



# ICAR-IARI ASSAM NEWS LETTER



Vol. 1 Issue 1 (Inaugural Issue)

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## DIRECTOR'S DESK

Greetings!!

The Northeast region of the country is blessed with a wide range of agricultural resources having immense potential in generating revenue at the rural front, and in providing livelihood and nutritional security to the underprivileged population. However, issues like climate change, dwindling biodiversity and over-exploitation of natural resources are challenges before the agriculture and allied sectors.



The ICAR-IARI Assam has therefore been established at Gogamukh in Dhemaji district of Assam with the vision of addressing these challenges through innovative crop production technologies, land & water budgeting, thrust on climate resilient strategies, agro-ecotourism, creation of infrastructure, adoption of farmer centric approaches and services etc. Besides, efforts to develop human resource through trainings, on-farm demonstrations, education, consultancies, partnership through outreach activities, expansion of agriculture, fisheries and animal husbandry through technological interventions and knowledge transfer are the prioritized responsibilities of this institute to uplift the socio-economic status of the farming communities in the region. ICAR-IARI Assam will act as a repository of knowledge and information, and be a world-class institution of higher education, learning, and research. I am sure the institute will be the catalyst to bring about progressive change in the agricultural scenario of the region, and beyond.

I hope that the information included in the newsletter would be useful to readers and stakeholders. I wish to congratulate all the editorial team for bringing out the first newsletter with their meticulous effort.

Dr. A.K. Singh, Director

## Nodal Officer's corner



ICAR-IARI, Assam is a one of its kind institute with respect to its structure, functioning, mandate and objectives. **The foundation stone of the institute was laid on 26th May 2017 by the Hon'ble Prime Minister Shri Narendra Modi Ji, and it was handed over to the people of India in September 2020.**

Since then in total six scientists have joined the institute and taken up several activities both in the research and extension fields. The institute is located in the North East part of the country with objectives to promote agriculture education and high-quality research for holistic agrarian development and orient the educational programme toward future needs and opportunities in South East Asia. The institute will also focus to strengthen entrepreneurship skills among the youths of the

region through training programme to promote the commercialization of agriculture in the whole North East region. This newsletter compiles all the activities and achievements of the scientists during the very initial years (i.e from September 2020 to June 2022) of the institute. I sincerely complement each one of the scientists who devoted their time preparing this newsletter. I express my sincere thanks and gratitude to Dr A.K. Singh, Director, ICAR-IARI, New Delhi for his constant encouragement guidance and support during this establishment stage of the institute. I firmly believe that this newsletter would not only give the readers an overview of ICAR-IARI, Assam along with its activities but also help them to understand its role in the future overall development of the whole North East region of the country.

Dr. K.B. Pun, Nodal Officer

## SIGNIFICANT INFRASTRUCTURAL DEVELOPMENT

With the establishment of the Institute, one of the main emphases has been the development of the academic campus to make this prestigious institute functional at the earliest possible. While the total area allotted to IARI Assam is 587 acres, the academic campus is being developed on 45 acres. A boundary wall around the

academic campus has been erected. Construction of a Shaikshanik Bhawan has also been completed. Over the last few months, much effort has been made to complete the Academic-cum-Administrative building as well as the Guest house at the campus; both of which are near completion. Work is also in progress for the construction



Sunset view of the Guest house that is nearing completion



Aerial view of Shaikshanik Bhawan at IARI Assam

“ICAR-IARI Assam will develop into a world-class institution of learning, education, and research in agriculture. It will stand amongst elite peers in developing quality human resource in agriculture and allied fields, and gather not just to the Northeastern region but the whole of South-East Asia.”

~ Director, IARI



25 August 2021



29 September 2021



29 October 2021



25 November 2021



18 December 2021



19 January 2022



19 February 2022



28 February 2022



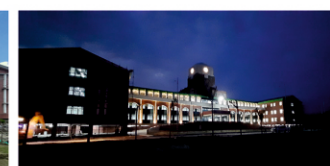
28 March 2022



20 April 2022



4 May 2022



1 June 2022

Pictorial representation of progress in the construction of Academic-cum-Administrative building



## SIGNIFICANT INFRASTRUCTURAL DEVELOPMENT



Clearing the jungle from the erstwhile Pig Breeding Station (PBS) premises of IARI Assam at Dirpai Chapori, Gogamukh, Dhemaji, Assam was also done satisfactorily. Entire jungle was cleared manually and mechanically. The deep roots and trunks of shrubs and vegetation were uprooted by mechanical means. Weeds and shrubs along the boundary (inner and outer) were cleared. The Pig Breeding Station

encompasses an area of about 2.5 ha land excluding area occupied by the buildings. The premises have six (6) numbers of Pig Rearing Units having 20 pig pens each. Along with the pig pens, the premises have an office, a research laboratory, a storage hall and six (6) staff quarters. All the infrastructural facilities in the premises were cleaned manually by sweeping and using water jets.



