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KRISHI RUPANTAR

Remunerative income through Offseason Tomatoes in Rain shelter

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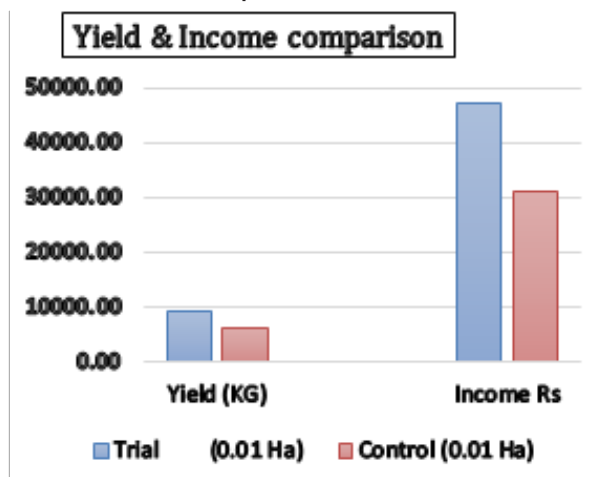
In the North Eastern hill region, Assam is an important state in terms of Agriculture and Horticulture. Cachar is a district of Assam situated in the southern part of the state. It is amongst one of the most flood-prone affected areas in Assam. The farmers grow vegetables mostly in the Rabi season. Intense rainfall & unexpected flood are the two major challenges in the area for Kharif season vegetable production. To create a scope for



Summer Tomato Production under Rain shelter

the production of vegetable crops during the rainy season and convert non-agricultural or paddy fallow land into horticulture production, World Vegetable Center (WorldVeg) in collaboration with Assam Agriculture University conducted multi-location rain shelter trials in five Agro-climatic zones of Assam.

In this series, a trial was conducted under the supervision of WorldVeg and KVK Cachar at the agricultural plot of Mrs Juma Begam Mazumdar, a farmer beneficiary at village Saidpur PT-II under Sonai block of Cachar district. With the specialized specification of the rain shelter structure and keen observation, the trial was initiated in May 2021 with an area of 100 sq m. It was for the first



Yield & Income comparison

time, Mrs Mazumdar was growing tomatoes (Var. Anup) in summer,



Harvested Tomatoes-ready for sale

under the rain shelter condition. She was able to produce 0.94 MT of marketable tomatoes from the 0.01 Ha trial plot. The tomatoes were harvested from June to August. This period coincides with peak demand for vegetables. The farmer got a remunerative price of an average of INR 50 per Kg, which comprises a gross return of INR 47100. It was the first time that they got a better price for tomatoes as compared to normal growing seasons where the average price realization is between INR 10-15 per kg. She is happy & excited about the Rain shelter technology and added that "Now, I can invest more money for my kid's education". The outcome from Rain shelter is very promising and can be intensified for sustainable market-led vegetable production. It offers a substantial opportunity for ruminative income generation during off-season production.

Grafting Technique Of Tomato On Brinjal

- Dr. Minsura Begum, District Horticulture Coordinator, APART-Barpeta

Abdul Kalam Sikdar, a Nursery entrepreneur from Betbari village, Howly, Barpeta had undergone 4 days of residential training on nursery management and practices at the Daffodil College of Horticulture, Khetri organized by the Directorate of Horticulture & Food Processing in September 2021 and also another training on Grafting Techniques conducted by AAU, Jorhat with technical support of World Vegetable Center at KVK, Kahikuchi from 25th Nov to 27th Nov 2021, under APART.



Seedlings inside Healing Chamber

Abdul Kalam, being a motivated entrepreneur took up grafting technique initiatives in a stepwise manner as follows:

- » Built a healing chamber using thermo-box
- » Took up grafting on tomato (var: Anup) seedling as scion on brinjal (var: HAB-901) as rootstock done on 5 plants and kept the grafted plant in a healing chamber to minimize transpiration (water loss) from the scion by maximizing humidity and reducing light to allow grafted plants to heal
- » After 15 days, the grafted plants were transferred from the healing chamber, on exposure to sunlight, the leaves were seen wilting, so the grafted plants were again put in the healing chamber for another 5 days without any pesticide or fertilizer

- » After 20 days, the chamber was exposed to the sunlight and the plants were transferred from the portray to polybags and light irrigation was provided every alternate day
- » After 65 days from grafting, it was observed that tomato fruits started bearing, with per plant tomato production of approx. 3 kg and no disease was observed
- » Observed that the trial for grafting technology of tomatoes with brinjal has shown resistance against bacterial wilt also



Fruiting stage of Grafted plants

The observations and recommendations from this experiment of Abdul Kalam are:

- » The fruiting in normal tomato plants takes place after 65-70 days from transplanting but in the case of a grafted plant, fruiting is taking place after 65 days of grafting,
- » No diseases were observed on the grafted plants,
- » The use of pesticides and extra fertilizer seems to be NIL, however, on a large scale production of such plants may require fertilizer but in a very minimum quantity or proportion,
- » As the grafted plants were produced in polybags, (on trial), the possibility of using such grafted plants in protected areas is high and also suitable for production in the off-season (Kharif season)
- » The results of producing such plants in a low-cost nursery unit may help farmers to have healthy seedlings on time,
- » This breakthrough technology offers substantial opportunities for offseason tomato production in Kharif and also early tomato production in the Rabi season, and in the long run help the farmers for better price realisation against their produces.

