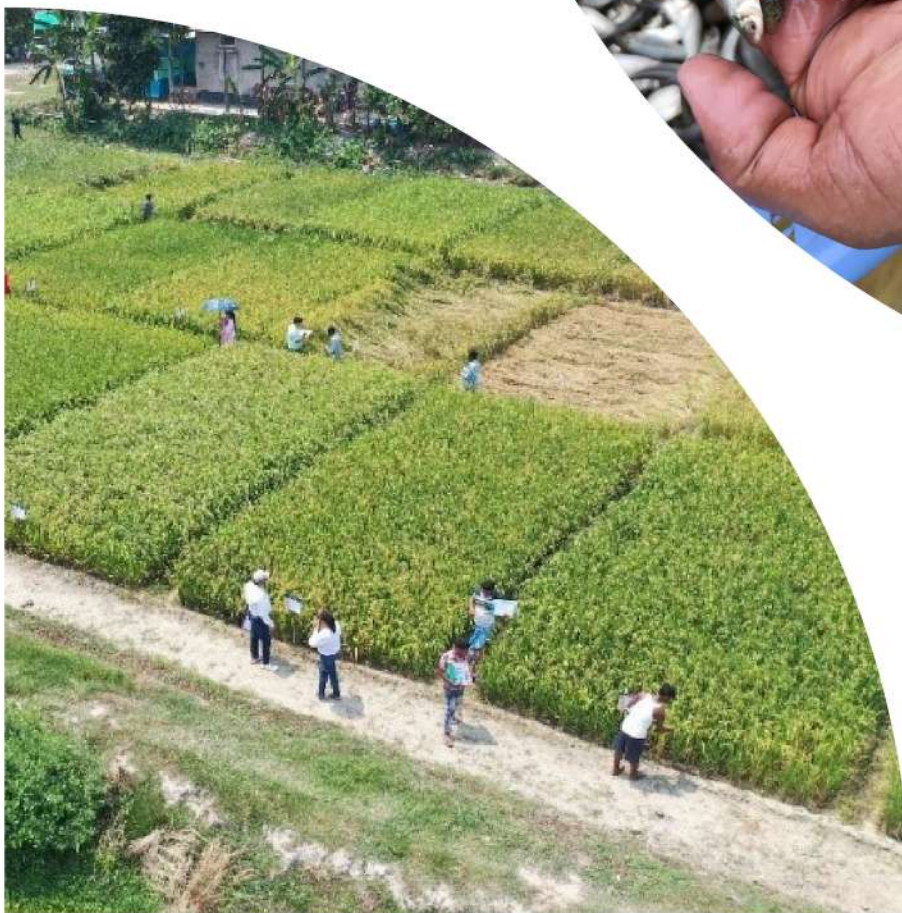


KRISHI RUPANTAR

ENHANCING
QUALITY FISH
SEED
PRODUCTION AT
THE FPC LEVEL
IN ASSAM: THE
ROLES OF
APART AND
WORLDFISH



PARTICIPATORY
EVALUATION OF
MULTI-
LOCATION
TRIALS FOR
RICE VARIETIES
(2023-24):
INSIGHTS AND
OUTCOMES



38th ISSUE - JUNE 2024



ENHANCING QUALITY FISH SEED PRODUCTION AT THE FPC LEVEL IN ASSAM: THE ROLES OF APART AND WORLDFISH

Dr. Dipanka Nath - Consultant, WorldFish;

Mr. Anoop Kumar Tandon -Resident Consultant, WorldFish

The production of high-quality fish seed is foundational for the sustainability and success of aquaculture. Quality fish seed ensures enhancing growth rates and improving survival rates, as healthy and genetically superior seeds grow faster and exhibit better resistance to diseases and environmental stresses. This not only reduces losses but also boosts the overall productivity of aquaculture operations.

Moreover, fish from quality seeds typically have better feed conversion ratios (FCR), requiring less feed to gain weight, thus reducing feeding costs and improving efficiency. They also tend to be more uniform in size, which is beneficial for marketability and simplifies management practices like feeding and harvesting. Investing in quality fish seed production promotes sustainability by reducing the need for antibiotics and other chemicals, thereby supporting a healthier .



ecosystem, reducing environmental impact and controlling the cost of production.

Additionally, quality seed production often involves selective breeding programs aimed at enhancing traits such as growth rate, disease resistance and feed efficiency, which are crucial for the industry's long-term sustainability. High-quality seeds produce fish that meet consumer expectations for taste, texture and quality, thereby supporting market demand.



Compliance with stringent regulatory standards regarding fish health and quality is also facilitated by using high-quality seeds, helping avoid legal and financial repercussions.

In essence, producing quality fish seed is integral to economic efficiency, environmental sustainability, and the overall success of aquaculture.

