

# Krishi Rupantar



E-Newsletter

ASSAM AGRIBUSINESS  
AND RURAL TRANSFORMATION  
PROJECT (APART)

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ASSAM AGRIBUSINESS AND RURAL TRANSFORMATION PROJECT (APART)

## BEEL FISHERIES DEVELOPMENT AND MOLA-SIS FARMING UNDER APART

Sustainable increase in the production of fishes from beel fisheries and stocking of Mola and SIS along with carps in polyculture demonstration ponds are carried out under Fishery sub-component of APART. Dr C.V. Mohan, Country Leader, WorldFish, Malaysia, Dr. Benoy Kumar Barman, Sr.Scientist, WorldFish, Bangladesh, Dr R. Suresh, Resident Consultant, Assam WorldFish Project, Dr Sanjay Sarma, Fishery Project Coordinator, ARIAS Society along with DOF officials and APART staff visited beels selected for development during 2019-20 in Jorhat, Sivasagar and Majuli on 11th, 12th and 13th February 2020 respectively and provided technical support to the implementing partners for better resource utilisation and improved governance. The team had interactions with the beel communities and conducted the baseline survey of the beels

WorldFish Experts, Dr Benoy Kumar Barman, Sr. Scientist, Dr Manos Kumar Saha, Aquaculture Specialist, WorldFish, Bangladesh and Dr.R.Suresh, Resident Consultant, WorldFish Assam along with DoF officials and APART staff visited APART Project districts namely, Barpeta, Morigaon and Kamrup on 15th, 16th, and 17th February 2020 respectively, interacted with the beneficiaries and provided necessary technical support for stocking of mola and SIS in polyculture demonstration ponds.



*Beel fishery development under APART*





### WORKSHOP ON GENDER INTEGRATION IN FISH VALUE CHAIN

WorldFish in association with Royal Tropical Institute, the Netherlands (KIT), ARIAS Society and Department of Fisheries, Government of Assam organised a Workshop on gender Integration in Fish Value Chain on the 6<sup>th</sup> and 7<sup>th</sup> February 2020. The workshop was held at the Indian Institute of Banking Management (IIBM), Khanapara, Guwahati. Dr Cynthia McDougall, Gender Team Leader, and Surendran Rajaratnam, Senior Research Analyst from WorldFish, Malaysia together with Dr Julie Newton, Social Advisor at KIT served as facilitators for the two days' workshop. Dr D.J. Sharma, Nodal Officer, Department of Fisheries, Dr.Sanjay Sarma, Fishery Coordinator,



*Participants of the Gender Scoping Workshop*

Mrs Arpana Barman, Social Sector Management Specialist, Er. Sreemant Phukan, M&E Expert, ARIAS Society and Dr R.Suresh, Resident Consultant, WorldFish participated in the inaugural function. Ms Philarisa Sarma Nongpiur, Social Sector Consultant, World Bank, New Delhi participated in the workshop and interacted with the participants. A total of 57 participants including District Social Sector Coordinators from ARIAS, Fisheries Development Officers and Technical Experts in Fisheries from the Department of Fisheries and Research Associates from College of Fisheries attended the workshop. Dr Baishnaba Rath, Ms Neetha Shenoy and Ms Nibedita Palita from WorldFish-Odisha also participated in the workshop.

The workshop included many interactive and participatory sessions aptly handled by the facilitators, Dr Cynthia McDougall, Dr Julie Newton and Surendran Rajaratnam. During the first day of the workshop, key gender concepts, scope and purposes of gender analysis and why gender integration matters in fisheries and aquaculture were explained through case studies, mock TV show and role-plays.



*Group work during the Gender Scoping Workshop*

# KRISHI RUPANTAR

ASSAM AGRIBUSINESS AND RURAL TRANSFORMATION PROJECT (APART) E-NEWSLETTER

The gender dimensions of APART's Theory of Change (ToC) was explained to the participants followed by group discussions on gender-integrated programming for APART.