Socio-Economic Upliftment Of Small Farmers Through Low-Cost Bamboo Supported Vegetable Nursery Structure

- Mobinul Hussain, Distrit Horticulture Coordinator, Lakhimpur

Abdul Alim, a marginal farmer from No. 1 Karunabari, Lakhimpur ushered hope and aspiration among the unemployed youths of the district through the generation of income through the construction of low-cost bamboo supported Vegetable Nursery structures.

Farmer Abdul Alim holds land of 1 bigha in which he cultivates multiple crops throughout the year. Under the guidance of APART-ATMA officials, he was selected for Vegetable

Nursery Entrepreneur under APART for 2021-22. Accordingly, he was trained in Vegetable Nursery and allied nursery activities at Daffodil Horticulture College, Khetri under APART and provided guidance for the construction of low-cost bamboo supported Vegetable Nursery structures in a 100 sq.m. Abdul Alim took much interest in raising different types of vegetables such as King Chilli, Cabbage, Cauliflower, Brinjal, Knolkhol, Broccoli, Tomato, Pumpkin, flowers of different kinds and origins.



Bamboo based Vegetable Nursery Structure constructed under APART at Karunabari in Lakhimpur

He also constructed a low-cost bamboo-based vegetable nursery structure, which was formally inaugurated by the Deputy Commissioner, Lakhimpur, Shri Sumit

Sattawan, IAS, in presence of District Agriculture and APART officials along with invited farmers and Vegetable entrepreneurs on 5th January 2022.

The initiative taken up by Abdul Alim is elaborated in the tables below:

Table 1. Unit cost for Bamboo Based Vegetable Nursery structure				
SL.No.	Items Required	Unit	Rate/Unit	Total(Rs.)
1	200 Micron PV Films	1 sq.m	Rs.84	12348
2	75% Agro Shed Net	1 sq.m	Rs.59	9000
3	Rope	10 kg	Rs.120/kg	1200
4	Nails	1 kg	100/kg	100
5	Nut & Boltu	32 nos.	Rs.25/each	800
6	GI wire	1 kg	340/ kg	340
7	Bambosabulcoa	30 nos.	250/no.	7500
8	Bambosatunda	60 nos.	120/no	7200
9	Labour	60 MD	400/MD	24000
10	Miscellaneous			5000
Grand Total				67488

Table.2.Income Generation for Bamboo based Nursery structure								
S/L No.	Crop	Sowing window	Production of seedlings	The cost incurred per seedling (Rs.)	The total cost incurred (Rs.)	Rate/ seedling (Rs.)	Total amount (Rs.)	Market
1	King Chilli	Aug-Sept	4000	2.50	10000	5	20000	East Kameng of Arunachal Pradesh and Lakhimpur
2	Cabbage	Aug-Sept	8000	1.10	8800	3	24000	
3	Cauliflower	Aug-Sept	4000	1.60	6400	5	20000	
4	Brinjal	Oct-Nov	5000	1.60	8000	5	25000	
5	Chilli	Sept-Oct	4000	1.50	6000	5	20000	
6	Broccoli	Sept-Oct	6000	1.40	8400	5	30000	
7	Knolkhol	Sept-Oct	4000	1.40	5600	5	20000	
	53200					159000		

Conclusion and Results:

Vegetable Nursery Entrepreneur is a very good concept for young and unemployed youths as it creates a source of income through the adoption of new technologies. There is a boom in the nursery business in the present days, by investing an amount of Rs.67488/- in a bamboo nursery structure, farmer Abdul Alim earned Rs.159000 in a period of 4-5 months (October 2021 to February 2022). He is very happy with the

outcome and has been emphasizing introducing new technologies in his nursery.

Nursery Entrepreneur Abdul Alim, earned a profit of Rs.105800/- by selling vegetable seedlings (October 2021 to February 2022) from the Nursery structure erected by him with support from the Department of Agriculture, Lakhimpur through APART.

Exposure Visit-cum-Training Programme of Master trainers and Progressive Farmers under ICAR-DRMR

Exposure visit is an important extension tool to reinforce the confidence of the extension personnel and farmers in new technology, methods, etc. Exposure visits enable farmers from different regions to interact and learn from each other, allowing them to view practical examples of successful adoption of scientific technology in different farming situations. It also motivates farmers by showing what others have been able to achieve. As per the approved activity under

ICAR-DRMR-OPIU (Agri)-APART programme, an exposure visit-cum-training of 20 progressive farmers and exposure visit-cum-training of 20 Master trainers/ extension personnel to ICAR-DRMR were to be organized during 2021-22. Since the covid-19 situation was prevailing in the country, therefore, keeping in view the safety of the participants, it was decided to organize 3 days aforesaid visits this year during 22-23 Feb. 2022 at one of the coordinating centres under the All



Glimpses of the exposure visit

India Coordinated Research Project on Rapeseed-Mustard (AICRP-RM) at RARS, Shillongani, Nagaon, Assam, working under ICAR-DRMR and on 24 Feb. 2022 at Gorukhuti, Darrang under ICAR-DRMR-OPIU (Agri)-APART project.