The Assam Agribusiness and Rural Transformation Project (APART) and WorldFish play a crucial role at the Fish Producer Company (FPC) level in Assam, significantly guiding, training and enhancing the production of quality fish seed. The APART project through the Department of Fisheries provides essential support to FPCs through capacity-building programs that train members in best practices for fish seed production, management, and disease control. This also includes financial assistance for procuring advanced equipment and inputs, ensuring that

FPCs have the resources necessary for high-quality production. Furthermore, APART helps in developing and modernizing hatcheries and nurseries managed by FPCs, facilitating access to state-of-the-art infrastructure.



Under APART, WorldFish as a technology partner contributes by bringing in global expertise and technical knowledge, introducing improved breeding techniques and promoting high-yielding, disease-resistant fish strains suitable for local conditions. The focus on field-oriented research and sustainable practices ensures that FPCs adopt eco-friendly and efficient methods. We also engage with local communities, encouraging participatory approaches that ensure the widespread adoption of improved practices.

The collaboration between APART and WorldFish at the FPC level has significantly boosted the production of quality fish seed, enhancing productivity, economic viability and sustainability within Assam's aquaculture sector. This integrated effort not only improves the quality and quantity of fish seed but also strengthens the FPCs' capacity to operate effectively and sustainably, contributing to the broader goals of economic growth and food security in the region.

Identified Progressive Pathway and Way Forward:

Effective management of broodstock is as crucial as seed management in ensuring the production of quality fish seed. High-quality brood stock is essential for producing superior seed, and this requires meticulous attention from both the Department of Fisheries and government officials of Assam. To achieve this, the management practices for broodstock must be enhanced, focusing on genetic selection, health monitoring, and optimal breeding conditions or maintaining quality/healthy broodstock in selected farms, which can be distributed among the hatchery owners during the breeding season.

Through the technical support of WorldFish in providing technical expertise and guidance on best practices in broodstock management, the Fish Value Chain under APART has seen a major leap. By focusing on genetic selection, health monitoring, and sustainable breeding practices, and by utilizing the expertise of WorldFish, Assam can have a continuous production of high-quality fish seed, thereby supporting the growth and sustainability of its aquaculture sector.





AFFORDABLE QUALITY FISH FEED PRODUCTION BY HOWLYAGRO FARMER PRODUCER COMPANY, BARPETA: A GROWING OPPORTUNITY FOR LOCAL FARMERS

Dr. Dharitri Baruah
(Technical Officer, WorldFish)

In the intricate world of aquaculture, where nutrition is paramount for growth and sustainability, the quest for balanced diets tailored to each species and life stage is paramount. Understanding the intricate interplay between feeding behaviour, nutrient requirements, and environmental factors is essential for optimizing productivity and minimizing waste. Fish farmers, facing significant operational costs driven largely by feed expenses, confront a formidable challenge. In response, the visionary members of the Fishery Production Cooperative (FPC) embarked on a transformative journey, conceptualizing the establishment of fish feed mills. This ambitious initiative not only aimed to alleviate financial burdens but also fostered empowerment within their community. Through collaborative efforts and unwavering dedication, the FPC charted a course toward economic resilience and prosperity, underscoring the pivotal role of quality nutrition in aquaculture for sustainable growth and profitability.

One such initiative is exemplified by Howly Agro Farmer Producer Company (FPC) established on 26 February 2021 in Hatijana village, Howly, Barpeta district. The FPC aims to establish a Fish Feed Mill with a capacity of 2.0 tons per day, funded by the World Bank through the Assam Agribusiness and Rural Transformation Project (APART), with technical support and guidance provided by WorldFish. Though it was approved in 2021 it started its operations from 2023-24. The ingredients mainly used for fish feed preparation are Maize, Mustard oil Cake, Soybean meal, Rice bran, Wheat Flour, Vitamin-Mineral mixture, Salt and vegetable oil. Maize and other ingredients are procured from the share members and local market.

In 2023-24, the FPC produced approximately 285 MT of pelleted fish feed, generating revenue of approximately Rs. 7,125,000.00 with an average sale price of Rs. 25/kg. They achieved a net profit of approximately Rs. 571,000 during this period.

The feed mill benefited from lower raw material costs by sourcing ingredients exclusively from FPC members at reduced prices. Additionally, the high-quality fish feed is marketed locally and among FPC members, offering them cost savings compared to market prices- says FPC Members.



In 2023-24, Howly Agro Farmer Producer Company produced approximately 285 MT of pelleted fish feed and achieved a net profit of approximately Rs. 571,000 .





ROADMAP FOR ESTABLISHING FRESHWATER PRAWN NURSERIES IN ASSAM

Dr. Kashyap Borah, Technical Officer, WorldFish-India

Introduction

ARIAS Society and Department of Fisheries, Assam in collaboration with WorldFish-India introduced freshwater prawn cum carp polyculture earlier and to efficiently support the nursery rearing of freshwater prawn post-larvae (PL) was initiated for the first time in 2023 – 2024, under the World-Bank funded Assam Agribusiness and Rural Transformation Project (APART).