On day two the gender outcomes and strategies were explained by Dr. Cynthia McDougall followed by identification of APART project strategies for Gender Integration under various interventions in the fish value chain and Monitoring and Evaluation strategies. Overall, the two days workshop helped to shed some light on gender concepts and approaches for effective gender integration within the fish value chain under APART.

## TECHNICAL INPUT BY INTERNATIONAL EXPERT UNDER GRANT THORNTON INDIA LLP CDTA-APART

As part of its engagement as Cluster Development Technical Agency for the establishment of Industry Associations in Assam under the APART Project, Grant Thornton India LLP has associated with Senior Experten Services (SES) for providing technical services in training food processing entrepreneurs in the state of Assam. As part of this assignment, a senior German Expert, Mr Wolfgang Lutz who is a horticultural engineer with comprehensive knowledge and extensive experience in the field of food industry visited Assam in February.

Mr Lutz visited Morigaon district on the 11th of February 2020 as part of his agreement with M/s Jeuti Food Processing Industry, a member of the Industry Association of Morigaon. During his three weeks stay in Assam Mr Lutz spent substantial time in the district of Morigaon with M/s Jeuti Food Processing Industry and other enterprises in the fruit and vegetable processing value chain to understand the present process of these enterprises. He observed these processes which are majorly traditional at length and is of the view that many of our traditional food products have great potential in the export market. More detailed suggestions on improving the production process of these enterprises shall be incorporated in his report which is to be sent to M/s. Jeuti Food Processing Industries as part of the agreement.

In addition to Morigaon, Mr Lutz also visited enterprises in the adjacent districts of Nagaon and Kamrup. In Kamrup he has suggested that Make Me Fresh, producer of "Black Horn", a caffeine-free energy drink has great potential. On his suggestion, GT India LLP is exploring the possibilities of linking this unit with potential buyers at the national level to promote this product made from indigenous commodities of the state.



*Mr Lutz visit to different food processing units in Assam*





### 7<sup>th</sup> MEETING OF THE STATE PROJECT COORDINATION COMMITTEE (SPCC)

The 7th meeting of SPCC for APART was held on 10th February 2020 under the Chairmanship of the State Project Director, Ms Laya Madduri, IAS at the Conference Hall, Office of the Chief Engineer (Agri.), Khanapara, Guwahati-22. The meeting was attended by the officials of the OPIUs, consultancy agencies and PCU



*7th SPCC meeting of APART chaired by Laya Madduri, IAS, State Project Director, ARIAS Society*

### WORKSHOP ON LABOUR COMPLIANCE

The project had organized a two days (2 days) workshop on 'Handbooks and Toolkits for Labour Law Compliances in India' on 12<sup>th</sup>– 13<sup>th</sup> February'2020, to facilitate an understanding of labour law requirements among project personnel and familiarizing them with the Handbooks, Toolkits and an IT-enabled software solution. Engineers involved under APART, contractors engaged for civil works under APART and the Social Safeguard team had participated in the workshop. Besides, officials from OPIUs such as ASAMB, ASWC, AHVD, etc. having civil works under them also participated in the workshop.



*Workshop on Labour Compliance in progress*



### POLICY BRIEF: CREATING SUSTAINABLE VALUE CHAINS FOR TRANSFORMING FOOD SYSTEMS

The COVID-19 pandemic is disrupting food value chains across South Asia. It is now recognized that food systems are at the nexus of food security, nutritional health, ecosystems, climate change, and rural prosperity. With countries in South Asia closing down their economies almost overnight to fight this pandemic, the strains are showing in agriculture, farming communities, and entire food supply chains. Policy makers need to take urgent measures to avoid hunger and economic ruin. However, the action taken cannot be to reinstate business-as-usual given the unprecedented impact of this global crisis. Transformation of food systems in order to deliver nutritious and



sustainable diets for all will be imperative, especially when incomes across the region are likely to fall over the next year. In his timely policy brief, IRRI Regional Representative for South Asia Nafees Meah synthesizes outputs from an expert panel discussion on [“Creating Sustainable Value Chains for Transforming Food Systems”](http://books.irri.org/Creating-Sus-Value-Chains). This was conducted last February 2020 with specialists in the fields of agriculture, nutrition, environment, research and development, and policy deliberating on how to achieve food systems transformation in India and South Asia sooner rather than later.