The rapeseed-mustard research experimental trials of plant breeding, agronomy, disease and insect management, crop cafeteria, latest varieties, front line demonstrations, etc. were shown during the exposure visit-cum-training of progressive farmers and Master trainers/extension personnel organized simultaneously at RARS, Shillongani, Nagaon during 22-23 February 2022. While on 24th

Feb. 2022, the participants were shown the different kinds of agriculture machinery at Gorukhuti, Darrang. For these visits, field level extension workers and farmers from selected clusters of 15 districts of

Assam namely; Golaghat, undivided Jorhat including Majuli, Sivasagar, Darrang, Sonitpur, Morigaon, Dhubri Kokrajhar, Bongaigaon, Barpeta, Nalbari, Kamrup, Lakhimpur, Dhemaji and Nagaon.

The exposure visit was designed in such a way that experts from ICAR-DRMR and RARS, Shillongani provided technical knowledge and exposure to the latest technological advances in rapeseed-mustard to the participants. Along with classroom sessions, the participants also had field/trials of variety development, insect-pest and disease management, agronomical practices, seed production programme, etc at the research farm of RARS, Shillongani. The participants also visited Krishi Vigyan Kendra (KVK), where they got the opportunity to interact with KVK experts and saw the different agricultural implements and their uses in farming.

The participants also visited FLDs sites in the nearby villages and interacted with the farmers. On the 24th of Feb. 2021, they participated in a farmers' fair organized by ICAR-DRMR at Gorukhuti, Darrang. Besides technological knowledge, the participants got to see different kinds of agriculture machinery, including a combine-harvester and practical demonstrations of their use. They understood the gap in technology adoption and explored the feasibility of adopting new

practices in their situations. Since "seeing is believing", the exposure visit provided better knowledge and understanding of the technologies, methods, etc. It also improved the skills of the extension personnel/master trainers and farmers in scientific production and protection technology of rapeseed mustard. The exposure visit was a good learning opportunity to the participants which can help them in the long run.

Effort to strengthen the APART based FPCs through exposure visit to Maharashtra FPCs for interaction: a key for the FPO/FPC on rice-based cropping system

- Contributed by: Dr Suryakanta Khandai, Associate Scientist, IRRI, Satyen Talukdar, and Raosaheb Bendre, Agri Specialist, OPIU_Agri.

Exposure visits/learning tour was organized for the Farmer Producer Company (FPC) members and extension agents to experience the innovative technologies, that are already on the scale in the other states of the country. These are critical extension tools used for introducing and illustrating the performance of

creative interventions to the farmers. FPC-to-FPC interaction increases the diffusion of innovative technologies, and also provides the opportunity for the FPCs based in Assam to understand and adopt innovative technologies, gather knowledge, and practical feedback on them.

An exposure visit/learning tour to Nashik, Rahuri and Sangamner, Maharashtra was organized for 20 FPC representatives and four extension officers from the Department of Agriculture, Assam from April 05-09, 2022. The area was selected for this exposure visit to gather experiences on working of

FPO/FPCs, the business model of the FPCs that is a major focus area under APART. The team visited Sahyadri FPO, Nashik on day 1, Saipravara FPO, Rahuri and Agriculture Produce Market Committee (APMC), Rahata, on day 2 and Agasti FPO, Sangamner on day 3.

Day 1: Visit Sahyadri FPO:



Field visits of the team

Sahyadri Farms was registered as a Farmer Producer Company (FPC) under the provision introduced in the Companies Act. It's a collective that is owned and managed by farmers that aims to ensure fair equity for everyone while providing value to the end consumer. FPC members were oriented with the journey of the organization from the export

of products from one container to 1000 containers/year. FPO directors explained their views on the vision and how they replicated the same in addressing fruits and vegetable value chains. In the meantime, the FPO took the Assam team to Onion and Garlic Research station, where they visited different on-field trials, silos and storage godowns.

Day 2: Visit to Saipravara FPO and APMC Rahata:



Visiting team at Saipravara FPO and APMC Rahata

Saipravara FPO was formed under World Bank Assisted MACP project and is considered as a model FPC Managed by the Board of directors successfully. The BODs from Assam could get more insights on developing their confidence to manage the various enterprises, to be undertaken under Common service Centers under APART. It also helped to understand the systematic process for running the FPO business, from the sharing from Saipravara FPO BODs. Then the team visited the APMC Rahata; a model

Agri produces market organized with an e-Auction System and basic amenities, for experiencing how private Mandis was developed by FPCs. The team also had a one-to-one meeting with Bazar Committee. Later on, the team visited the FPC packing house at Shirdi and explored the business opportunities through proper packaging. The team interacted with FPC members present at the packing house, they were able to explore the possibilities of replicating the same at Assam too.

