

29th Issue
June
2022

KRISHI RUPANTAR

Potato Cafeteria An Innovative Approach To Potato Production

*Compiled by APART team, OPIU - Department
of Horticulture & Food Processing, GoA*

The Department of Horticulture and Food Processing had undertaken the implementation of Potato Cafeteria in 14 Districts of Assam under the World Bank-funded project APART (Assam Agribusiness and Rural Transformation Project).

The main objective of Potato Cafeteria was to showcase different varieties in one plot of land to identify the suitable varieties, both for table and processing purposes. The Cafeteria provided an opportunity to witness relative performances of various varieties of potatoes having different maturity periods, disease resistance, purposes



Preparation of land for Potato cafeteria

(table/processing), tuber shape, size colour, uniformity along with suitable agronomic production technologies. Generally, a demonstration plot involves one or two varieties, but the

Potato Cafeteria gave a broader choice and opportunity to evaluate the relative performance of various varieties. The Cafeteria also offered practical experiences based on the concept of 'seeing is believing and disseminating technical know-how to the farmers and extension officials.



Preparation of land for Potato cafeteria

One of the objectives was the dissemination of the improved varieties & agronomic practices among the farming community, where diverse improved varieties along with best management practices for potato production were demonstrated in 14 districts of Assam.

Demonstration in Potato Cafeteria were Kufri Surya, Lady Rosetta, Kufri Himalini, Kufri Mohan, Kufri Chipsona 3 and Kufri Jyoti. The area selected for the Cafeteria was 1 bigha (preferably 100 sq meters for each variety) lengthwise, preferably 10 meters and width according to availability of seed (number of lines is flexible) for each variety.

The Six numbers of Potato varieties selected for Technology



Plantation for the potato varietal cafeteria

All the 14 Districts completed the implementation of the activity the activity in the respective districts with keen interest and the Department of Agriculture and ATMA played a vital role in which showcased a successful model of implementation of Cafeteria.

The Yield Report of the 6 (Six) Varieties

District	Average Yield qt/ bigha					
	Lady Rosetta	K Surya	K Chipsona 3	K Himalini	K Mohan	K Jyoti
Barpeta	284.43	290.44	302.60	284.26	338.75	271.78
Cachar	218.84	244.43	227.24	238.18	265.65	256.95
Darrang	208.84	211.20	202.12	222.12	241.28	194.48
Golaghat	262.57	254.21	266.19	270.24	281.82	265.04
Jorhat	251.28	277.80	270.39	280	290.43	249.20
Kamrup	260	235	225	220	221	215
Karbi Anglong	155.64	268,08	338.33	290.72	285.29	183.17
Kokrajhar	241	238	312	282.50	462.00	246.00
Lakhimpur	156.40	336.40	336.60	292.80	228.80	176.00
Morigaon	212.18	363.44	353.75	212.18	251.39	194.4
Nagaon	356	326	330	298	318	276
Nalbari	470	340	420	312	250	271
Sivasagar	241.11	280.40	250.46	253.42	279.50	260.02
Sonitpur	252.72	224.72	258.44	219.3	203.5	191.42



Harvested Potatoes

Based on the Varietal Performance the following varieties are recommended for Assam condition across the districts:

District	Table Purpose Varieties		Processing Varieties	
Barpeta	Kufri Surya	Kufri Mohan	Kufri Chipsona 3	Lady Rosetta
Cachar	Kufri Mohan	Kufri Jyoti and Kufri Himalini	Lady Rosetta	Kufri Chipsona 3
Darrang	Kufri Mohan	Kufri Himalini and Kufri Surya	Kufri Chipsona 3	Lady Rosetta
Golaghat	Kufri Surya	Kufri Mohan	Lady Rosetta	Kufri Chipsona 3
Jorhat	Kufri Surya	Kufri Himalini	Kufri Chipsona 3	Lady Rosetta
Kamrup	Kufri Surya	Kufri Himalini	Lady Rosetta	Kufri Chipsona 3
Karbi Anglong	Kufri Jyoti	Kufri Surya	Kufri Chipsona 3	Lady Rosetta
Kokrajhar	Kufri Surya	Kufri Himalini and Kufri Mohan	Lady Rosetta	Kufri Chipsona 3
Lakhimpur	Kufri Surya	Kufri Himalini and Kufri Mohan	Kufri Chipsona 3	Lady Rosetta
Morigaon	Kufri Surya	Kufri Himalini	Kufri Chipsona 3	Lady Rosetta
Nagaon	Kufri Surya	Kufri Himalini	Lady Rosetta	Kufri Chipsona 3
Nalbari	Kufri Himalini	Kufri Surya	Kufri Chipsona 3	Lady Rosetta
Sivasagar	Kufri Surya	Kufri Mohan	Lady Rosetta	Kufri Chipsona 3
Sonitpur	Kufri Surya	Kufri Himalini	Kufri Chipsona 3	Lady Rosetta

The experimental Potato Cafeteria set up under APART created a good impact in the field among the farmers of Assam. The initiative could generate awareness on double cropping of potatoes after harvesting paddy. The Potato Cafeteria has created ripples on different suitable varieties of potatoes which can be grown for increasing cropping intensity. It is recommended that the Potatoes Cafeteria may be replicated in Non-APART districts of Assam.



Harvesting of the different varieties from the Potato Varietal cafeteria

Technology Dissemination Through FPCs And Increasing Livelihood Of Farmers

Written and compiled by Dr Minsura Begum, District Horticulture Coordinator, APART- Barpeta district.

Mandia Milonjyoti Farmer Producer Company (FPCs), Barpeta district, had adopted the CRML (climate-resilient & market-led) technology for tomato cultivation through their farmer members.

One of the farmer members who adopted the CRML technology is Shri Nawab Ali, Chairman of Mandia Milonjyoti Farmer Producer Company (FPC) from Jadavpur village, Mandia development block. He is also a

He had sown the seeds of Abhimanyu Variety of Tomato on 16th August 2021. After 25 days of sowing, the saplings were transferred to the field, measuring one (1) bigha with row-to-row and plant-to-plant geometry of 75 cm x 75 cm. This tomato variety is a semi-determinate fruit, shaped square round, with deep red colour fruit with excellent firmness and can be preserved for a longer time. Nawab Ali started harvesting the tomatoes from the 2nd week of November 2021



Nawab Ali in tomato plantation using the bamboo staking adoption

progressive farmer involved in farming for the last 20 years. He adopted the technology of the World Vegetable Centre (WorldVeg) disseminated through APART and has now become an example of selling his tomatoes with profitable returns.

onwards and continued up to March 2022. He could harvest 110 quintals of tomato from his one bigha land and sell them at Rs 15/-per kg,

The total cost of cultivation that Nawab Ali had spent was Rs 40,000 per bigha

with a gross profit of Rs 1,25,000.00/-.