These prawn nurseries were started in 4 districts of Assam based on the geographical locations and easy transportation of post-larvae. These districts are Kamrup, Nalbari, Morigaon and Nagaon. In these four districts, scampi PL has been introduced for nursery rearing among 7 aqua entrepreneurs in a total area of about 0.4 hectares. Under APART, the Department of Fisheries, Assam has taken the initiative to empower, educate and create awareness among the local people about prawn farming, its commercial importance and role of nurseries to increase productivity and profitability.



Expanding freshwater prawn nurseries in Assam would offer a promising opportunity to enhance the state's aquaculture industry, boost the local economy, and create more employment. The giant freshwater prawn (*Macrobrachium rosenbergii*) is highly valued for its size, taste, and market demand. Assam's rich water resources and favourable climate make it an ideal location for freshwater prawn farming. Concerning that there is a comprehensive roadmap developed to lead the process.

Site Selection and Infrastructure Development

Selecting a site for a scampi nursery requires optimal water quality with temperatures between 25-28°C, pH 7.0-8.0, and dissolved oxygen above 4 ppm. Reliable freshwater access, clayey or loamy soils with pH 6.5-7.5, good drainage facility, and flood prevention are essential.

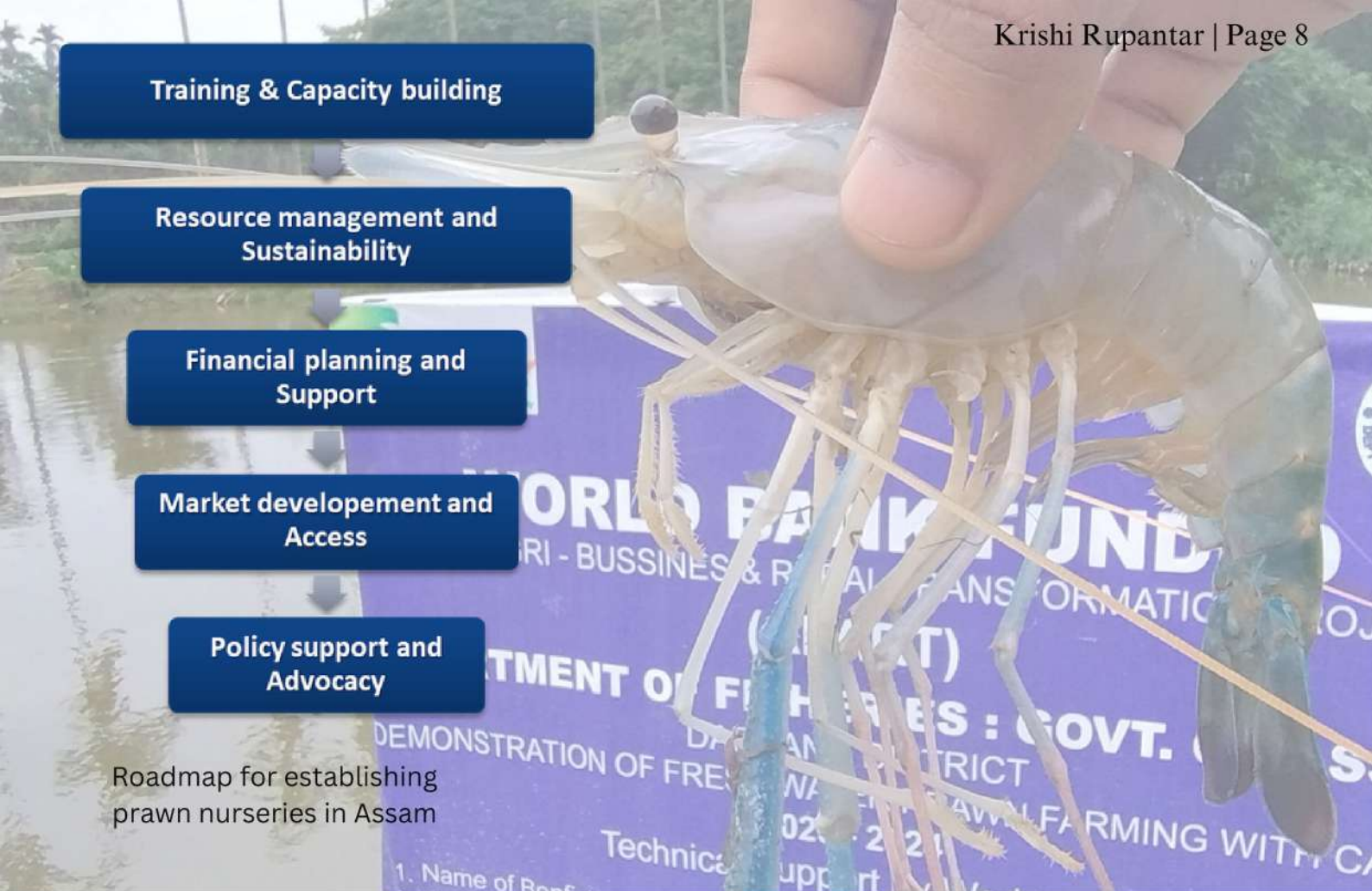
The selected site should have stable climate conditions, no pollution, and proximity to markets. Infrastructure includes reliable power and a skilled labour force. Regulatory compliance and biosecurity measures, such as bird fencing and side netting are important too. The process involves preliminary surveys, detailed water and soil assessments, cost-benefit analysis, and possibly pilot testing.