Day 3: Visit to Agasti FPO, Sangamner:



Team from Assam at Agasti FPO, Sangamner

On day 3, the team visited Agasti FPO, developed under MACP and AHD related activities such as silage fodder management. BoDs of Assam had experience sharing on the operation of the common service centre and got to understand the paddy-Vegetables cropping sequence, which can be replicated in Assam. Agasti FPO team explained the management practice of fodder and silos with their experience, which

was a valuable knowledge for the Assam team.

The exposure visit was a good learning and sharing experience for the visiting team from Assam, especially on FPO/FPC management and business developed under cropping system and integrated farming system. The best practices could be adopted and in Assam.

Fish Nutrition Promotion Programme Under Apart

Department of Fisheries, Assam organized awareness and demonstration programme on Small Fish Nutrition promotion, in different parts of Assam, namely Morigaon, Kamrup, Nalbari, Sonitpur, Lakhimpur, Sivasagar, Jorhat, Majuli and Darrang under the World Bank aided Assam Agri-business and Rural Transformation Project (APART) through WorldFish. A total of 751 participants attended these programmes including pregnant women & lactating mothers, adolescent girls, children of different age groups, Anganwadi workers and Sahayika (helper), ASHA, GP Sarpancha, APART & other fisheries staff, community leaders, etc.

The technical team from WorldFish extended technical support in the awareness programmes and educated the communities on how the locally available small fishes, especially small fish when eaten whole, are highly nutritious and contribute a wide range of micronutrients that benefit the health of women, adolescent girls, and children. It is pertinent to mention that fish is one of the cheapest sources of animal protein, which is available in the community



Small fish for better nutrition

level water bodies in the State.

Dr Baishnaba C. Ratha, Senior Nutrition Specialist, WorldFish, was the Resource person for the awareness programmes. In his talks, Dr Ratha highlighted that consumption of small fishes improves nutrition for pregnant and lactating mothers and young children during the critical first 1000 days of child development. According to Dr Ratha, from conception till upto two years of age the first 1000 days of a child's life are critical for growth and development. "Women must take appropriate nutrition throughout pregnancy to maintain their pregnancy and ensure that their child develops properly which can be compensated by small fish" he added.



A common mix of vegetable fresh/dried small fish curry was prepared by the participants and hygienic handling of small fish was also discussed during these programmes. It was explained as an opportunity to improve household nutrition, particularly for women and children, by adding micronutrient-rich small fish. The large fishes can be sold for income, while the small fishes can be harvested regularly for household consumption or, when in excess, for sale within the community or nearby markets.

Dr Sanjay Sarma, Fishery Coordinator, APART informed that fish powders prepared with locally available mola fish and recipes like fish powder soup and mixed vegetable small fish powder curry prepared in front of participants was very effective. "Assessment

and acceptability including colour, taste, smell & texture was documented for the recipes particularly fish powder soup and curry with fish powder has been appreciated by all", Dr Sarma added.

Different Social Behavioural Change Communication Materials (SBCC) on the benefit of small fish nutrition was prepared in the local language and was distributed to the participants for better understanding and knowledge sharing.

Ms Nabamika Sonowal and Ms Nita Beypi, Fisheries Consultant under WorldFish also attended these awareness programmes as resource persons and extended technical know-how to the participants.



Preparation of small fish curry during the awareness programme

Workshop On Mapping Suitability Domains In Rice-Based Cropping For Technologies/ Interventions

On March 30, 2022, a one-day workshop on mapping suitability domains in rice-based cropping for technologies/ interventions at the SIPC office, Guwahati was also organized. The main objective of this workshop was to familiarize the participants with how satellite-based mapping of rice-fallow areas & their soil moisture availability can significantly increase the agricultural output and get useful inputs from various organizations on the sowing requirements of different rabi crops. Through the mapping of rice-fallow areas, land productivity can be significantly increased by introducing short duration crops in the existing cropping systems which can further boost the rural economy. The workshop helped the participants to discuss and understand the different challenges faced by the farmers & planning agencies and how to address them through geospatial technology. The workshop was attended by 22 participants from different departments and agencies, such as the Department of Fisheries (DoF),



Participants of the one-day workshop on mapping suitability domains in rice-based cropping for technologies/ interventions

Directorate of Rapseed and Mustard Research (DRMR), and International Potato Centre (CIP), World Fish, and WorldVeg, KVKs and HRS, apart from the resource persons from IRRI and AAU.

During the workshop, Dr Kanwar Singh, Resident Consultant (IRRI) briefed about the activities and achievements under APART and talked about the necessity of efficient targeting of rice-fallow areas for future technological interventions. Ms Suranjana Borah, Senior Specialist GIS (IRRI), shared useful insights about the methods and techniques behind the preparation

of the outputs. This was followed by a technical presentation from Ms Payel Ghosh Dastidar, Project Scientist (GIS) on the Geospatial approach for efficient targeting of rice-fallow areas and optimization of cropping systems based on soil moisture mapping. During the technical discussions, participating agencies were asked about the site suitability conditions (harvesting time of Kharif crops, sowing time of the related crops during rabi season, rainfall, temperature, soil type requirements) and how geospatial outputs can further strengthen the

planning process in rabi season. Potential sites for developing paddy-fish cultivation were also discussed with DoF and WorldFish teams. Towards the end, all the participating agencies provided their valuable feedback regarding the use of geospatial technologies which was considered for future improvements. The workshop concluded with a vote of thanks by Dr. Kanwar Singh. This workshop also provided a platform for the national and international agencies to share their ideas for improving the cropping system on a sustainable basis.