Nawab Ali is a happy farmer, as he benefitted from the technology introduced by APART and World Veg through his FPC. His success has witnessed Bamboo staking adoption by other farmers, who are now

highly motivated to adopt the CRML technology.

Farmer Producer Company (FPCs) provide a platform for farmers to come together for technology and knowledge sharing, besides better marketing opportunities



Sorting and grading of Tomatoes and use of PHM accessories

Open-Pollinated (Op) Line Seed Production For Tomato

Compiled by APART Team, Barpeta District.

There are many hybrid varieties of tomatoes, but they are not consistent in their performance across the agro-ecological region and over the season. In addition, the hybrid seeds are costly and farmers cannot use them for different seasons. If the seeds are saved and grown in the second gen-

eration, it gives a lower yield, has less vigour and is variable in their physical characteristics. Therefore, taking into consideration all the above factors, the farmers should start producing their seeds to reduce the cost of production, and produce quality seeds to be kept aside for the next generation.



Extracting of tomato seeds using fermentation method

The Department of Horticulture and Food Processing and District Agriculture Office, Barpeta, with the seed village concept and taken up production of open-pollinated seed variety AVTO 1424 with the characteristics of Semi-determinate with bacterial wilt, TMV, TYLCD and root-knot nematode resistance, oblong shaped, medium to large fruit which is heat tolerant. Seeds, fertilizer, inputs and the cost of land preparation were given to the farmers. As a demonstration, seed sowing was done on 20th and 21st November 2021, where 25 days old seedlings were transplanted keeping a spacing of 70 cm x 50 cm geometry. Regular monitoring was done by both state and

district officials from DOH & FP, ARIAS, APART, WVC and PD ATMA. Harvesting was started from the 3rd week of March up to the 4th week of April. Seeds were extracted by using the fermentation method and training on seed extraction was given to the farmers a total of 170 grams of seeds were extracted from an area of 2.5 Katha which will cover an area of 4 bighas in the next planting season. Other farmers also visited the demo plot & farmers were highly satisfied with the seeds that have been extracted as they have never thought that tomato seeds can be produced and kept for next season will reduce seed costs otherwise they have to pay a high price on seeds.

State Level Conclave Cum Exhibition Of The Farmer Producer Companies (FPCs)

The first-ever State Level Conclave cum exhibition of the Farmer Producer Companies (FPCs) was organised by the Assam Agribusiness Rural Transformation Project (APART) on 8th June 2022 at the Srimanta Sankardev International Auditorium, Panjabari, Guwahati.

The conclave was inaugurated by the Minister of Agriculture, Horticulture, Animal Husbandry & Veterinary, Govt of Assam, Shri Atul Bora in the presence of Agriculture Production Commissioner & State Project Director, ARIAS Society, Shri Ashish Kumar Bhutani, IAS, Director, Agriculture, Shri Anant Lal Gyani, IAS, NABARD, Naveen Dhingra.

The Conclave was organised to provide a platform for the FPCs registered in the State. The Central Sector Scheme "Formation and Promotion of 10,000 Farmer Producer Organisations (FPOs)" along with different agencies like APART, NERAMAC, NABARD, and SFAC are working to bring the farmers together and develop their capacity and skills in post-harvest management, value addition and marketing. The FPC programme also aims to prepare the farmers to access wider markets and



Hon'ble Minister of Agriculture, Shri Atul Bora addressing the participants during the FPC Conclave

function as a private limited company owned and managed by the farmers.

In Assam, agriculture development projects in the past emphasised increasing production and limited attention was given to post-harvest management and marketing. As a result, farmers, in return received a very less percentage of consumer spending. Similarly, timely availability, price, and quality of agricultural inputs, like seed, fertilisers, feed etc are still a challenge for the farmers. Therefore, to address these constraints APART is working towards strengthening the backward and forward linkages to integrate producers and market and make the value chains compact and efficient.

Under the Assam Agribusiness Rural Transformation Project (APART), it is targeted to support 125 FPCs in the Project districts. Each FPC will have Common Service Centre (CSC) and a Common Facility Centre (CFC) supported through the Project. Besides asset creation at the FPC level, APART also provides capacity-building programmes (training, exposure visit etc) for the FPC members on different aspects, such as FPC management, accounting, farm machinery operation and maintenance, and improved production technology, post-harvest management and value addition etc. APART also focuses on establishing a proper market linkage of the FPCs at the local, national and international levels.

The 1st State Level Conclave cum exhibition was organised with the following objectives:

- » Share knowledge and skills on best practices/opportunities (in terms of institutional building, FPC management, business model, income generation, innovative technologies/ideas etc) with successful FPCs from other parts of the country
- » Discuss prospects/constraints for effective functioning of FPCs and strategies to address the constraints



- » Explore market/business potential for FPCs
- » Explore financing opportunities / schemes available for FPCs

As a knowledge-sharing platform, the Conclave allowed FPCs to interact, share and learn from their experiences and best practices in the field. An exhibition to showcase the different products, including value-added products by the FPCs was also held during the Conclave.

Officials from NERAMAC, NABARD, SFAC, APEDA, Agriculture and allied departments, Agri Entrepreneurs, traders, exporters and bankers and financial institutions and FPC members from the State and outside took part in the Conclave. Experts from the domain, FPC members from the State and outside took part in the one-day event.

Photo Gallery Of FPC Conclave



MoU Signed With CIMAP For Pilot Mission On Medicinal And Aromatic Plants

A Memorandum of Understanding (MoU) between the Directorate of Horticulture and Food Processing, Govt. of Assam and the Council of Scientific and Industrial Research (CSIR)- Central Institute of Medicinal and Aromatic Plants (CIMAP) was signed on 21st June 2022. As per the MoU, CSIR-CIMAP will provide Technical Advisory support for the Pilot Mission on Medicinal and Aromatic Plants (MAP) in the State. The pilot mission is for 2(two) years under the World Bank Financed Project – Assam Agribusiness and Rural Transformation Project (APART).