Depiction of different areas of erstwhile Pig Breeding Station before and after jungle clearing and cleaning



## PANORAMA OF ACTIVITIES

### Field Day organised at Taring Baniagaon Village, Dhemaji, Assam

**(Organizers: Deepjyoti Baruah, Dibyendu Deb, Alemwati Pongener, Arunjyoti Baruah and Palmei Gaibimei)**

A field day was organized at Taring Baniagaon village in Dhemaji district of Assam on 24<sup>th</sup> January 2022.

The main objective of the programme was to develop rapport with the farming community and to get acquainted with the farming ecosystem prevalent in the fragile submerged region of Dhemaji in Upper Brahmaputra stretch of Assam. The field day started with a visit to the farm of a progressive farmer, Mr. Bogai Bania, where several other farmers assembled gradually. The farmers were informed about the establishment of IARI Assam and

also held discussion to gather baseline information about the village and the farm practices. A transect walk across the village and fields was also conducted where the scientists came across rice fields, fishery ponds, vegetables and fruit grown on dykes of ponds, animal husbandry practices, sericulture, farm waste utilization etc. The field day ended with all stakeholders agreeing to cooperate and bring synergy in all aspects of agricultural development in the times ahead.



Above: Scientists and farmers of taring baniagaon pose for a photograph

Below: Display of silkworm rearing and silk shawl in a frame





## PANORAMA OF ACTIVITIES

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**Top (Clockwise: Mechanised lift net known as Dheki Jal; a glimpse of the variety of fish caught; fishing in progress  
Below: Animal husbandary including duck-rearing is an important part of IFS at Taring Baniagaon**

Being a low-lying area, fish culture is the primary occupation among the inhabitants of Taring Baniagaon. Nanadi river that runs along the village is the lifeline of the villagers. A glimpse of the catch included small fish species such as *Puntius spp.*, *Mystus spp.*, *Mastecembelus spp.*, etc while the larger-sized fish comprised of *Chitala chitala*, *Notopterus notopterus*, *Wallago attu* and *Aorichthys aor.* Major fishing gear operated in the river is a

mechanized lift net locally known as *Dheki Jal*.





## PANORAMA OF ACTIVITIES

### Voters' Pledge administered at ICAR-IARI Assam

ICAR-IARI Assam joined the nation in commemorating the National Voters' Day on 25<sup>th</sup> January 2022. Dr. K.B. Pun, Nodal Officer, administered the Voters's Pledge to the scientists of the institute, and also exhorted the gathering to uphold democratic ethos and strive for free, fair and peaceful elections. All the scientists of IARI Assam participated in the event.



Scientists of IARI Assam taking the Voters' Pledge

### Maiden unfurling of the Tricolour at ICAR-IARI, Gogamukh, Assam

The Tricolour was unfurled for the very first time at ICAR-IARI, Gogamukh, Assam, by Dr. K.B. Pun, Nodal officer,



on the occasion of the nation's 73<sup>rd</sup> Republic Day on 26<sup>th</sup> January 2022. The solemn ceremony was attended by the scientists of the institute, officials of NPCC, and construction workers at the institute. The unfurling of the National Flag was symbolic in that it was set on building blocks signifying every sweat and brick that has gone into nation building in more than seven decades of the Republic of India. This was reiterated by Dr. Pun in his address to the gathering, who expressed gratitude to the masons and labours for their service to the nation. Dr. Pun spoke about the events that resulted in the birth of our republic, and cited experiences from his own lifetime on how the nation has transformed for the better in the last many decades. Dr. Pun exhorted the gathering to continue to give the best for national service and to draw inspiration from the Constitution of India that has brought us thus far. Dr. Deepjyoti Baruah, Principal Scientist, and Mr. Bhargab Sarma, Project Manager, NPCC Ltd, also spoke to mark the occasion.