Workshop On Geospatial Technologies For Efficient Utilization Of Resources And Sustainable Agriculture

– Payel Ghosh Dastidar, Project Scientist (GIS), Priyanuz Goswami, Project Scientist (GIS) and Debabrat Gogoi, Project Scientist (GIS) – APART-AAU

Two-day training on 'Introduction to GIS and field data collection' under objective IV, IRRI-APART was successfully organized by Assam Agricultural University (AAU) in collaboration with International Rice Research Institute (IRRI) at seminar hall, College of Veterinary Sciences,

Khanapara, AAU on March 28–29, 2021, with 24 number of participants. The invited participants were Agriculture Development Officers (ADOs), Assistant Technology Managers (ATMs) and Block Technology Managers (BTMs) of various districts of lower Assam.

Geospatial technology is an effective tool to acquire, manipulate and store data regarding a geographic location. The training was organized to build the capacity of district-level officials from the Dept. of Agriculture, Govt. of Assam to use the Remote Sensing and Geographical Information Systems (GIS) for mapping and field data collection using GPS.

Ms Suranjana B. Borah, Senior Specialist (GIS), welcomed the participants and opened with a highlighted the major objectives of the two-day meeting. It was followed up by a detailed overview of various IRRI supported activities under APART, by Dr Kanwar Singh, Resident Consultant, IRRI. Dr Atul Borgohain, Associate Director of Extension Education (Veterinary), AAU enlightened the participants on the importance of geospatial technologies in the field of Agriculture. Dr Ramani Kanta Thakuria, Alternate Nodal Officer, APART gave a brief speech on APART activities and how the project is changing the face of Assam's Agriculture.

The technical session began with a discussion on the methodology and criteria adapted for rice and stress-prone areas identification for the whole of Assam. In the second half of the session, the participants were given hands-on training on working



Participants of the 2 –day training programme on 'Introduction to GIS and field data collection'

with different GIS data in open-source QGIS software.

On the second day of the training program, Ms Suranjana Borah, Senior Specialist (GIS), IRRI gave an introduction to geospatial technologies and digital image processing. AAU, GIS team made a presentation on how to download and visualize satellite data and the methods utilized for field data collection using Global Positioning System (GPS) and other alternative sources. They also presented a demo on field data collection using GPS. At the end of the training, the participants were motivated to use GIS technologies by Dr Rupam Borgohain, Nodal Officer APART and Dr Kanwar Singh, Resident Consultant, IRRI. The training concluded with a vote of thanks by Mr Bhaskar Mahanta, Project Coordinator, OPIU, APART, AAU and valuable feedback from the participants.

সুন্দৰবন নাৰ্চাৰী : বিবি ৰাজকটকী দুৱৰীৰ এক নিৰবিচ্ছিন্ন যাত্ৰা

অমৃত শইকীয়া (নডেল বিষয়া এপাৰ্ট, শিৱসাগৰ জিলা)
বিজয়া কলিতা বৰা (বিশ্ব শাক পাচলি কেন্দ্ৰ, শিৱসাগৰ জিলা)

বিবি ৰাজকটকী দুৱৰী বৰ্তমানৰ এগৰাকী সফল নাৰ্চাৰী উদ্যোগী। শ্ৰীমতী দুৱৰীৰ এই যাত্ৰা বহু কণ্টকময় আছিল। কিন্তু তেওঁৰ নিৰবিচ্ছিন্ন প্ৰচেষ্টাৰ ফলত আজি দুৱৰী হৈ পৰিছে এগৰাকী সফল উদ্যমী মহিলা। তেওঁ নাৰ্চাৰীৰ যোগেদি আত্মনিৰ্ভৰশীল হোৱাৰ উপৰিও বহুতকৈ উৎসাহিত কৰাৰ লগতে অনুপ্রাণিত কৰিব পাৰিছে। বৰ্তমানৰ চৰাইদেউ জিলাৰ মাহমৰা কাকতিবাৰীত ১৯৭৭ চনত বিবি ৰাজকটকী দুৱৰীৰ জন্ম হৈছিল। সেই সময়ত দুৱৰীৰ ককাকে বাৰীত পান, তামোল, কল আদি বজাৰলৈ নি যি আৰ্জন কৰিছিল তাৰেই পৰিয়াল পোহ-পাল দিছিল। সেই সময় তেওঁলোকৰ বাবে কঠিন সময় আছিল। বিবি ৰাজকটকী দুৱৰীৰ দেউতাকো শিক্ষিত নাছিল আৰু সাধাৰণভাৱে জীৱন ধাৰণ কৰা এগৰাকী ব্যক্তি আছিল। গতিকে পৰিয়ালৰ বহু অৰ্থনৈতিক সমস্যাৰ মাজেৰে বিবি ৰাজকটকী দুৱৰী ডাঙৰ-দীঘল হৈছিল। তেওঁ সৰুৰে পৰাই গছ, ফুলৰ প্ৰতি আগ্ৰহী আছিল আৰু ককাকৰ লগত লগ-লাগি ফুলনি পাতিছিল। তেওঁ তেতিয়াৰ দিনতে গোলাপ, ইন্দ্ৰমালতী ৰুইছিল। তেনেকৈয়ে স্কুলৰ শিক্ষা শেষ কৰি ২০০০ চনত প্ৰমোদ দুৱৰীৰ