Model prawn nursery constructed under APART in WorldFish-In supervision

Capacity Building and Training

To ensure the success of prawn nurseries, it is vital to train the local farmers and technicians in prawn nursery rearing and prawn farming with carp polyculture practices aspects. Establishing training centres and conducting regular workshops on prawn post-larval rearing/nursery management and disease management has built a skilled workforce. Collaborating with research institutions such as WorldFish, CIFRI (Central Inland Fisheries Research Institute) and College of Fisheries, Assam Agricultural University, Raha has further enhanced the initiative to provide the latest knowledge and technological expertise in prawn farming. Extension services should also be strengthened to offer continuous support and guidance to farmers



Resource Management and Sustainability:

Effective resource management is essential for sustainable prawn nursery expansion, which can be done by implementing-

1. Better management practices (BMPs),
2. Effective feed management, and
3. Proper waste disposal

These measures will minimize the adverse environmental impact on the nursery/farm inhabitants. Further, these nurseries can also help sustain prawn farming in the state by supporting the farming system which combines prawn culture with other compatible fish species i.e. Rohu, Catla, Silver carp, and Grass carp, and can optimize resource utilization and increase profitability per unit area.

While going towards the critical winter period, scampi nurseries in Assam benefit by raising stunted post larvae under technical guidance, which can be used for prawn cum carp polyculture in the subsequent months (March/April/May), when fish seed is available in the state.

Regular monitoring and assessment of water quality, prawn health, installation of hideouts for sheltering the prawn PL and assessment of growth rates will help in timely interventions and adjustments to farming practices.



Financial Planning and Support

Securing adequate financial resources is critical for the expansion of prawn nurseries. To promote initially, farmers should be provided with access to credit facilities, subsidies, and grants to invest in infrastructure and inputs but subsequently, farmers shall work independently on their own.

Financial planning should also include cost-benefit analysis and risk management strategies to ensure economic viability. Forming Farmer Producer Companies or Organizations (FPOs/FPCs) and farmer-producer groups (FPGs) can enhance bargaining power and facilitate collective investments in shared infrastructure and services.

Market Development and Access:

Expanding prawn nurseries requires a robust market development strategy. Establishing strong supply chains and market linkages will ensure that prawns reach consumers efficiently.

As time progresses and production increases, farmers should also be trained in post-harvest handling, packaging and transportation to maintain post-larvae quality, minimizing mortality. Exploring local, and regional markets initially itself will give a big opportunity to sell, further establishing partnerships with retailers and exporters, and leveraging e-commerce platforms can significantly boost market access and profitability.



Advocating for favourable policies and regulations is crucial for the sustainable expansion of prawn nurseries. Engaging with government agencies to streamline licensing procedures, provide tax incentives, and support research and development can create a conducive environment for aquaculture growth. Policies should also focus on environmental conservation, ensuring that prawn farming does not adversely affect local ecosystems.

Policymakers and Department of Fisheries (DoF) officials find substantial growth of freshwater prawn nurseries and prawn cum carp-polyculture. The next level of development through controlled monoculture and setting up state of art 'all-male freshwater prawn' post-larvae hatchery can also be planned within the state of Assam through its well-established technology available within the country.

These combined efforts will enhance the prawn seed availability, a robust market network, infrastructure and technology for prawn farming in the state, which will be beneficial to the progressive farmers and aqua entrepreneurs for expanding a new business line in the name of "prawn nursery" in the state.