[Download to read the policy brief at: http://books.irri.org/Creating-Sus-Value-Chains](http://books.irri.org/Creating-Sus-Value-Chains) Nafees-policy-brief\_160420.pdf

### ORIENTATION WORKSHOP FOR THE GENERAL MANAGER DI&CC OF APART DISTRICTS ON AGRIBUSINESS INVESTMENT FUNDS

A Capacity Building Workshop on the basic concepts of Equity and Venture Capital fund towards the setting up of Agribusiness Investment fund under the A3 component of APART was taken by Mr Nitin Singh (Financial Service Specialist from ARIAS Society) at the Commissionerate of Industries and Commerce on 29th February 2020. The workshop was attended by General Managers (DICC) and officials from the Department of Industries and Commerce, Govt of Assam.



*Orientation workshop for the General Manager DI&CC of APART districts on Agri Business Investment Fund*

### GREATER GUWAHATI BABY LEAGUE

Greater Guwahati Baby League is Assam's first-ever baby Soccer league recognized by the All India Football Federation and it is organized by Guwahati City FC, in association with Sports Craft Management.

The second season of the league kicked off on 24th November 2019, wherein children/ students belonging from age groups of 6-12 participated in various levels/ matches to reach to the finals organised on 23rd February 2020. More than 40 teams and 500 players participated in the league.

Purabi Dairy supported this league as part of its ongoing consumer awareness drive on making people aware about the importance of consuming pasteurised, homogenised & fortified milk and this initiative was further supported by World Bank-funded APART project.

Purabi Dairy also organized events for the participants at the Nehru Stadium, Guwahati, during the Grand finale, which included Ball-Juggling competition. During the closing ceremony, a football skills showdown was also held for participants belonging to two age groups i.e. U9 (ages from 6-9) & U15 (ages from 10-15) and more than 100 participants took part in the activities.

Overall, more than 500 participants and their parents/guardians took part in the aforementioned event.



*Greater Guwahati Baby League - Assam's first-ever baby Soccer*



# KRISHI RUPANTAR

ASSAM AGRIBUSINESS AND RURAL TRANSFORMATION PROJECT (APART) E-NEWSLETTER

## PADDY PROCUREMENT FROM APART FARMERS AT MSP

As a part of the Price Support Scheme (PSS) of the Government of India (GOI), APART facilitated the procurement of Sali (2019) paddy from the farmers associated with the Project. The paddy procurement notification was published by Govt. of Assam on 4<sup>th</sup> December 2019. As per the notification, the paddy procurement window allowed is from 1<sup>st</sup> December 2019 to 30<sup>th</sup> April 2020. The MSP announced by the Govt. of India is Rs. 1815 per quintal, which is around Rs 2-3 per kg higher than the prevailing market price. A positive development this season is that Assam Food and Civil Supplies Corporation Limited (AFCSCL) was included as a new procurement agency and the number of Paddy Procurement Centres (PPCs) notified has also increased to 109, thus ensuring the wider reach of the procurement agencies.

Sl	Agency	No. of PPCs	Proc. Target (MT)
1	Food Corporation of India (FCI)	33	2,00,000
2	Assam State Agricultural Marketing Board (ASAMB)	26	25,000
3	National Federation of Farmers Procurement Processing and Retailing Cooperatives of India Limited (NACOF)	12	50,000
4	National Cooperative Consumers Federation of India Limited (NCCF)	14	32,000
5	National Agricultural Cooperative Marketing Federation Limited (NAFED)	17	30,000
6	Assam Food & Civil Supplies Corporation Limited (AFCSCL)*	7	25,000
	<b>Total</b>	<b>109</b>	<b>3,62,000</b>