লগত বিবাহ পাশত আৱদ্ধ হৈছিল। কিন্তু অৰ্থনৈতিক অৱস্থা আৰু কিছু বছৰলৈ একেই থাকিল। ২০০৪ চনত তেওঁলোকে চাৰি বিঘা মাটি কিনিবলৈ সক্ষম হ'ল। তাৰে দুই বিঘাত তেওঁলোকে চাহ গছ ৰুইছিল বাকী অংশত ফল আৰু ফুল ৰুবলৈ ৰাখিছিল। যোৰহাটৰ Regional Research Laboratory (RRL-Now NEIST) য়ে আয়োজন কৰা এক নাৰ্চাৰী সম্পৰ্কীয় প্ৰশিক্ষণত কৃষি বিভাগৰ উদ্যোগত

২০০৬ চনত শিৱসাগৰ কৃষি বিভাগৰ উদ্যোগত বিবি ৰাজকটকী দুৱৰীয়ে অংশ গ্ৰহণ কৰিবলৈ সুযোগ লাভ কৰে। পৰিয়ালৰ বিভিন্ন সমস্যাৰ মাজেৰে শ্ৰীমতী দুৱৰীয়ে প্ৰশিক্ষণত অংশ গ্ৰহণ কৰে।

২০০৭ চনত তেওঁ ২৫০০০ টকাৰ এক ঋণ লাভ কৰে। এই ঋণ লাভ কৰাৰ পিছত তেওঁ কিছু আগুৱাই যোৱাত সহায় হৈছিল। তাৰ পিছত শ্ৰীমতী দুৱৰীয়ে ভোট জলকীয়াৰ (King chilli) খেতিত মনোনিৱেশ কৰে আৰু একে বছৰতে ৫৫০০০ টকা উপাৰ্জন লাভ কৰিবলৈ সক্ষম হৈছিল। নাৰ্চাৰী এখন দুৱৰীৰ সপোন আছিল আৰু ভোট জলকীয়াৰ সম্পূৰ্ণ লাভাংশ তেওঁ নাৰ্চাৰীতে বিনিয়োগ কৰে। তেওঁ ফলমূল, শাক-পাচলি আৰু ফুলৰ পুলিৰে নাৰ্চাৰী ব্যৱসায় আৰম্ভ কৰে। ২০১৪ চনত শ্ৰীমতী দুৱৰীয়ে যোৰহাটৰ অসম কৃষি বিশ্ববিদ্যালয়ত উদ্যান শস্যৰ এক প্ৰশিক্ষণত



অংশ গ্ৰহণ কৰাৰ সুযোগ পায়। লাহে লাহে যেন বিবি ৰাজকটকী দুৱৰীৰ বেয়া সময়ে মেলানি মাগিবলৈ আৰম্ভ কৰিলে। ২০১৫ চনত শিৱসাগৰ জিলাৰ কৃষি বিভাগে তেওঁক জাৰবেৰা ফুলৰ খেতি কৰিবলৈ নিৰ্বাচন কৰে। সেই সময়ত কৃষি বিভাগৰ পৰা লাভ কৰা অন্যান্য কৃষি সা-সজুলি, Shade net আদিয়ে তেওঁক আগুৱাই যোৱাত সহায় কৰে। ২০১৯ চনত কলিয়াবৰ নাৰ্চাৰীত লাভ কৰা এমাহৰ প্ৰশিক্ষণে বিবি দুৱৰীক নাৰ্চাৰী ব্যৱসায় কৰি আগুৱাই যোৱাত সাহসী কৰি তোলে। ২০২০ চনৰ কভিড মহামাৰী দুৱৰীৰ বাবে আশীৰ্বাদ হ'ল। তেওঁ গোটেই সময়খিনি নাৰ্চাৰীৰ বাবে ব্যৱহাৰ কৰিলে। তেওঁৰ নাৰ্চাৰীয়ে নতুন ৰূপ পালে। তেওঁৰ নাৰ্চাৰীৰ বিভিন্ন পুলি, বাৰীৰ ষ্ট্ৰেবী'য়ে এখন ভাল বজাৰ লাভ কৰিলে। পুনৰ ২০২১ বৰ্ষত ড° অৰুণ চাং কাকতি (জিলা কৃষি বিষয়া, চৰাইদেউ জিলা) আৰু অমৃত শইকীয়াৰ (নেডেল বিষয়া এপাৰ্ট, শিৱসাগৰ জিলা) তহাৱধানত বিবি ৰাজকটকী দুৱৰী চৰাইদেউ জিলাৰ এগৰাকী নাৰ্চাৰী হিতাধিকাৰী হিচাপে নিৰ্বাচিত হৈছিল। যাৰ ফলত তেওঁ বিশ্ব শাক-পাচলি কেন্দ্ৰৰ (WVC)