The MoU was signed between the Director, Horticulture & Food Processing, Assam, Shri Tiranga Bharatiya Borah and the Principal Scientist, CSIR-CIMAP, Lucknow and officers of ARIAS Society, CIMAP and OPIU (Horticulture), in the presence of Dr Ashish Kumar Bhutani, IAS, Addl. Chief Secretary cum Agriculture Production Commissioner to the Govt. of Assam and State Project Director, ARIAS Society,

The Pilot Mission is an initiative for the first time in the State under APART and will begin with the cultivation of a few crops like Lemongrass, Vetiver, Tulsi and Patchouli in selected districts, namely Dhemaji, Majuli, Biswanath,



MoU between Directorate of Horticulture & FP and CSIR-CIMAP

Karbi Anglong, Goalpara, Kokrajhar & Dhubri.

Under the assignment, CSIR-CIMAP will support the Directorate of Horticulture and the Agricultural Technology Management Agencies (ATMAs) in the districts to carry out Market-led demonstrations in a cluster mode on the specified crops in the selected districts. They will also support the Post Harvest Management/ Processing demonstrations, setting up Mini Processing Plants for the medicinal and aromatic plants, Market linkages through Buyer-Seller meet, Training and Capacity Building of beneficiary farmers, Govt and Project Staff.

This intervention looks forward to the help farmers with an alternative income in future.

Training On Onboarding Of FPCs On NeML Under APART

A one-day training program for the on-boarding of FPCs on the NCDEX e Markets Limited (NeML) electronic trading platform was jointly organized by Project Coordination Unit (PCU), ARIAS Society, and Assam state Agricultural Marketing Board (ASAMB) on 24th June 2022 under the World Bank-financed Assam Agribusiness and Rural Transformation Project

The main focus of the training program was to mentor the FPCs in registering on the online trading platform, the process of placing sell offers, and quality parameters so that they can themselves take up the trading of their agricultural produce through the e-markets channel to sell to distant buyers.



Training program in progress

(APART) at Khanapara, Guwahati. The training program was attended by around 18 Farmer Producer Companies (FPCs), officials from ASAMB, APART and ARIAS Society staff. The resource persons for the training program were invited from NCDEX e Markets Limited (NeML) and included Shri Debashish Mukherjee, Senior Manager, Shri Manoj Choudhary, State Head-Bihar, and Ms Apoorva Sharma, Deputy Manager.

It is pertinent to mention here that through online trading a buyer and seller can transact while being physically distant away from each other. Online trading platforms bring together a large number of genuine buyers and sellers from distant places facilitating transparent price discovery. In April 2022, one such transaction has already been facilitated by APART for a consignment of maize from Sonitpur

District wherein two Farmer Producer Companies (FPCs) came together to sell a lot of 20 MT maize to a Kolkata-based buyer at a very remunerative price. These are 1. Kheuj Nayan FPC, Borsola, Sonitpur and 2. Nobomilan FPC, Balipara, Sonitpur. APART is making

efforts to get more FPCs registered on various e-platforms in a way to provide alternate marketing channels for agri-commodities from the State. The program was well accepted and appreciated by the participating FPCs.

Inception Workshop Of IFDC

The inception workshop for the Technical Advisory Support to APART by the International fertilizer Development Center (IFDC), New Delhi was held on 23rd June 2022 at the Hotel Lily, Khanapara, Guwahati.

The IFDC technical advisory support to Assam agribusiness and rural transformation project (APART) on "assessment of state fertilizer scenario

and promoting efficient nutrient management (ASPEN) has hosted an inception workshop to discuss the consultancy's engagement and implementation plan with targeted partners. The ASPEN will respond to efficacy and transparency issues of the fertilizer demand -the supply-distribution system in the state as per IFDC global strategy <https://IFDC.org/strategy-2020-2030>.



Participants of the workshop

About ASPEN-

The scope of the assignment has a twin focus of enhancing the fertilizer sector efficiency and increasing agricultural productivity and farm income through innovative nutrient management sources and technologies promoted by IFDC. IFDC aim to involve a wide number of stakeholders in identifying the gaps in fertilizer supply and distribution chain and providing probable policy suggestion to achieve efficiency and transparency. Actively placing participatory research/ demonstration in smallholder farmers' fields is intended to bridge innovation-to-implementation gaps on new

fertilizer technologies. Aspen aims to support the APART efforts toward efficient fertilizer supply chains and a climate-smart production system.

The following were the inception objectives covered during the workshop

- » Present an overview of the ASPEN Workplan to the key partners and stakeholders.
- » Develop a concrete implementation time frame for each activity.
- » Incorporate stakeholders' suggestions for improvement of ASPEN workplan

Agri Input Study: Inception workshop

In consultation with the World Bank, the ARIAS Society commissioned a short study titled "Review and Analysis of Farm Input Supply Systems in Assam" through the National Institute of Agricultural Extension Management (MANAGE). The contract agreement with MANAGE was signed on 26th May 2022. The inception workshop for the study was organized on 28th June 2022 in online cum offline mode. The physical venue of the workshop was Chief Engineer's Conference Hall, Agri Campus, Khanapara, Guwahati.

The workshop witnessed the

participation of retailers, dealers, distributors, C&F agents and companies in the seeds, fertilizers and plant protection sector, senior Govt officers, and front line officers from the Agriculture Department at the District level i.e. Agriculture Development Officers (ADOs) as well as progressive farmers. The workshop was also graced by the online presence of the Director General, MANAGE, Hyderabad Dr P. Chandrashekara. A very encouraging and informative speech was given by the Managing Director, Assam Seeds Corporation Limited (ASCL), Shri BB Bhagawati. Shri Kailash Barman,



Participants of the workshop

Director, Assam Seed and Organic Certification Agency (ASOCA) spoke about the pivotal role ASOCA is playing in the seed certification program. The following experts from MANAGE remained present in the workshop, Shri Soumitra Das, Team Leader, Shri Ajay Bharatiya, Fertilizer Expert,, Shri Vijay Bhaskar Reddy, Seed Expert, Shri Ansuman Maity, Plant Protection Expert, Dr Shailendra Singh, Coordinator, MANAGE

A detailed presentation was made by the MANAGE team. The key highlights of the presentation include:

A. Seeds

- » A very small percentage of produced seeds are certified by farmers
- » Seed farms of ASCL can be utilized for breeder and foundation seed production. At present these farms are not fully utilized for various reasons.

- » There is good potential for producing OP local Seed Varieties of Assam, which have good demand.
- » Seed processing facilities are highly inadequate. The existing facilities are very old and require repair
- » Seed production with FPOs seems to be a promising proposition
- » Seed sales through private dealers, retailers etc can open an alternate channel for ASCL

B. Fertilizers

- » Assam has a very low consumption of fertilizers. Therefore, there is a huge opportunity to increase the productivity of various crops through the balanced use of fertilizers.
- » It is evident that in the last decade, fertilizer consumption in Assam was as low as 44.8 kg/ha and as high as 90.2 kg/ha and last year's consumption was 71.4 kg/ha (2020-21).