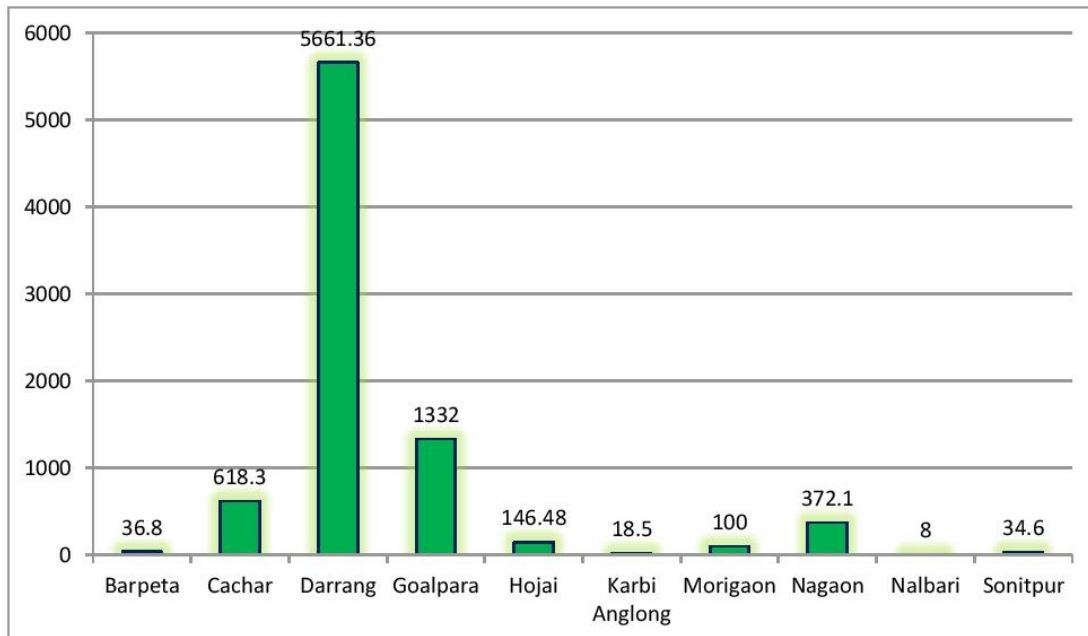
*\*Newly added from current procurement season*

Procurement from APART farmers started around 3<sup>rd</sup> week of February 2020 as initial few weeks were spent in outreach efforts, team mobilization and facilitating farmers' certificates. Till 19<sup>th</sup> March 2020, a total of 832.814 MT of paddy from APART farmers had been procured. At the district level, Agricultural Technology Management Agencies (ATMAs) and Krishi Vigyan Kendras (KVKs)/ Regional Agricultural Research Stations (RARSs)/ Horticultural Research Station (HRS) facilitated the paddy procurement from APART farmers. The district-wise paddy procured from APART farmers is shown in the table.

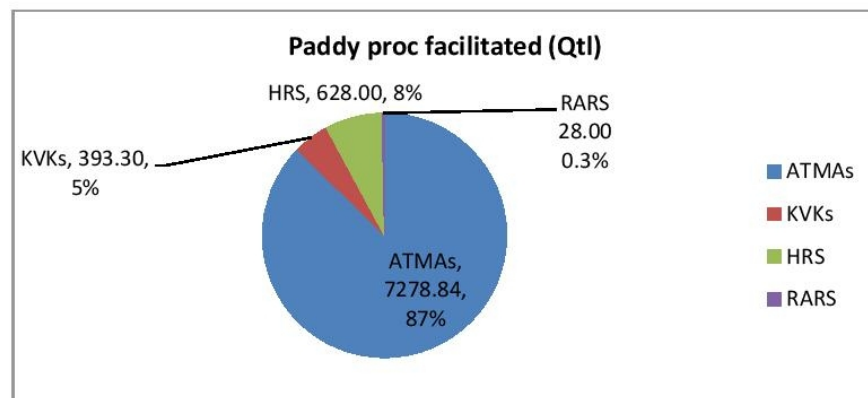
Sl	District	Paddy procured (Qtl)	Amount (Rs.)
1	Barpeta	36.80	66792
2	Cachar	618.30	1122215
3	Darrang	5661.36	10275368
4	Goalpara	1332.00	2417580
5	Hojai	146.48	265861
6	Karbi Anglong	18.50	33578
7	Morigaon	100.00	181500
8	Nagaon	372.10	675362
9	Nalbari	8.00	14520
10	Sonitpur	34.60	62799
	<b>Total</b>	<b>8328.14</b>	<b>1,51,15,575</b>