সমর্থনৰ সৈতে এপাৰ্টৰ অধীনত পাচলিৰ নাৰ্চাৰী স্থাপনৰ বাবে ৫০% ৰাজসাহায্য লাভ কৰে।

নাৰ্চাৰী হিতাধিকাৰী হিচাপে নিৰ্বাচিত হোৱাৰ বাবে তেওঁ গুৱাহাটীৰ সোণাপুৰস্থিত 'ডেফোডিল নাৰ্চাৰী'ত নাৰ্চাৰীৰ প্ৰশিক্ষণৰ

সুযোগ লাভ কৰিছিল লগতে অসম কৃষি বিশ্ব বিদ্যালয়ত বিশ্ব পাচলি কেন্দ্ৰৰ (WVC) বিষয়া সকলৰ পৰা শাক পাচলিৰ গ্ৰাফটিং প্ৰযুক্তিৰ বিষয়ে শিকিবলৈ সুবিধা লাভ কৰিছিল। বিবি ৰাজকটকী দুৱৰী এই সফলতাৰ বাবে এপাৰ্টৰ তৰফৰ পৰাও জনোৱা হ'ল আন্তৰিক শুভ কামনা।

বৰ্তমানৰ কৃষক-উপান্তৰ নহয়, আশাৰ ৰেঙনীহে মাথোঁ ...

পংকজ হাজৰিকা
জিলা উদ্যান শস্য সমন্বয়ক
এপাৰ্ট, নগাঁও জিলা

এজন কৰ্ম উদ্যোগী খেতিয়ক, যি বুকুত কঢ়িয়াই লৈ ফুৰিছে এখন স্বাৱলম্বী গাঁও গঢ়াৰ সপোন। যাৰ জীৱনৰ আহে আহে প্ৰবাহিত হয় অসমৰ সাৰুৱা মাটিৰ সুৰাস, চিৰ সেউজী উদ্যানৰ মলয়া। সৰুৰে পৰাই দৰিদ্ৰতাৰ লগত যুজঁ দিয়া পলাশ প্ৰকাশ শইকীয়াই দেখিছিল এক সপোন। তেওঁ কেৱল সপোন দেখাতেই থমকি ৰোৱা নাছিল।

সপোনবোৰ বাস্তৱায়িত কৰিবলৈ বিভিন্ন জটিল পৰিস্থিতিৰ সৈতে মোকাবিলা কৰি কৃষিকে অস্ত্ৰ হিচাপে লৈ জঁপিয়াই পৰিছিল জীৱনৰ ৰণক্ষেত্ৰত। নগাঁও জিলাৰ পাখিমৰীয়া উন্নয়নখণ্ডৰ ডাকৰঘাট গাঁৱৰ নিৱাসী, ৪২



বছৰীয়া কৃষক পলাশ প্ৰকাশ শইকীয়া এজন উদ্যমী অসমীয়া কৃষক। তেওঁ বৃদ্ধ দেউতাকৰ কৃষি পৰম্পৰা অব্যাহত ৰাখি চাকৰি মুখী নহৈ কৃষিকেই স্বাৱলম্বীতাৰ পথ হিচাপে বাচি লৈছে। এশ এবুৰি সমস্যাৰে জৰ্জৰিত অসমৰ কৃষক সকল ক্ষুদ্ৰ আৰু উপান্তৰ। এই ধাৰণা যেন

পলাশ শইকীয়াৰ দৰে উদ্যমী কৃষক সকলে ভুল প্ৰমাণিত কৰিছে। প্ৰায় ৪ বিঘা নিজা মাটি আৰু ১৬ বিঘা আধিত লোৱা কৃষি ভূমিত পলাশ শইকীয়াই ধান, আলু, সবীয়হ, মাহ আৰু বজাৰৰ চাহিদা আৰু বতৰৰ লগত খাপ খোৱাকৈ বিভিন্ন ৰবি শস্যৰ খেতি কৰি বছৰি ৫ ৰ পৰা ৭ লাখ টকা উপাৰ্জন কৰে। ২০০৪ চনৰ পৰাই কৃষি কৰ্মত খোজ পেলোৱা নগাঁও জিলাৰ প্ৰাণ স্বৰূপ কলং নদীৰ কাষৰীয়া অঞ্চলত প্ৰায় প্ৰথমে ৬ বিঘা মাটি আধিত লৈ ব্যৱসায়ী ভিত্তিত কৃষি কৰ্ম কৰিবলৈ আৰম্ভ কৰিছিল। প্ৰথমতেই কিন্তু তেখেতে কৃষি কৰ্ময়েদি মুখ থেকেচা খাইছিল যদিও, হতাশ হোৱা নাছিল। অথচ দুগুণ উৎসাহেৰে সেই অঞ্চলৰে কেইজনমান কৃষক বন্ধুৰ লগত লগ লাগি নগাঁও জিলাৰ বিভিন্ন প্ৰান্তৰ কৃষকৰ পৰা কৃষি কৰ্মৰ আহিলা সমূহ শিকি আৰু কৃষি বিভাগ, কৃষি বিজ্ঞান কেন্দ্ৰ নগাঁৱৰ দ্বাৰা