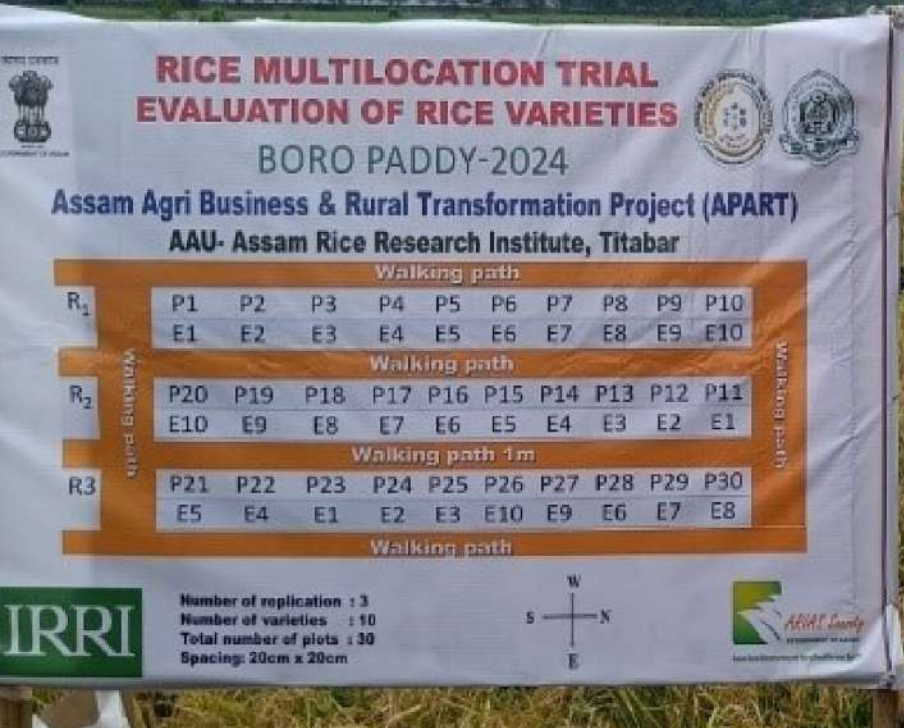
Why WorldFish intervention is necessary?

WorldFish is an organization working to improve food security, nutrition, and livelihoods through aquatic food systems that are sustainable, equitable, and inclusive. It collaborates with regional, national and international partners to enable the delivery of transformative innovations, tools, and practices to advance aquatic food systems through its cutting-edge research, field applicability, evidence for policymaking, and knowledge co-creation.

Expanding the nursery rearing of freshwater prawn in Assam can further be greatly enhanced through the continued collaboration with research organizations like WorldFish and resource institutions such as the state fisheries department as it bridges the gap between "technology and its application".

The pilot intervention can be greatly influenced by the long partnership of WorldFish and the Department of Fisheries, Assam through the initiation of localized research, implementing pilot projects, and offering training programs to farmers.

The Department of Fisheries, Assam can ensure the supply of quality post-larvae and feed, develop the necessary infrastructure, and disseminate best practices in collaboration with WorldFish-India through publications and extension services. Additionally, WorldFish-India will continue promoting sustainable farming practices, facilitate partnerships, and encourage community-based farming approaches.



PARTICIPATORY EVALUATION OF MULTI-LOCATION TRIALS FOR RICE VARIETIES (2023-24): INSIGHTS AND OUTCOMES

- Dr Dilwar Singh Parihar, Ms Ankita Sahu, Mr Akhoy Bharadwaj & Mr Rishikesh Phukan, IRRI

Agriculture is the backbone of Assam's economy. The agro-climatic conditions of Assam with its highly fertile and arable soils, abundant rainfall, and rich biodiversity favour rice production. The Assam Agricultural University (AAU) and the Department of Agriculture (DoA), Government of Assam, with the technical support of the International Rice Research Institute (IRRI) under the Assam Agribusiness and Rural Transformation Project (APART), have been establishing multi-location trials of rice varieties in different agroclimatic zones of Assam.



The selected variety from the rice variety cafeteria would be put to multi-location testing (MLTs). The best performers in MLTs will be further proposed for inclusion in the package of practices, published by Assam Agricultural University. The purpose of these MLTs is to identify the best-suited rice varieties in different agro-climatic zones and list the variety/varieties for recommendation by AAU. MLTs can help identify the region-specific varietal preferences of local stakeholders and policymakers.

The month of June witnessed several participatory evaluations of MLTs conducted across Assam, namely Titabar, Lakhimpur and Gossaigaon.

To maintain a fair ranking of the performance of the varieties, this evaluation maintains a coloured chit system for males and females to express their opinions on the preferred varieties.

Each group (male and female) are provided with two different sets of chits, each indicating a positive and negative aspect. In contrast, another set of participants were provided with evaluation sheets, where they could score performance of varieties on different evaluation parameters on a scale from 1 to 5. A score of 1 indicated poor performance, while a score of 5 indicated the best performance. The last column of the evaluation sheet recorded an overall score for each plot. The evaluation parameters included factors such as variety duration, disease and pest tolerance, grain size and quality, lodging, and crop stand.

The results from all three locations reflected a significantly high number of votes for protein-rich variety, CR Dhan 310, followed by DRR Dhan 44, BRRI Dhan 69 (Green Super Rice) and DRR Dhan 55. CR Dhan 310 variety is a Premium Quality Rice (PQR) which has long, fine grains, the primary reason for its top preference in the evaluation. BRRI 69, a Green Super Rice, is highly preferred due to its high yield, long slender grains, and medium-early maturity. A few other notable varieties favoured were DRR Dhan 44 and BRRI Dhan 44, both of which are drought-tolerant rice varieties known for their excellent yield potential with good grain quality.