- » It is noticeable that the demand and requirement for fertilizers are much higher than the actual consumption. Consequently, there is a huge scope to increase the productivity and profitability of farmers in Assam if the fertilizer supply can be increased.
- » The market is heavily dependent on generic pesticides like mancozeb, carbendazim, chlorpyrifos, cypermethrin etc

The inception workshop concluded successfully around 4 pm. After the workshop, the MANAGE team had a debriefing meeting with Dr Ashish Kumar Bhutani, IAS, State Project Director, ARIAS Society, Addl. Chief Secretary (Agri) and Agriculture Production Commissioner (APC) wherein a brief discussion on the inception report was also held. Dr Bhutani wished the MANAGE team the very best for the timely and successful completion of the study and expressed that the recommendations of the study would have the potential to bring about a positive sea change in the Agri input sector of the State.

C. Plant protection

- » Agri-chemical market in Assam is dominated by the Tea sector
- » Focus on field crops by the reputed companies is somewhat less as compared to Tea
- » Rice, potato and mustard are the focus crop for the agri-chemical marketing companies
- » Highly concentrated market. Top 5 companies controlling more than 50% of the market

Successful Community-Based Seed Production Strategies Highlighted In Seed Stakeholder Meeting

Assam Agricultural University in collaboration with the International Rice Research Institute has organised a Seed Stakeholder meeting on July 05, 2022, in the College of Veterinary Science, AAU, Khanapara, under World Bank financed, Assam Agribusiness and Rural Transformation Project (APART) with the objective to prepare the seed production strategy with the involvement of farmer producer company (FPC).

Seed is an important component of agricultural crop production, on which depends the performance and efficiency of other inputs. Quality seed maintains high standards of genetic purity, physical quality, physiological quality, pathological quality with proper moisture content and weight. Govt. of Assam has prioritised seed production as one of focussed area, lot of farmer friendly initiatives are being taken under Assam Agribusiness and Rural Transformation Project (APART). The theme of the workshop was "Successful Community based seed production strategies". The workshop was started with the welcome address by Dr. Rupam Borgohain, Principal

Scientist and Nodal Officer, APART -AAU. In his address, he presented an overview of the seed system of Assam and stressed on involvement of the Farmer Producer Companies (FPCs) and the private seed entrepreneurs in quality seed production in the state. It is important to mention here that International Rice Research Institute has helped in providing a platform and linkage to the other State Agencies to share their success stories with the Assam Seed Producing Agencies so that their success stories can be implemented in the State of Assam. Through this linkage, Mr. Mahesh Verma, from Rajasthan State Seed and Organic Certification Agency gave a presentation on the present status of seed production in Rajasthan where the state is presently producing self-sustained paddy seeds and 94,000 ha area under organic certification this year. Ms. J Sandhya Rani, Manager, Telengana, State Seeds Development Corporation interacted with the participants and presented a detailed overview of the seed system and policy initiatives undertaken by Telengana State Govt. for making the State a surplus in seed production and the

way forward for making a global seed hub. She mentioned the efforts put in to host seed companies and creating model seed villages and the initiatives like “Online Subsidy Distribution System (OSSDS)” and seed park.

The special guest of the Seed Stakeholder meeting, Dr. Om Prakash, Commissioner and Secretary, Agriculture Department, Govt. of Assam

the Govt. tendering process so that they can also supply the seed under Govt. schemes. He mentioned the Govt. of Assam initiatives for seed production and stressed on sustainability of FPC beyond the hand holding period. Dr. Om Prakash, also emphasized on adoption of seed treatment as mandatory with the recommended chemicals to improve the productivity of different crops at very less cost and



emphasised on seed production by FPC in Assam in a massive way, He shared that app. 10-20 % of paddy seeds used at farmer's field are supplied through different schemes by Govt of Assam, remaining 80-90% seeds are used from open market. As there is paddy seed production program has been initiated by Govt. of Assam with selected seed producing FPCs, he suggested all the FPCs to participate in

with high remuneration. He suggested that the Seed Policy for the State is under formulation and hope it will help in streamlining the seed production system and making the State a self-sustained in seed production.

Dr. Kanwar Singh, Senior Associate Scientist II and Resident Co-ordinator, IRRI-APART has briefed the initiatives undertaken in APART to promote seed

production through FPCs in Assam. He shared details of FPC involved in seed production and the capacity building initiatives undertaken with seed growers. He also reiterated the Govt. of Assam initiatives to strengthen the seed system of Assam. Mr. Kailash Barman, Director of ASOCA cited the example of the seed production scenario of Telengana and appealed all the seed producer to keep honesty in seed production. The meeting was also addressed by Dr. Neeraj Tyagi, Sr Specialist, Dr. Kuntal Das, Sr specialist, IRRI, Abhinav Jain, Seed Expert, APART and representatives of seed producing FPCs of Assam.

Dr. Ashok Bhattacharyya, Director Research, AAU explained how the FPCs

are becoming the changing agent of transformation of agricultural scenario of Assam by exporting different agricultural commodities. He assured all technical support to the FPC by Assam Agricultural University during seed production of all crops. The meeting was participated by seed producing Farmer Producer Companies (FPCs), private seed companies, scientists from International Rice Research Institute, Assam Agricultural University, officers from Assam Rural Infrastructure and Agricultural Services Society (ARIASS), Department of Agriculture, Govt of Assam and officials of Assam State Seed and organic Certification Agency (ASOCA).

Assam Agribusiness Growth Lab Delivers Promising Investment Opportunities At Demo Day

Assam Agribusiness Growth Lab, an APART led acceleration program in partnership with CIIE.CO, IIM Ahmedabad's incubator, completing its inaugural cohort, successfully staged "Pitching & Demo Day" on 10th June 2022. The Demo Day was a coming together of stakeholders, government agencies, financial bodies, investors, buyers with the AAGL entrepreneurs in focus.



Presentation by Start Ups of the first COHORT

The rest of the industry stalwarts present were from DIC, NEDFi, NRL, NABARD, HDFC bank, North East Small Finance Bank, CII, FINER, SELCO Foundation, Department of Fisheries, Department of Agriculture, ARIAS Society, World Veg, World Fish, IRRI etc. CIIE.CO in partnership with ICCSPL is co-implementing this acceleration programme in Assam that was officially launched on 30th June 2021.