**“As we celebrate the Republic day , let us rededicate ourselves to work for the progress of our country”**

**~ Dr. K.B. Pun**

### Field Day organised at Bordoibam, Dhemaji, Assam

**(Organizers: Deepjyoti Baruah, Dibyendu Deb, Alemwati Pongener, Arunjyoti Baruah and Palmei Gaibimei)**

The scientists of ICAR-IARI Assam went for a visit to Bordoibam of Gogamukh, Dhemaji district on 19<sup>th</sup> February 2022. The main purpose of the visit was to

gather first-hand experience of the agricultural activities of local farmers in order to identify possible technical interventions from IARI, Assam.

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The team visited the farm of Mr. Girija Doley, a progressive farmer at Gogamukh, Assam, who showed around and explained his hatchery unit and its functioning, the fishery pond, horticultural interventions such as plantations of papaya, apple ber, Assam lemon, and dragon fruit among several others. The scientists informed the farmers about improved aquaculture and hatchery practices, as well as the potential of horticultural crops in the region. Since the site is near to the popular river island of Majuli, the scientists also discussed about the huge potential of agro-tourism in the area.



“Integrated farming system involving fisheries and agri-horti crops have proved beneficial for my family”

~ Sh. Doley, farmer

Inside: A glimpse of interaction with farmers

## Demonstration-cum-performance evaluation of hybrid vegetables at Bordoibam

**(Organizers: Deepjyoti Baruah, Dibyendu Deb, Alemwati Pongener, Arunjyoti Baruah and Palmei Gaibimei)**

Scientists of ICAR-IARI Assam in collaboration with National Seeds Corporation, Guwahati visited a farmer's field at Bordoibam, Gogamukh, Dhemaji on 3<sup>rd</sup> March 2022. With the aim of demonstrating and evaluating the performance of vegetables in the region, hybrid seeds of vegetables including tomato, brinjal, okra, bottle gourd, etc, made available from NSC, were handed over to the farmer at Bordoibam. The scientists also interacted with the farmers regarding latest horticultural practices for raising the vegetable crops.





## Field visit to local government nurseries at North Lakhimpur and Dhemaji

(Participants: Deepjyoti Baruah, Dibyendu Deb, Alemwati Pongener, Arunjyoti Baruah and Palmei Gaibimei)

Scientists of IARI Assam visited two government nurseries in Lakhimpur and Dhemaji on 29<sup>th</sup> March 2022. The team interacted with the officials of Forest department who were overseeing the nursery

operations. The scientists got acquainted with different agroforestry trees prevalent in the region and also learnt about their silvicultural practices.



Scientists during the visit to the Forest Department Nursery at Gogamukh, Dhemaji, Assam

## One day Kisan Mela-cum-Scientist-Farmers interaction programme at KVK Lakhimpur

(Participants: Deepjyoti Baruah, Dibyendu Deb, Arpan Bhowmik, Alemwati Pongener, Arunjyoti Baruah and Palmei Gaibimei)

Scientists of IARI Assam participated in the one-day Kisan Mela cum Scientists-Farmers interaction programme organized at the premises of KVK Lakhimpur jointly by KVK Lakhimpur and ATMA Lakhimpur on 26<sup>th</sup> April 2022. The day coincided with the nationwide programme on **Kisan Bhagidari Prathamikata Hamari** being addressed by the Hon'ble PM of India. As part of the programme, scientists of IARI Assam participated in the interaction programme and addressed queries raised by the farmers.





## Nursery visit-cum-Plantation drive at IARI Assam on World Environment Day 2022

(Participants: K.B. Pun, Deepjyoti Baruah, Dibyendu Deb, Arpan Bhowmik, Alemwati Pongener, Arunjyoti Baruah and Palmei Gaibimei)



Team IARI Assam during the visit to nursery at Gogamukh on World Environment Day 2022

Scientists of IARI Assam visited the local government forest nursery in Gogamukh on 5<sup>th</sup> June, 2022. The team interacted with the officials of the Forest department and also collected different saplings of agroforestry trees from the nursery. Thereafter, the team led by Dr. K.B. Pun, Nodal