COORDINATED EFFORTS TO IMPLEMENT THE EXIT STRATEGY FOR THE RICE VALUE CHAIN STRESSED

-IRRI – APART team



The exit strategy meeting of the International Rice Research Institute (IRRI) for the Assam Agribusiness and Rural Transformation Project, (APART) was held on 12 June 2024 at Guwahati, highlighting the significant advancements and future strategies for sustaining the project's impacts in Assam particularly in rice value chain. Ms Aruna Rajoria, IAS, Commissioner & Secretary and Agriculture Production Commissioner, Government of Assam and Chairperson, ARIAS Society, emphasized the importance of integrating government schemes to ensure the continuation and sustainability of the technologies and practices introduced by IRRI in Assam under APART. She stressed on the critical need for closer collaboration between the state government, Assam Agricultural University (AAU), other state agencies and IRRI to maintain the momentum of technology adoption.

Dr. Sudhanshu Singh, Director, of IRRI South Asia Regional Center (I-SARC) presented a detailed overview of the project's impact in rice value chain, stating that Assam has experienced a remarkable increase in rice productivity in the demonstration plots under APART. This achievement underscores the effectiveness of IRRI-supported technologies in enhancing agricultural output and efficiency.



Dr. Sanjay Chetia, Director of Research, AAU, spoke on the transformative effect of IRRI-supported technologies, in the rice value chain, in Assam. He noted that the comprehensive approach taken by IRRI and AAU has not only increased productivity but also improved the overall performance of the value chain, benefiting farmers and other stakeholders.

The meeting featured addresses by several other senior officials, including Mr Virendra Mittal, State Project Director of the ARIAS Society; Mr Tej Prasad Bhusal, Chief Executive Officer of the Assam State Agricultural Marketing Board; Dr Madhuras Patiri, Director of the Assam Seed and Organic Certification Agency (ASOCA); Dr Rupam Borgohain, Principal Scientist, AAU & Nodal Officer, APART, AAU; and Dr R.P. Singh from the Assam Seed Corporation Limited. The discussions focused on the practical aspects of implementing the exit strategy and ensuring the sustained and scaled-up benefits of APART.

Mr. Baljeet Singh, Market Analyst and Operations Specialist, APART, ARIAS Society, anchored the event. The meeting saw participation from scientists of AAU and IRRI, officials from the Department of Agriculture, ARIAS Society, ASOCA and Assam Seed Corporation Limited. The discussion emphasized the need for coordinated efforts to implement the exit strategy effectively. This meeting marks a significant milestone in the journey towards agricultural transformation in Assam, demonstrating the power of innovative technologies and collaborative efforts in driving progress and development.



QUALITY SEED PRODUCTION: PRACTICE & PROCESS

Dr Abhinav Jain, Seed Multiplication Expert, APART



The availability of good quality seed is essential for increasing the production and productivity of crops. In the seed system, the demand for seed is met by both formal and informal supply chains which comprises public and private sectors including farmer saved seed. However, farmer-saved seeds often subjected to poor quality due to improper production practices and lack of awareness among farmers. The success of high crop yield depends much upon the availability of superior quality seeds along with good crop management.

Concept of quality seed production:

Seed produced while following certain guidelines to obtain genetically and physically pure seed with good germination capacity comes under quality seed production.



Importance of quality seed production:

- High-quality seeds have good germination capacity and seedling growth while poor-quality seed often fails to germinate.
- Genetic and physical purity of the variety is ensured as pure seeds are free from any kind of contamination or admixture.
- The possibilities of off-type plants in the field are reduced.
- Providing farmers value for their money by reaping good harvests from good quality seeds.
- The efficiency of all other agricultural inputs and the success of crop production much depend upon the availability of quality seeds.
- The well-followed seed production practices and procedures produce high-quality seeds with good germination and yielding capacity.

Involvement in quality seed production:

- The seed production and certification system is well established in India and is being primarily undertaken by the public and private sectors. The public entities involved in the seed system include the National Seed Corporation (NSC), State Seed Corporations (SSCs), Indian Agriculture Research Institute, Indian Council of Agricultural Research's regional institutes, State Agricultural Universities (SAUs) and State Seed Certification Agencies (SSCA). The private entities include registered growers, farmers, farmer groups and private seed companies.