Dr. Ashish Kumar Bhutani, IAS, SPD ARIAS Society, categorically remarked, "Govt of Assam is committed to promote an enabling agriculture enterprise ecosystem in the state. Towards this, APART has initiated

the Assam Agribusiness Growth Lab program to foster and accelerate the growth of the agro-processing sector. APART encourages entrepreneurs to spearhead the development of the State. We welcome CIIE.CO'S effort in implementing a much-needed program for achieving results."

Assam Agribusiness Growth Lab (AAGL) organized the Demo Day primarily to interpret its flagship journey of 1 year of the Cohort acceleration process. After a series of business and technical interventions and 2 Boot Camps, the cohort of 25 agri-enterprises will now be engaging with investors, buyers and market

platforms leading to access to finance and markets. A pitch session followed by Q&A by the invitees for each startup marked the event. The Demo Day saw 10 enterprises pitching their businesses before a group of reputed investors representing agencies as diverse as Menterra, Caspian, NEDFi, NRL, HDFC Bank, AGVB etc. showing potential for immense investment opportunities in the Agri and allied sector in Assam.

The event kick-started with round-table discussions among diverse ecosystem players and engaged the entrepreneurs with different stakeholders towards access to finance & markets. The most valuable takeaways were the business insights on upscaling businesses and navigating the challenges faced by the entrepreneurs in terms of regulating cash flow, strengthening the supply chain, customer acquisition, maintaining unit economics and financial hygiene, quality assurance, while resolving a business problem statement with innovation and technology infusion.

Mr. Chintan Bakshi, partner CIIE.CO and CEO Startup oasis stated, "The AAGL is a path-breaking program not only for Assam but it is also a potential trend-setter for supporting agri-based businesses and MSMEs across India. CIIEI has used its deep expertise in startup incubation and acceleration



Presentation by Start Ups of the first COHORT

to provide deep mentoring, business advisory, fundraising and market access support to agribusinesses from Assam."

Another event highlight was launch of Freshdo App, an AAGL incubatee, which is an online essentials delivery platform for farm fresh vegetables, fruits and meat. Mr. Arijit Sarmah, AAGL Team Leader and Senior Manager, Regional Incubation, CIIE.CO demonstrated on the Call for Application url hyperlinked to the AAGL website(<https://aagl.ciie.co/>) for its upcoming cohort and urged every eligible agri-entrepreneur of Assam to apply to the program. Pitching & Demo Day concluded with the participants taking a tour of the display of the AAGL enterprises' products. All the key stakeholders lauded the APART initiative and congratulated the AAGL team for contributing to the cause of developing the agribusiness ecosystem of Assam.

Fishery Dept To Introduce High Yielding Variety And Mola In Nalbari

A campaign aimed at massive production of small indigenous fish and high-yielding fish variety like Amur carp and Jayanti Rohu at paddy fields and community management Beel Fisheries was launched under the aegis of the World Bank aided Assam Agribusiness and Rural Transformation Project (APART) at Pub-

Kalakuchi and Bakrikuchi villages under Pub-Nalbari and Barkhetri Development Block in Nalbari District.

Speaking the programme, Trailokya Saloi, District Fisheries Development Officer, Nalbari said fish production in the traditional farming system at paddy fields and Beel Fisheries is almost as primitive and so the Nalbari District Fisheries have started the campaign to help the farmers to increase their rice production as well as small fish production using a stress tolerance paddy variety and high yielding fish variety. The productivity of Beel Fisheries developed under this project is targeted to increase sustainably by introducing high-yielding variety and small fish scientifically at Beel Fisheries.

Addressing the event, Dr Sanjay Sarma, Fishery Co-ordinator, APART, spoke on the benefits of rice-fish farming and explained how the same could restore soil fertility and avoid soil degradation, which is a major global environmental issue. The introduction of high-yielding variety and small fish at paddy fields and natural resource Beel Fisheries would enhance farm production, reduce environmental degradation and improve the farmers' quality of life, Dr Sarma added.

Acting as a resource person, Dr Baishnaba C Ratha, Senior Nutrition Specialist of the International organisation WorldFish said the small fish also improves nutrition for pregnant and lactating mothers and young children during the critical first 1000 days of child development. "The large fish can be sold for income, while small fish are harvested regularly for household consumption or, when in excess, for sale within the community or near the market, he said.

Around one hundred farmers attend the day-long programme, besides technical experts and the APART fishery team.

Small Fish Nutrition Promotion Awareness Program by WorldFish under APART

WorldFish is providing technical support for demonstrating nutrition sensitive aquaculture and for promoting fish in human nutrition under APART. Small Indigenous Fish Species (SIS) are micronutrient-rich, especially when eaten whole with the head, bones and viscera. They are rich in essential micronutrients such as vitamin A, vitamin B12, iron,

consume small fish, their nutritional value is not known to them. So, to bring awareness to the community regarding the nutritional importance of fish required and the role of small fish consumption in nutritional security of the local communities, WorldFish Assam team under the leadership of Dr. Baishnaba Charan Ratha, WorldFish nutrition expert



Participants of the Awareness campaign

calcium, zinc and essential fatty acids, which are important for growth and development in young children. When added in our daily intake of food, it increases micronutrient intake among the most vulnerable groups.

In Assam, though many people

conducted 12 awareness programs on small fish nutrition promotion, piloting and demonstration activities in 9 Districts viz. Morigaon, Sonitpur, Lakhimpur, Sivasagar, Jorhat, Majuli, Kamrup, Nalbari and Darrang under APART from 8th March 2022 to 30th March 2022 in the first phase.

From 7 May 2022 to 19 May 2022, WorldFish team started the 2nd phase of Small Fish Nutrition Promotion program and conducted 9 awareness programs in 3 districts viz., Nalbari, Barpeta and Goalpara in the 2nd phase. An average of 50 participants attended in each of the fish nutrition

encompasses pregnancy and the first two years after birth, was discussed in the meeting. Detailed discussion with the participants was held on the nutritional benefits of consuming small fish.

The participants were provided with



Participants of the Awareness campaign

awareness program. The participants include women mostly pregnant and lactating women, adolescent girls and children, caregivers, community members, ICDS staff and ASHA workers.

During the Nutrition awareness program the WorldFish team provided awareness and basic information on the role of small fish in human nutrition, on the importance of eating small fish along with vegetables and the importance of a diverse and balanced diet to achieve better nutritional outcomes. The importance of 1,000 days of a child's life, which

Small Fish Nutrition related Social Behaviour Change Communication (SBCC) materials like Leaflets, Brochures, and Calendars during the meeting. Overall, the Small Fish Nutrition Promotion Programs organized by WorldFish along with ARIAS Society and Department of Fisheries, Government of Assam resulted in creating mass awareness on the nutritional benefits of consuming micronutrient rich small fishes in the regular diets of rural communities among the most vulnerable sections like pregnant and lactating women, adolescent girls and children to combat malnutrition and for their nutritional security.