পৰিচালিত বিভিন্ন প্ৰশিক্ষণ অনুষ্ঠানত ভাগ লৈ কৃষি কৰ্মত প্ৰয়োগ কৰিছিল। সময় বাগৰি গ'ল, বজাৰ সলনি হ'ল আৰু পলাশ প্ৰকাশৰ কৃষি অভিজ্ঞতাও বাঢ়ি আহিল।

জিলা কৃষি বিভাগৰ অধীনত দুই এটা আঁচনিও পলাশ শইকীয়াৰ পথাৰত ৰূপায়িত হ'বলৈ আৰম্ভ কৰিলে। কৃষি ক্ষেত্ৰত প্ৰযুক্তিৰ আলোড়নে যেন তেখেতৰ কৃষিভূমিক সোণালী ৰহন সানিবলৈ আৰম্ভ কৰিলে।

পলাশ প্ৰকাশ শইকীয়াই কৃষি কৰ্মৰ জৰিয়তে নিজ বৃদ্ধ পিতৃ-মাতৃ, তেখেতৰ পত্নীৰ লগতে দুই পুত্ৰক পোহ পাল দি আহিছে। তাৰোপৰি তেখেতৰ কৃষি পামখনত তিনিজন স্থায়ী বনুৱাক সংস্থাপন দিছে আৰু বছৰি ৭২,০০০ টকাকৈ প্ৰতিজনক বেতন হিচাপে দিবলৈ সক্ষম হৈছে পলাশ প্ৰকাশ শইকীয়াই।



তেখেতৰ পত্নী শ্ৰীমতি মালবিকা শইকীয়াই কৃষি কৰ্মত সমানেই সহায় কৰে আৰু নিজৰ শাৰীৰিক সক্ষমতা অনুসৰি পোনপটীয়াকৈ কৃষি কৰ্মত নিজকে নিয়োজিত কৰি ৰাখিছে। ২০২১ বৰ্ষৰ ৰবি শস্যৰ প্ৰদৰ্শনীমূলক কৃষি কৰ্মৰ শিতানত এপাৰ্ট প্ৰকল্পৰ অধীনত ৰঙালাওঁ খেতিৰ লগত শইকীয়া জড়িত হয় আৰু প্ৰকল্পটি সফল ভাৱে ৰূপায়িত কৰে। ইয়াৰ উপৰিও তেখেতৰ নেতৃত্বত - 'সেউজীয়া কৃষি সেৱা গোট' নামেৰে এটি FIG গঠন কৰি অন্য কৃষকসকলকো স্বাৱলম্বীতাৰ পথ প্ৰদৰ্শন কৰিছে। যোৱাটো কভিড কালত স্থানীয় বিধায়ক ৰূপক শৰ্মাৰ পৰিচালনাৰে তেখেত সকলৰ FIG ৰ নগাঁৱৰ আদৰ্শ পাইকাৰী বজাৰত, এখন স্থায়ী শাক-পাচলিৰ দোকান আৰম্ভ কৰে য'ত গোটৰ দ্বাৰা উৎপাদিত ভিন্ন শাক-পাচলি, খুচুৰা আৰু পাইকাৰী বিক্ৰী কৰা

হয়। এপাৰ্ট প্ৰকল্পৰ অধীনত কৰা প্ৰদৰ্শনীমূলক খেতিৰ ন ন প্ৰযুক্তিসমূহ তেখেতৰ গোটৰ অন্য কৃষক সকলেও লাহে লাহে অৱলম্বন কৰা দেখা গৈছে। যেনে- পুলি প্ৰস্তুত কৰাৰ বাবে ট্ৰে'ৰ ব্যৱহাৰ, পোক-পতংগ নিয়ন্ত্ৰণৰ বাবে নিম তেল, ফেৰম'ন ট্ৰেপ, ষ্টিকী ট্ৰেপ, জীৱাণু ঔষধ ইত্যাদি। ইয়াৰ উপৰিও ব'ৰ্ডাৰ ক্ৰপ, ইণ্টাৰ ক্ৰপ, ট্ৰেপ ক্ৰপ ইত্যাদি নতুন কৃষি আদৰ্শৰ নিৰ্দেশ দাঙি ধৰিব পৰা শইকীয়াৰ দৰে কৃষক, কৃষক সমাজত থাকিলে অসমৰ কৃষক কোনোদিন উপান্তৰ হৈ থাকিব নালাগে বৰঞ্চ, ভৱিষ্যতৰ বাবে আশাৰ ৰেঙনী স্বৰূপ হৈ থাকিব পাৰিব। উপান্তৰ কৃষি কৰ্ম আৰু উপান্তৰ কৃষক আদি ধাৰণা যেন নৱ কৃষি প্ৰজন্মৰ মাজৰ পৰা নোহোৱা হৈ যায়, তাৰ বাবেই পলাশ শইকীয়াৰ দৰে উদ্যমী কৃষক যেন প্ৰত্যেক কৃষক পৰিয়ালতেই সৃষ্টি হওঁক।

KRISHI RUPANTAR

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