# KRISHI RUPANTAR

ASSAM AGRIBUSINESS AND RURAL TRANSFORMATION PROJECT (APART) E-NEWSLETTER



**ATMA/KVK/ RARS/ HRS wise paddy procurement facilitated:** A total of 7278.84 Qtl paddy procurement was facilitated by District ATMA's while 100 qtl was facilitated through KVKs and another 628 qtl was facilitated through HRS, Kahikuchi, yet 28 q was facilitated through RARS, Shilongoni. These are shown in the visual below.



The paddy procurement facilitation process had to be temporarily suspended due to countrywide lockdown announced on 24<sup>th</sup> March 2020. However, it is worth mentioning here that compared to last season (120 MT); the paddy already procured in this is almost seven times. Project headquarters and district teams deserve to be congratulated on this marvelous achievement.



### TRAINING COMMUNITY MOBILIZATION FOR FORMATION OF FARMER PRODUCER ORGANISATIONS (FPOS)

APART organised a two days training on 5th - 6th March' 2020 for the District Social Sector Coordinators (DSSCs) on "Community Mobilization for Formation of FPOs". The objective of the training is to build the capacity of the DSSCs for in house mobilization of farmers for the Formation of FPOs. Technical experts - Sri Karthikeyen K. President and COO, Ekgaon Consulting Services and Sri T.K. Hazarika, Ex-CGM NABARD and Strategic Advisor, Ekgaon Consulting Services were the resource persons for the training. Field level mobilization activities will soon be started.



*Training of DSSCs on Community Mobilization*

### PARTICIPATION OF SC/ST ENTREPRENEURS ON ENTREPRENEURSHIP DEVELOPMENT PROGRAMME EDP

Institute of Rural Management, Anand (IRMA) had organized Entrepreneurship Development Programme (EDP) for Scheduled Caste and Scheduled Tribe Entrepreneurs during March 2-7, 2020 at IRMA, Anand, Gujarat. Commissionerate of Industries with support from Grant Thornton (Cluster Development Technical Agency) had mobilized 10 nos. of SC/ST Entrepreneurs from the project beneficiaries for participating in the program. There was no programme fee. All expenses towards boarding and lodging, tuition fee, reading material, stationery, field visits were taken care of by the National Scheduled Caste and Scheduled Tribe Hub (NSSH). The Project had borne the travel costs of the participants attending the programme.



### CAPACITY BUILDING PROGRAM ON IMPROVED POSTHARVEST TECHNOLOGIES

Conventional practices of postharvest activities cause some losses; farmers may not be aware of different improved Post Harvest (PH) technologies. Besides, labour problems are a major issue for which mechanization seems to be the only solution. Moreover, PH storage of seed and grains is another concern all over India. Hence, a series of Training of Trainers (ToTs) in collaboration with AAU and DoA, Govt of Assam were conducted to create master trainers on these technologies for broader dissemination across the state.

A 3-day training program on 'Strengthening of Postharvest Management' was organized by KVK Nagaon on February 21-23, 2020. Dr Niranjana Deka Head, KVK Nagaon while inaugurating the program stated that improved postharvest technologies are very much important nowadays for a better quality of paddy. A total of 26 participants (14 females and 12 males) were present during the program which included progressive farmers and extension functionaries. Present scenario of agricultural practices in Assam, and how it could be improved was explained.