Training on Testing of Milk for Quality and Safety under APART, Dairy Development

To ensure the quality and safety of milk produced at different points of informal dairy value chain in the state, it is of utmost necessary to test these milk samples in the concerned laboratory for physical appearance (organoleptic test, Clot on boiling, etc) adulterations, antibiotic/ aflatoxins residues and most importantly microbial contamination. Keeping this in view, capacity building of dairy officials/technicians was envisaged under the World Bank-aided Assam Agribusiness & Rural Transformation Project (APART)

in Assam. As a part of this initiative, the International Livestock Research Institute (ILRI) delivered training to the state dairy officials from 4th - 6th May 2022, organized by the Dairy Development Department at the State Milk Testing Laboratory, Khanapara, Guwahati-22, Assam. The topics covered in the training were: basic laboratory practices, bio-safety measures, sampling and lab waste disposal, hazard identification, objectives and protocols of the tests (FSSAI approved) and record keeping, analysis and result interpretation.



Training on Testing of Milk for Quality and Safety

World Environment Day 2022

The World Environment Day 2022 was observed by the APART-ARIAS Society on 5th June 2022.

To celebrate the occasion, a short video of the APART beneficiaries pledging for a better and cleaner environment

was taken up. The beneficiaries spoke about their initiatives in safeguarding the environment while implementing the activities of the Project. The video documentation was shared across the Social Media platforms of APART on 5th June 2022.



শাক-পাচলি খেতিৰ জৰিয়তে সফলতা অৰ্জন কৰা

কামৰূপ জিলাৰ উদীয়মান যুৱক বলেন বৰুৱাৰ সফলতাৰ কাহিনী

মিতালী বৰদলৈ
জিলা উদ্যান শস্য সমন্বয়ক
এপাৰ্ট, কামৰূপ

সেউজ গৃহত শীত তাপ নিয়ন্ত্ৰিত পৰিৱেশত ট্ৰে পদ্ধতি ব্যৱহাৰেৰে কম সময়ৰ ভিতৰতে আৰু কম খৰচতে উন্নত মানদণ্ডৰ শাক-পাচলিৰ পুলি তথা বীজ উৎপাদন কৰি অধিক লাভৱান হ'ব পাৰি। কিন্তু বিষয় ভিত্তিক জ্ঞান তথা উপযুক্ত তথ্য-অভিজ্ঞতা সীমিত হোৱা হেতুকে ভাৰতবৰ্ষৰ অন্য ৰাজ্যৰ তুলনাত যেন পিছ পৰি আছে অসম। যাৰ বাবে অসমে সদায় অন্য ৰাজ্যৰ পৰা অধিক মূল্যত ক্ৰয় কৰিব লগীয়া হয়।

কামৰূপ জিলাৰ সোণাপুৰ উন্নয়ন খণ্ডৰ অধীনস্থ বৰখাট গাঁৱৰ শিক্ষিত যুৱক বলেন বৰুৱাই সেউজ গৃহত উন্নত মানদণ্ডৰ শাক-পাচলিৰ পুলি প্ৰস্তুত কৰি স্বাৱলম্বী হোৱাৰ লগতে অন্য যুৱককো সংস্থাপনৰ বাট দেখুৱাব পাৰিছে। ২০১০ চনত এখন ফুলৰ নাৰ্চাৰি স্থাপন কৰি মাহিলী আয় ১৫,০০০ টকাৰে পৰিয়ালটোক চোৱাচিতা কৰিছিল যদিও উপযুক্ত বজাৰ তথা জ্ঞানৰ অভাৱত থমকি ৰব লগীয়াত পৰিছিল।



২০২০ চনৰ ছেপ্টেম্বৰ মাহত বলেন বৰুৱাই বিশ্ববেংকৰ অৰ্থসাহায্যত ৰূপায়িত “অসম কৃষি-বাণিজ্য আৰু গ্ৰাম্য ৰূপান্তৰকৰণ প্ৰকল্প” চমুকৈ “এপাৰ্ট”(APART) ৰ অধীনত জিলা কৃষি বিভাগ আৰু উদ্যান শস্য আৰু খাদ্য সংশোধন সঞ্চালকালয়ৰ সহযোগত সেউজ গৃহত শাক পাচলিৰ পুলিৰ উৎপাদন আৰু পৰিচালনা সন্দৰ্ভত চাৰিদিনীয়া প্ৰশিক্ষণৰ সুবিধা লাভ কৰে ডেফদিল মহাবিদ্যালয়ত।

প্ৰশিক্ষণৰ পিছৰ পৰ্যায়ত হিতাধিকাৰীয়ে কম খৰচতে সম্পূৰ্ণ বাঁহেৰে নিৰ্মিত দীৰ্ঘস্থায়ী

সেউজ গৃহ স্থাপন কৰি ভিন্ন জাতৰ শাক-পাচলিৰ পুলি উৎপাদন কৰে। এইদৰে ২০২০ চনৰ নৱেম্বৰ মাহৰ পৰা আজিৰ তাৰিখলৈ বলেন বৰুৱাই বন্ধাকবি, ফুলকবি, ওলকবি, বেঙেনা, বিলাহী, হালধীয়া ফুলকবি, জিকা, টিয়হ, ভোট জলকীয়া, জলকীয়া, নেমু টেঙা আদি পুলি বিক্ৰী কৰি প্ৰায় আঢ়ৈ লাখ টকা (২.৫ লাখ) উপাৰ্জন কৰিবলৈ সক্ষম হৈছে। ইয়াৰ উপৰিও তেখেতে দাঁতি কাষৰীয়া অঞ্চলৰ কৃষকসকলক উন্নত পুলি যোগান ধৰিবলৈ সক্ষম হৈছে। এইদৰেই তেখেতে নিজৰ পৰিয়ালক মনে বিচৰা ধৰণে পোহপাল দিবলৈ সক্ষম হোৱাৰ লগতে দুগৰাকী নিবনুৱা যুৱককো কৰ্মসংস্থাপন দিবলৈ সক্ষম হৈছে।