Officer, undertook a plantation drive at the Academic campus of IARI Assam to commemorate the occasion of World Environment Day. In a move signifying the role of individuals as well as organizations in caring for the planet and the environment, saplings of Golden Shower (*Cassia*



Team led by Dr. K.B. Pun pose for a photograph during the plantation drive at the campus



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4. Bairwa, M. K., Baruah, A., Nandanpawar, P., Kumar, R., Rasal, A., Debbarma, J., Chakrabarti, P. P., Pillai, B. R. and Swain, S. K. Growth performance and survival during seed rearing of commercially important freshwater fishes in inland saline water. Poster presentation in 12th Indian Fisheries & Aquaculture Forum during 5 - 7 MAY, 2022.
5. Baruah, D., Kunal, K., Ganie, P.A., Garima., Posti, R., Sarma, D. and Pandey, P.K. Assessment of species diversity, biology and fishing methods of snow trout (*Schizothorax spp.*) in upland aquatic resources of Arunachal Pradesh. Oral presentation in International Conference on Recent Advances in Agriculture, Engineering and Biotechnology for Food Security organized by Mahima Research Foundation and Social Welfare 194, Karaundi, Banaras Hindu University, Varanasi-221005, UP, India during 25-26 September 2021 (online).
6. Baruah, D., Ganie, P.A., Kunal, K., Garima., Posti, R., and Pandey, P.K. (2021). GIS approach in mapping potential upland fisheries resources of Anjaw district in Eastern Himalayas. Oral presentation in the 3<sup>rd</sup> International Conference on Global Initiatives Agricultural, Forestry and Applied Sciences (Theme: Food Security, Environmental Safety and Sustainable Development) during 17-18 October 2021, organized by Agricultural & Environmental Technology Development Society (AETDS), U.S. Nagar, UK, India (online).
7. Dalal, A., Jaggi, S., Varghese, E., Bhowmik, A., Varghese, C., and Datta, A. NBBDesigns and rsdNE: R Packages for the Generation of Designs and Analysis of Data Incorporating Neighbour Effects. Paper presented in USER!2022 (international virtual conference organized by R community volunteers and supported by the R Foundation) hosted by Department of Biostatistics, Vanderbilt University Medical Center, United States during 20-23 June, 2022 (online).
8. Mandal, S., Deb, S., Barman, A. and Deb, D. Quantitative estimation of soil organic carbon using VisNIR hyperspectral data: a case study in the northern districts of West Bengal, India. Oral presentation in National Webinar on 'Managing Agro-Chemicals for Crop and Environmental Health' during February 25-26, 2022 at ICAR-Central Soil Salinity Research Institute, Karnal (online).
9. Pongener, A., Marboh, E. S., Kumar, A. and Pandey, S.D. Postharvest pericarp desiccation leads to browning and short shelf life in longan (*Dimocarpus longan* Lour). Oral presentation in 3<sup>rd</sup> International Conference on Food, Agriculture, and Innovations, Ranchi from 24-26<sup>th</sup> December 2021 (hybrid).

### Linkages developed

Scientists of ICAR-IARI Assam have visited and developed cordial collaborative linkages with the following institutions in the region

- Krishi Vigyan Kendra, North Lakhimpur, Assam
- College of Veterinary Sciences, North Lakhimpur, Assam
- NHPC, Subansiri Dam, Gerukamukh, Dhemaji, Assam
- ICAR-DCFR, Bhimtal



## Participation in training/workshop

Participant	Title of training/workshop	Mode	Organiser	Duration and date
Arunjyoti Baruah	The art and science of Biofloc aquaculture	Online	College of Fisheries, CAU, Tripura under NAHEP	3 days from 22-24 December 2021
Arunjyoti Baruah	Hindi workshop on experimental designs and analysis	Online	ICAR-IASRI, New Delhi	3 days from 14-16 June 2022
Palmei Gaibimei	Agripreneurship through banana-based technologies - An avenue for AtmaNirbhar Bharat	Online	MANAGE, Hyderabad and ICAR-NRCB, Trichy	3 days from 15-17 June 2022

## Training/workshop organized

**Dr. Dibyendu Deb** was a coordinator for the following workshops

- Workshop for All India Fodder Production officers: Kharif 2020 for 4 days from 23-26 June 2020
- Workshop for All India Fodder Production officers: Rabi 2020 for 3 days from 13-15 October 2020

### Dibyendu Deb

- Served as Resource Person in Scientists-Farmers Interaction Programme on 26<sup>th</sup> April 2022 at KVK North Lakhimpur.