Process of quality seed production:

- Quality seed production is taken under a well-organized seed production program as per the laid out rules and procedures.
- Quality seed is primarily produced at four levels:
 - a) Nucleus seed b) Breeder seed
 - c) Foundation seed d) Certified seed.
- The nucleus seed is hundred per cent genetically pure seed obtained from basic nucleus seed stock maintained and produced by the concerned breeder who has developed the particular variety. At the time of the release of a variety, a small quantity of nucleus seed is available with the breeder. The nucleus seed is multiplied further to produce a commercial quantity of seed through a series of multiplication steps.
- Breeder seed is produced by multiplying the Nucleus seed. Breeder seed production is directly controlled by the Breeder who developed the particular variety or maintained by the Agricultural University or Research Institute.
- Foundation seed can be produced by National Seed Corporation, State Seed Corporations, State Agricultural Universities (SAUs), Seed Companies or progressive farmers by further multiplication of the breeder seed. In the state of Assam, the Assam Seeds Corporation Limited and Assam Agricultural University generally produce this class of seed. It is 99.5% genetically pure.
- Certified seed is produced by further multiplication of the foundation seed. It can be undertaken by State Seed Corporations or private growers and farmers by following all the specified guidelines and procedures of seed production and approved by the seed certifying agency. In addition, another category of seeds termed Truthfully labelled seeds produced by cultivators and private seed companies are sold with truthful labels under the self-certification program. This type of seed does not come under the seed certification purview and the seed producer is responsible for the quality and performance of seed. The tag colour for the truthfully labelled seed is opal green.





- Care needs to be taken during seed production like following prescribed isolation distance, roguing and ensuring efficient crop management.
- Isolation is done to maintain purity and avoid any kind of seed contamination. Under isolation, one variety is separated from other variety of the same crop. The isolation distance varies from crop to crop. For eg. the Minimum isolation distance in rice for Foundation & Certified seed production is 3.0 m while for mustard it is 50.0 m for Foundation Seed and 25.0 m for Certified Seed.
- Roguing operation is done to remove the off-types and undesirable plants from the fields. This helps to maintain the varietal purity. This operation is generally carried out during pre-flowering, flowering and post-flowering stages.
- Good management practices like proper land and varietal selection, field preparation, timely irrigation, weeding, diseases, pest and nutrient management and due care during the harvest and post-harvest operations like proper harvesting, cleaning, drying, processing, storage and transportation ensure good quality seeds.
- The seed certification agencies in the states are entrusted with the responsibility of seed certification. In Assam, the certification is done by the Assam Seed & Organic Certification Agency (ASOCA). One has to register online through the Seed Traceability, Authentication and Holistic Inventory (SATHI) portal for seed production and certification. Only notified crop varieties are eligible for the certification process as per the Seeds Act of 1966. In India, seed certification is voluntary but labelling is compulsory. The certified seed provides quality assurance to the farmers and growers.
- The certification process involves field inspections by the monitoring teams as well as stringent laboratory seed tests to conform to the prescribed minimum seed certification standards.
- In the seed production and certification program, a specific tag colour is provided for different categories of seed: golden yellow tag for Breeder Seed, white for Foundation Seed and azure blue for Certified Seed.

Thus by following a proper seed production process, the availability of good quality seeds can be ensured to the farmers.

THE STORY OF PRAGATI CO-OPERATIVE SOCIETY: A JOURNEY OF GROWTH AND SUCCESS

Hriday Nath Asst. Dist. Coordinator,
APART Dairy Development, Goalpara



The story of Pragati Co-operative Society serves as the backbone of society, acting as a real booster in addressing essential needs, driving economic growth, promoting environmental stewardship, and fostering social well-being. The famous saying "Jai Jawan Jai Kisan" by our late Prime Minister highlights the importance of recognizing and honoring the contribution of those who serve in the military, protecting the nation's borders, as well as those who tirelessly work in agriculture, ensuring food security and sustenance for the population.

Pragati Dugdha Utpadak Samabay Samiti,- a dairy cooperative from a remote Mazpara, Kokila under Srijangram block in Bongaigaon District. The village is located near the banks of the Manas river, which is rich in farming. The cooperative was started in 2011-12 under the leadership of Imtiaz Ali and Rafikul Islam, with 20 dairy farmers forming a group of 22 members. The total milk collection at that time was 100 liters per day. In the beginning, they struggled as they had little knowledge and skills for efficient dairy farming practices such as proper animal nutrition, breeding techniques, disease prevention, and milk handling.

Additionally, communication with the formal milk market was difficult due to the remote location. However, Imtiaz Ali and his members didn't step back and actively worked for the betterment of society. Under the World Bank-financed project APART, the members of this DCS were trained for the scientific rearing of cattle and attained the track of their success. To date, their society has 680 members, with a daily production of an enormous quantity of 15000 liters per day. They have gained significant opportunities and support from the Agriculture, Dairy, Animal Husbandry, and Veterinary Departments. They are major suppliers of milk to formal sectors like "AMUL" and "LAKHIMI DAIRY," supplying around 7000 liters per day to AMUL and have a huge market supply for the informal sector, such as sweets shops and other milk traders. They now own their own Milk Collection Centre. The member farmers became more proactive and engaged in their dairy farming practices using updated technologies. They acquired training from different organizations like Krishi Vigyan Kendra (KVK), ATMA, and NABARD.