বলেন বৰুৱাই তেখেতৰ এই কৃষিকাৰ্য্য মেঘালয়ৰ বৰ্ণিহাটলৈ সম্প্ৰসাৰিত কৰি দ্বিতীয়খন নাৰ্চাৰিৰ কাম আৰম্ভ কৰিছে। যাৰ জৰিয়তে চাহিদা বৃদ্ধিৰ হোৱাৰ লগতে

অসমীয়া কৃষকৰো সহায় হ'ব বুলি বিশ্বাস জন্মিছে। অসমৰ শিক্ষিত নিবনুৱা ডেকা চামৰ বাবে এক আদৰ্শ যুৱকৰূপে জিলিকি উঠিছে বলেন বৰুৱা।

এপাৰ্ট প্ৰকল্পৰ ন-সংযোজন সমূহীয়া ভিত্তিত “জিৰ বাজেট প্ৰাকৃতিক কৃষি পদ্ধতি”

ভাস্কৰ পাঠক
জিলা উদ্যান শস্য সমন্বয়ক
এপাৰ্ট, গোলাঘাট

আছিফ বিন কুটুব
বাগিচা উন্নয়ন প্ৰবন্ধক
এপাৰ্ট, খানাপাৰা

অসমৰ কৃষি খণ্ডত এক গুৰুত্বপূৰ্ণ আৰু যুগান্তকাৰী প্ৰভাৱ পেলাই অহা অসম কৃষি বাগিচা আৰু গ্ৰাম্য ৰূপান্তৰকৰণ প্ৰকল্প চমুকৈ “এপাৰ্টে” শেহতীয়াভাৱে আৰম্ভ কৰিছে এনে এক অভিলাষী আঁচনি; যাৰ নাম হ’ল সমূহীয়া ভিত্তিত (Community based) “জিৰ বাজেট প্ৰাকৃতিক



কৃষি পদ্ধতি” (Zero Budget Natural Farming)। এই কৃষি পদ্ধতিৰ মূল অৰ্থ হ’ল এজোপা শস্যৰ শ্ৰীবৃদ্ধি হ’বলৈ যি পুষ্টিৰ প্ৰয়োজন হয়, তাৰে ৯৮ শতাংশই প্ৰকৃতিৰ পৰা পাব পাৰি আৰু বাকী ১.৫ ৰ পৰা ২ শতাংশ পুষ্টিৰ বাবে, মাটি ডৰা সুকীয়াকৈ তৈয়াৰ কৰি ল’ব লাগে। অণুজীৱৰ মাধ্যমেৰে প্ৰাকৃতিক ভাৱেই মাটিত সেই পৰিমাণৰ পুষ্টি তৈয়াৰ কৰিব পৰা যায়। এই নতুন পদ্ধতিৰ কৃষি কৰ্মত কৃত্ৰিম উপায়েৰে তৈয়াৰী সাৰৰ প্ৰয়োজন নহয়। লগতে এই পদ্ধতিত অতিৰিক্ত

খৰছ নাই বাবেই কোৱা হয় সমূহীয়া ভিত্তিত “জিৰ বাজেট প্ৰাকৃতিক কৃষি পদ্ধতি”।

প্ৰাকৃতিক খেতি এনে এক খেতিৰ পদ্ধতি য’ত কৃষকে খেতিৰ বাবে বজাৰৰ পৰা কোনো সামগ্ৰী ক্ৰয় কৰাৰ প্ৰয়োজন নহয়। ফলত তেওঁলোকৰ ওপৰত ঋণৰ বোজা নাথাকে। এক চমকপদ পদ্ধতি বিশেষকৈ অসমৰ লগতে ভাৰতবৰ্ষৰ দৰে ৰাষ্ট্ৰত “নব্য উদাৰবাদী অৰ্থনীতি”ৰ পথ গ্ৰহণৰ পিছত যি দৰে গভীৰ কৃষি সংকটত কৃষকসকল পৰিছে আৰু লগতে

কোনো কোনো ক্ষুদ্র কৃষকৰ অৱস্থা এনে স্থানলৈ অৱনমিত হৈছে যে, তেওঁলোকে কৃষিকাৰ্যৰ লগত জড়িত হোৱাৰ সামৰ্থতা হেৰুৱাইছে; তেনে সময়ত কিন্তু জিৰ বাজেটত হোৱা খেতিৰ নতুন পদ্ধতিটো সাঁচাকৈয়ে আকৰ্ষণীয়।



সেউজ বিপ্লৱৰ পৰৱৰ্তী পৰ্যায়ত ৰাজ্যখনৰ লগতে সমগ্ৰ দেশতে যিবোৰ সমস্যা অত্যন্ত বাঢ়ি যোৱা দেখা গৈছে সেয়া হ'ল- কৃষি উৎপাদনত ভাৰসাম্যৰ অভাৱ, অত্যাধিক ৰাসায়নিক সাৰৰ ব্যৱহাৰ। বিশেষকৈ সাৰ আৰু কীট-নাশক নিৰ্বৰতা, জলজ সম্পদৰ অপৰিকল্পিত ব্যৱহাৰ আৰু উৎপাদনশীলতা হ্রাস। পৰিবেশ প্ৰদূষণ বিশেষকৈ খাদ্যত বিপদজনক মাত্ৰাত বিভিন্ন ধৰণৰ ৰাসায়নিক দ্ৰব্য মিশ্ৰিত হোৱা, কৃষকে ফচলৰ উচিত মূল্য নোপোৱা আদিৰ এক সংকটময় সময়ত এপাৰ্টৰ এই প্ৰাকৃতিক কৃষিৰ ওপৰত বিশেষ আলোকপাত নিঃসন্দেহে প্ৰশংসাৰ যোগ্য।

অসমত জৈৱিক কৃষি পদ্ধতিৰ এক দীৰ্ঘ ঐতিহ্য আছে। এই খেতি পদ্ধতিৰ দ্বাৰাই অতীতত ৰাজ্যখনৰ অৰ্থনৈতিক বুনিয়াদ গঢ়ি উঠিছিল। সেই পদ্ধতিত উদ্ভিদ আৰু প্ৰাণীজ পদাৰ্থই সাৰ হিচাপে বা কীটনাশক হিচাপে ব্যৱহাৰ কৰিছিল। গো-সম্পদ বিবেচিত কৰা হৈছিল মূল কৃষি সম্পদ হিচাপে। কেৱল গাখীৰৰ বাবে নহয়, বলধ ব্যৱহৃত হৈছিল নাঙল টনা কামত,