During the first day of training, pre-training evaluation was conducted, which was followed by a presentation on the farm machinery related to crop establishment, harvesting, postharvest machinery, and its importance on better productivity for reducing losses due to poor post-harvest management. Mr Sourajyoti Baishya, IRRI explained and discussed the working principle of different machines, and their repair & maintenance. IRRI team explained the benefits of solar bubble dryer over various traditional methods of drying (sun-drying and stack-drying). The Solar Bubble Drying (SBD) is one of the low-cost drying technologies that aim to provide a simple and flexible alternative to sun-drying.



*Participants of the ToT programme*



*Participants during the group work during the ToT programme*



The SBD uses solar energy from the Sun in two ways. First, the drying tunnel serves as a solar collector to convert energy from the Sun rays (entering through the transparent top of the drying tunnel) to heat, therefore increasing the temperature of the air for faster drying. Second, the SBD is equipped with a photovoltaic system that consists of solar panels for generating electricity - a rechargeable deep cycle battery for use at night, and one or two small blowers to inflate the drying tunnel and move air through it.

Traditional storage systems adopted by Assamese farmers were discussed thoroughly and losses due to these systems were explained by Nitesh Gupta, Project Scientist (PH). Improved drying methods were explained to the farmers to minimize the losses if proper drying and storage methods were being followed. IRRI super bag demonstration was shown during the training. Hands-on training involving farmers was done, and the importance of the super bag was discussed with the farmers. The Hermetic-storage system is the storage of seeds or grains in controlled atmospheric condition.

This relies on the atmosphere within the grain being modified through respiration by the grain, insects, or fungi. The system is so prepared that oxygen level in the inter-granular atmosphere is continuously reduced, often to less than 3%, inducing a rise in carbon dioxide level, to arrest aerobic respiration.

IRRI team demonstrated the grain quality kit to the progressive farmers in which different parts of quality kits were shown. Farmers were asked to take samples for paddy and rice as well, and trained for measuring the moisture content by using the moisture meter. Milling quality of rice was being analyzed based on broken percentage, chalkiness, whiteness, foreign matter and moisture content. Feedback session and group discussion were organized followed by a post-training evaluation.

## TRAINING AND TRAINERS IN POST HARVEST MANAGEMENT

APART is a unique project of Govt. of Assam for transforming activities of farmers from cultivation to agribusinesses through the approach of developing the entire value chains from '*farm to fork*' of selected market demanded commodities grown in the state. To achieve rural transformation through agribusiness by learned groups of farmers, the first step is to increase the understanding of farmers about the importance of aggregation of commodities and maintenance of buyer expected standards of the aggregated commodities. Farmers of Assam are very apt in cultivation procedures but still lack profound business skills, thus losing out the fair share of profits while selling their commodities. Seasonal stress sale and under pricing are the prime difficulties faced by the farmers leading to the demonstrations were taken up for the beneficiaries in the year 2019-20. In this regard, a training of trainers'

gradual increase of lack of interest in farming generations after generations.

Through APART, the project wishes to change this scenario, by introducing good market linkages through linking the large market buyers and processors of the area with the farmer groups. Consequently, the aggregated commodity handling and presentation need to be changed through better management of the same after harvest, also called post-harvest management, which is currently lacking in the farmer side thus fetching them lower and inconsistent market prices. To introduce the basic post-harvest management practices in the field, for the first time under APART, post-harvest was organized by DoH&FP on

# KRISHI RUPANTAR

## ASSAM AGRIBUSINESS AND RURAL TRANSFORMATION PROJECT (APART) E-NEWSLETTER

6th February 2020 in Guwahati where two district officials from each of 16 undivided APART districts were invited to form a team of trainers on post-harvest management who will then be responsible to conduct 295 demonstrations on 6 agricultural and 8 horticultural commodities throughout the districts. The program was chaired by Shri A. Jalil, Director (I/c), DoH&FP and Dr Pranab Kumar Mahanta, Agricultural Advisor of ARIAS Society. Importance of the post-harvest management under the project as a crucial step for forward-market linkages was highlighted by Shri Baljeet Singh, MA cum OS, ARIAS Society. Ms Monisha Choudhury and Shri Inamul Hussain Saikia, Post Harvest Management Experts, APART explained the activities to be taken up under the post-harvest demonstrations of horticulture and agriculture crops, respectively.