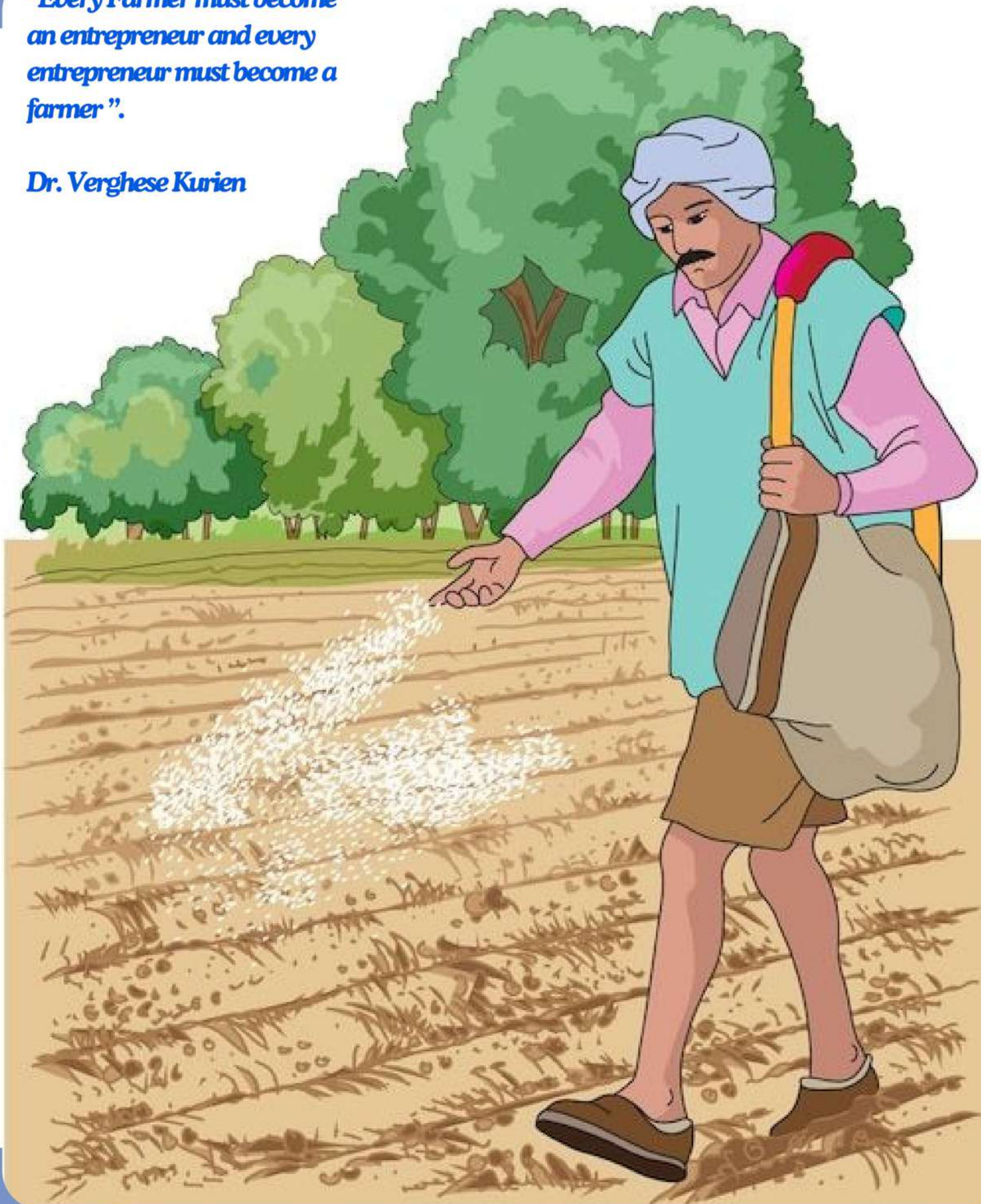
They have benefited from various Government schemes as listed below: -

- **Under Rashtriya Krishi Vikash Yojana Scheme (RKVY), they received 36 cattle, 10 bicycles, 10 grass cutters, 20 big cans, and cattle feed of 50 bags.**
- **Under the seed and feed money scheme, they received financial support of around 50 lakhs.**
- **Under Dairy Department. - Rapid cooler machine and an A.I. center.**
- **Assam Fodder Mission - received annual support in the form of fodder seed**
- **APART – Training on scientific cattle rearing.**

The group also own a veterinary pharmacy where they sell medicine to farmers at a cheaper rate. The executive members of the society not only look for the progress of the society but also aim to groom the farmers through frequent training by master trainers from the dairy and veterinary departments, so that the farmers are equipped with the necessary knowledge and skills to effectively manage dairy operations, including animal husbandry, milk processing, quality control, marketing, maintaining proper hygiene, and record-keeping. They also oversee their farmers' financial stability by providing them with low-interest loans. They believe that when farmers are content and fulfilled in their work, they are more likely to be productive and innovative in facing challenges.

“Every Farmer must become an entrepreneur and every entrepreneur must become a farmer”.

Dr. Verghese Kurien



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