আৰু গোবৰৰ পৰা সাৰ প্ৰস্তুত কৰা হৈছিল। ভাৰতবৰ্ষৰ এই প্ৰথাগত কৃষি পদ্ধতি গৱেষণাৰ দৃষ্টিকোণৰ পৰা বিশেষভাৱে বিশ্লেষণ কৰি উদ্ভাৱন কৰা হৈছে এই “জিৰ বাজেট প্ৰাকৃতিক কৃষি পদ্ধতি”।

৬০ দশকৰ পৰা সেউজ বিপ্লৱৰ ধাৰণা আৰম্ভ হৈছিল। এই সেউজ বিপ্লৱ আছিল মূলতঃ ৰসায়ন নিৰ্ভৰ। ভাৰতবৰ্ষৰ প্ৰথাগত কৃষি পদ্ধতি উচ্ছেদ কৰি ৰাসায়নিক সাৰ, কীটনাশক ব্যৱহাৰ সৰ্বব্যাপ্ত হয়। এই পদ্ধতিৰ সুফল আৰু কুফল ইতিমধ্যে বহু সময়ত আলোচনা কৰা হৈছে। উদাহৰণ স্বৰূপে, কৃষিত নানা ধৰণৰ ৰাসায়নিক দ্ৰব্য নাশক ব্যৱহাৰ বৃদ্ধিৰ কথা আমি আলোচনা কৰিব পাৰো।

ৰাসায়নিক নিৰ্ভৰ কৃষি যথেষ্ট ব্যয় বহুল হয়। এই পদ্ধতিত কৰা খেতিৰ বাবে যিসকল কৃষকে ঋণ ল'ব লগা হয়, মুখ্যতঃ তাৰ অধিক সুতৰ হাৰৰ বাবে উৎপাদিত ফচলৰ উচিত মূল্য নোপোৱাৰ ফলত কৃষকৰ আত্মহত্যা হৈছে।

কৃষক সমাজৰ মাজত এক বিপদজনক প্ৰৱণতা হিচাপে চিহ্নিত হৈছিল। সেইবাবে বিশ্ববেংকৰ অৰ্থসাহায্যত ৰূপায়িত “অসম কৃষি-বাণিজ্য আৰু গ্ৰাম্য ৰূপান্তৰকৰণ প্ৰকল্প” চমুকৈ “এপাৰ্ট” (APART) ৰ অধীনত জিলা কৃষি বিভাগ আৰু উদ্যান শস্য আৰু খাদ্য সংশোধন সঞ্চালকালয়ৰ সহযোগত এই সমূহীয়া ভিত্তিত “জিৰ বাজেট প্ৰাকৃতিক কৃষি পদ্ধতি”ক উৎসাহিত কৰিব বিচাৰিছে।

“জিৰ বাজেট প্ৰাকৃতিক কৃষি পদ্ধতি”ত ‘বীজামৃত’ বা বীজশোধন, ‘জীৱামৃত’ বা জীৱাণু কালচাৰ তৈয়াৰ, আচ্ছাদন বা মালছিং আৰু ভূমিত বতাহ সঞ্চালিত হ’ব পৰাৰ ব্যৱস্থা মূল তত্ত্ব।

এই আঁচনিৰ প্ৰথম ভাগত “এপাৰ্ট”ৰ মুঠ পাঁচখন জিলা মূলতঃ শোণিতপুৰ, নগাওঁ, কাৰ্বি-আংলং, কামৰূপ আৰু গোলাঘাট জিলাক সামৰি লোৱা হৈছে। প্ৰতিখন জিলাতে ৩ টাকৈ খণ্ড আৰু ৩ জনকৈ দক্ষতা সম্পন্ন কৃষকক বাচনি কৰা হৈছে। মুঠ ৫ খন জিলাৰ ১৫ টা খণ্ডত ১৫ জন দক্ষতা সম্পন্ন কৃষক প্ৰশিক্ষকে সমূহীয়া ভিত্তিত (Community based) জিৰ

বাজেট প্ৰাকৃতিক কৃষি পদ্ধতি’ৰ প্ৰশিক্ষণ প্ৰদান কৰিব। প্ৰতিটো খণ্ডত ১০০ হেক্টৰকৈ মুঠ ৫ খন জিলাৰ ১৫০০ হেক্টৰ ভূমিত প্ৰাকৃতিক কৃষি পদ্ধতিক খেতি পথাৰত ৰূপায়ণ কৰা হ’ব। প্ৰাকৃতিক কৃষিৰ ওপৰত প্ৰশিক্ষকসকলে প্ৰগতিশীল কৃষকসকলকক বিভিন্ন সমূহীয়া ভিত্তিত জিৰ বাজেট প্ৰাকৃতিক কৃষিৰ বিষয়ে প্ৰশিক্ষণ দিয়াৰ লগতে, দক্ষতা বৃদ্ধিৰ বাবে ক্ষেত্ৰ পৰিদৰ্শন (Exposure Visit) কৰিব আৰু বিষয়াসকলে কৃষক প্ৰশিক্ষক সকলক প্ৰশিক্ষণ দি দক্ষতা বৃদ্ধি কৰিব। এই ক্ষেত্ৰত কৃষক প্ৰশিক্ষক সকলক মাহিলী পাৰিশ্ৰমিক প্ৰদান কৰাৰ ব্যৱস্থা লোৱা হৈছে।

অসম কৃষি বাণিজ্য আৰু গ্ৰাম্য ৰূপান্তৰকৰণ প্ৰকল্প চমুকৈ এপাৰ্ট’ৰ এই নৱ সংযোজিত আঁচনি সমূহীয়া ভাৱে (Community based) “জিৰ বাজেট প্ৰাকৃতিক কৃষি পদ্ধতি” কৰা হ’ব। দুৰদৰ্শী পদক্ষেপৰ মাধ্যমেৰে বাসায়নিক কৃষি বৰ্জন কৰি প্ৰাণ-বৈচিত্ৰত নিৰ্ভৰ প্ৰাকৃতিক খেতিৰ মাধ্যমেৰে খাদ্য উৎপাদনত সাৰ্বভৌমত্ব অৰ্জন সম্ভৱ। এপাৰ্ট প্ৰকল্প এই বিষয়ত দৃঢ় বিশ্বাসী।

KRISHI RUPANTAR

29th Issue | June 2022

ARIAS SOCIETY

(An Autonomous Body of the Govt of Assam)

Agriculture Complex, Khanapara, G.S Road, Guwahati -781022 (Assam, India)

Tel: +91 361-2332125 | Email: spd@arias.in | Web site: www.arias.in

Grievance Redressal : grievances@arias.in | Toll Free : 1800-102-0338

(10 a.m – 5 p.m- excluding holidays)

Design by - Insight Brandcom Pvt. Ltd.