### Alemwati Pongener

- Served as Resource Person in Scientists-Farmers Interaction Programme on 26<sup>th</sup> April 2022 at KVK North Lakhimpur.
- Served as Resource Person in both 5<sup>th</sup> and 6<sup>th</sup> Entrepreneurship Development Programme on Micro Processing of Litchi Beverages 31<sup>st</sup> August- 02<sup>nd</sup> September, 2021 and 24-26<sup>th</sup> May 2022 respectively at ICAR-NRC on Litchi, Muzaffarpur, Bihar.

## Resource person in training/workshop

### Deepjyoti Baruah

- Delivered a presentation on “Best management practices in composite fish farming” at 3-days skill development training on “Principle vs practices in composite fish farming at the climatic conditions of Assam under SCSP of NFDB, NERC, Guwahati in collaboration with Department of Fisheries, Dhemaji district, Assam during 10-12 January 2022 at Bordoloni Block Development Office, Dhemajii district, Assam
- Delivered presentations on “Importance of culture practices of integrated fish farming in present context” and “Fish diseases and health management” during 2-days Skill development training under NEH programme on “Advances in sustainable aquaculture practices” organized by ICAR-CIFE, Kolkata Centre from 10-11 March 2022 at Dhemaji, Assam

### Arunjyoti Baruah

- Served as Resource Person in Scientists-Farmers Interaction Programme on 26<sup>th</sup> April 2022 at KVK North Lakhimpur.
- Served as Resource Person in 3 days training programme for SC beneficiaries on 'Recent advances in composite fish farming' by NFDB (HRD-SCSP) for the financial year 2021 - 22 at KVK, AAU, North Lakhimpur during 27-29 December, 2021.



## Peer / Professional Recognition

### Deepjyoti Baruah

- Special invitee for Input distribution programme to 50 fishermen at Pokadal village, Bihpuria, Lakhimpur district, Assam under SCSP programme. The programme was organized by ICAR-DCFR, Bhimtal in collaboration with College of Fisheries, AAU, Raha and KVK (AAU), North Lakhimpur on 01 November, 2021.
- Acted as Guest / Adjunct faculty and took series of 10 lecture sessions for the course FRM 212: Cold water fisheries, sport fisheries and aqua tourism for BSc 2<sup>nd</sup> and 3<sup>rd</sup> year students of College of Fisheries, GADVASU, Ludhiana during 14-21 December, 2021.
- Participated as an expert in breeding of minor hill carp (*Labeo pangusia*) under Gene bank project of College of Fisheries, AAU, Raha at 1-day experimental captive breeding programme of Silgharia (*Labeo pangusia*) fish at Pabhoi Fish Farm, Biswanath Chariali, Assam on 22 April, 2022.
- **Chief Guest** in 1-day Awareness programme on National level campaign on efficient and balanced uses of fertilizer (including Nano technology) organized by KVK West Kameng district, Arunachal Pradesh on 22 April, 2022.

### Dibyendu Deb

- External Examiner for the courses (i) Remote sensing GPS and GIS (ii) Remote sensing and GIS for NRM and land use planning at Uttar Banga Krishi Viswa Vidyalaya, Pundibari, Cooch Behar.

### Alemwati Pongener

- External Thesis evaluator for M.Sc. Horticulture student of Department of Horticulture, Nagaland University

## Awards and Honours

- **Dr. Deepjyoti Baruah** received “Mahima Agricultural Excellence Scientist Award” at International Conference on Recent Advances in Agriculture, Engineering and Biotechnology for Food Security during 25-26 September 2021, organized by Mahima Research Foundation and Social Welfare 194, Karaundi, Banaras Hindu University, Varanasi-221005, UP, India.
- **Dr. Deepjyoti Baruah** received “Outstanding Scientist Award” at 3rd International Conference on Global Initiatives Agricultural, Forestry and Applied Sciences (Theme: Food Security, Environmental Safety and Sustainable Development) during 17-18 October 2021, organized by Agricultural & Environmental Technology Development Society (AETDS), U.S. Nagar, UK, India.
- **Dr. Palmei Gaibime** received the ‘Best article award’ for article entitled “Brief Notes on *Cassia tora* and its Unit Operations Involved for Production of Gums” which got published in Volume 03, Issue 08 in Agriculture & Food: e-Newsletter.