*Participants of the ToT programme on Post Harvest Management*

The program was also enriched by the grain quality kit demonstration by Shri Saurajyoti Baishya, Specialist-Post Harvest and Rice Value Chain, IRRI and lecture on better pre-harvest and post-harvest practices of potato by Dr Brijesh Kumar, Post Harvest Specialist, CIP. The learnings of the program included the basic pre-harvest measures to be considered, cleaning, sorting, grading, minimal treatments, packaging, hygienic handling and storage of commodities which are planned at par the buyer expectations and demands. The learnings were also shared in terms of commodity-specific guidelines handed over to trainers which will be delivered and distributed to farmers by the trainers at the time of demonstrations so that the farmers adopt such practices and consequently the market acceptability of the commodities increase. Following this training, the districts officials will carry out the post-harvest demonstrations in their respective districts in presence of local enterprises and market buyers related to the commodity demonstrated to create direct-purchase linkages among the buyers and farmers.

### PROJECT ORIENTATION ORGANIZED BY HR, ARIAS SOCIETY

Project Orientation cum Induction Programme was organized by the Human Resources, ARIAS Society for employees and new joiners of the Assam Agribusiness and Rural Transformation Project (APART) on the 4<sup>th</sup> & 5<sup>th</sup> February 2020 at the Assam Administrative Staff College, Khanapara, Guwahati.

The two-day programme included sessions on the different areas of the Project implementation and the same was delivered by the subject matters experts of the Project, who gave in detailed information on the project.

The programme was attended by the staff from the District level and the Project Implementation Unit (PCU).







*Project Orientation Programme for APART*

### CLIMATE-RESILIENT RICE-FISH FARMING UNDER APART

The Department of Fisheries is implementing rice-fish farming demo for 100 ha water body in 9 (nine) project Districts covering 206 beneficiaries for the year 2019-20 following the technology provided by the WorldFish and IRRI as Better Management Practices. In this farming system, rice is the primary crop and fish culture is secondary. The beneficial effect of fish on Paddy production that a sort of Mutual Symbiosis takes place, in which each of the two components is not damaged but rather favoured, up-to a certain point, by the presence of the other.

The production of a fish along with paddy gives the farmers an off-season occupation and also increases the income without incurring any additional expense. Apart from the additional income available from rice-fish culture, the combined culture leads to a reduction in labour involved in weeding besides an increase in the yield of paddy by 10% to 25% and harvest of around 2.0-tonne fish production/ha/crop is ascribed to various factors, namely:

1. Increase in organic fertilization by fish excreta and remains of artificial feed.
2. Better tillering of the rice seedlings due to the activity of the fish.
3. Reduction in the number of harmful insects, such as paddy stem borers, whose larvae are eaten by fish.
4. Reduction in rat population due to an increase in the water level.
5. Increased mineralization of the organic matter and increased aeration of the soil resulting from the puddling of mud by benthic feeders.
6. Control of algae and weeds (by phytophagous fish) which compete with rice for light and nutrients.

However, the disadvantages of the rice field for fish are the low depth of water and the stagnant water. The low depth former is to an extent compensated, as explained earlier, by the provision of trenches and swamps for refuge and also by the increased in light penetration and consequent high production of phytoplankton and algae in the shallow depth. Compensation for stagnant water is made possible only to an extent by the addition and retention of fertilizers applied and in the case of fishes by the adoption of polyculture technique (by the right choice of species) so that recycling of nutrients is ensured



*Climate-resilient rice-fish farming under APART*

### **ARIAS Society**

(An Autonomous Body under Govt. of Assam)

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

Tel: +91 361-2332125; Fax: +91 361-2332564;

email: [spd@arias.in](mailto:spd@arias.in), Website: [www.arias.in](http://www.arias.in) For any grievance, you may email at [grievances@arias.in](mailto:grievances@arias.in)