- **Dr. Dibyendu Deb** was awarded the 2nd best oral presentation award for the paper entitled “Quantitative estimation of soil organic carbon using VisNIR hyperspectral data: a case study in the northern districts of West Bengal, India” in National Webinar on ‘Managing Agro-Chemicals for Crop and Environmental Health’ during February 25-26, 2022.
- **Dr. Arpan Bhowmik** co-authored an article entitled, “NBBDesigns and rsdNE: R Packages for the Generation of Designs and Analysis of Data Incorporating Neighbour Effects” for which the lead author received Diversity scholarship from USER! for participation and presentation in USE R! 2022

## Advisories / exploratory visits

- **Arpan Bhowmik** assisted and advised two research scholars (Ms. Swarajalaxmi Nayak and Ms. Pooja B.K.) and two faculty members (Dr. T.J. Purakayastha and Dr. Anirban Dutta) of ICAR-IARI, New Delhi, on application and use of different statistical tools viz., ANOVA, Response surface methodology (RSM) based optimization of central composite design, Friedman’s test, and RSM based optimization using Box-Behnken designs in agricultural research.
- **Dr. Deepjyoti Baruah** visited fish farms in Lakhimpur and Dhemaji districts of Assam in November 2021, meeting and advising fish farmers on best fish culture practices.

## Joining/Transfer

Name and Designation	Joining date
Dr. Dibyendu Deb, Scientist (Agricultural Statistics)	17.10.2020 (FN)
Mr. Arunjyoti Baruah. Scientist (Fish Health)	17.10.2020 (FN)
Dr. Deepjyoti Baruah, Senior Scientist (Aquaculture)	08.02.2021 (FN)
Dr. Alemwati Pongener, Scientist (Horticulture-Fruit Science)	02.07.2021 (FN)
Dr. Palmei Gaibime, Scientist (Agril. Structures & Process Engg.)	11.10.2021 (FN)
Dr. Arpan Bhowmik, Scientist (Agricultural Statistics)	11.04.2021 (FN)



## Promotion

Name of Scientist	Designation promoted to	Date of Promotion
Dr. Deepjyoti Baruah	Principal Scientist (Aquaculture) Level 14	16.10.2020
Dr. Dibyendu Deb	Senior Scientist (Agricultural Statistics) Level 12	15.12.2019
Dr. Arpan Bhowmik	Senior Scientist (Agricultural Statistics) Level 12	02.07.2021

## Distinguished visitors

- Dr. A.K. Singh, Director, ICAR-IARI, New Delhi
- Dr. D.K. Yadava, ADG (Seeds), ICAR, New Delhi
- Dr. Pravin Puthura, ADG (Marine Fisheries), ICAR, New Delhi
- Dr. I. M. Mishra, Joint Director (Research), ICAR-IARI, New Delhi



*“The journey of a thousand miles begins with one step”*

*~ Lao Tzu*

*The Indian Agricultural Research Institute, Assam is the newest institute established under the ICAR. Set up with a vision to gather to the needs of agricultural research and education in the Northeastern region, IARI Assam aims to be a world-class institution of cutting-edge research and a renowned centre for human resource development in agriculture and allied sectors. The editorial team has attempted to bring out the first ever newsletter of ICAR-IARI Assam with a pristine purpose of presenting all that has transpired in a marked period of time. It contains information on infrastructural development at the campus, efforts of team IARI Assam on rapport-making among locals, and many more. This newsletter is a small step towards a long journey with a vision to strengthen the agriculture and allied sectors by providing up to date information on the research and farming activities. We hope this will help our readers to board upon the bandwagon of informative, educative and creative impulses. Furthermore, the editorial team express their sincere gratitude to the Director, ICAR-IARI New Delhi and the Nodal Officer, IARI Assam for their unflinching support in carrying out the mandatory programmes and in bringing out this newsletter. Many thanks to all who have made significant contributions in bringing out this inaugural issue!*

**Editorial Team**

## Compiled and Edited by

- Dr. Deepjyoti Baruah
- Dr. Dibyendu Deb
- Dr. Arpan Bhowmik
- Dr. Alemwati Pongener
- Mr. Arunjyoti Baruah
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