

ATARI Kolkata NEWS



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From the Director's Desk

'If agriculture goes wrong, nothing else will have a chance to go right in the country'- Dr. M. S. Swaminathan


Technology application has become the main pillar of today's knowledge-driven Indian agriculture. Towards this endeavour, Agricultural Technology Application Research Institute Kolkata along with its 59 Krishi Vigyan Kendras (KVKs) situated in Andaman and Nicobar Islands, Odisha and West Bengal were continuously working for transferring updated technologies, for implementing various schemes of different Ministries under Government of India through ICAR, for enhancing farmers' income and so on which benefitted lakhs of agricultural farmers. In addition to the mandated activities, all KVKs of this Zone were engaged in organizing special programmes like 'Jal Sakti Abhiyan', 'National Animal Disease Control Programme', 'Swachhta Hi Seva', 'Plantation Programme' etc. during the period. Likewise, ATARI Kolkata organized events like 'Sadbhavana Diwas', 'हिन्दी पखवाड़ा', 'Vigilance Awareness Week', 'Rashtriya Ekta Divas', 'Constitution Day' etc. and oriental/ refresher courses on GKMS and many review meetings.



To assess contributions made by ATARI Kolkata and 59 KVKs under its jurisdiction and to evaluate its constraints, potentials, strategies and plans in transferring latest agriculture related technologies from research institutes to the end users i.e. farmers, Quinquennial Review Meetings were conducted during this period. The Quinquennial Review Team (QRT), composed of experts from outside the ICAR system, for ICAR-ATARI Kolkata as well as Patna interacted with the scientists and other staff members of this institute, KVKs and their Host Organizations. The Committee also visited some selected KVKs and their adopted villages of Andaman and Nicobar Islands, Odisha and West Bengal. Officers from line departments of the respective states and other stake holders including farmers were also present during their visit.

Besides, scientists of this institute were not only engaged in attending various meetings/ workshops/ seminar/ conferences but also working in publishing research papers, technical articles, technical bulletins, reports, books/ book chapters etc.

I must appreciate sincere efforts and dedications of ICAR-ATARI Kolkata personnel including KVKs for working with the farming community. I also congratulate the scientists and staff who are actively involved in bringing out this publication. Suggestions, comments and feedback are always welcome for future improvements.


(S. S. Singh)

Technologies applied successfully

Introduction of new rice var. 'CR Dhan 307' ('Maudamani') increased farm income

Sri Bhima Charan Das, village-Laxminarayanpur, block- Salipur, District.-Cuttack, Odisha used to grow rice in a traditional manner before 2017. The profit from his farming was very less because of low productivity and poor grain quality. Then, he came in contact with the scientists of ICAR-NRRI Cuttack who were working in the project- 'Farmer FIRST Programme' funded by ICAR, New Delhi. In this programme, under crop module, scientists were demonstrating various newly released rice varieties which could give more production as well as income to the farmers. The scientists

gave training to the selected farmers including Sh. B. C. Das for scientific paddy cultivation. More than 23 rice varieties were demonstrated among the farmers in Cuttack district by ICAR-NRRI, Cuttack during 2017-2019.



Out of 23 demonstrated rice varieties, CR Dhan 307 (Maudamani) had best

yields compared to other varieties and performed exceptionally well in field conditions. The following data showed about the yearly analysis of profit of Sh. B. C. Das who cultivated 'Maudamani' rice. Grain yield advantage of about 30-60 percent and incremental income of 200-300 per cent (depending on the land type, varieties, crop management practices and market price) were obtained over previously grown varieties. Thus, more profit was obtained from new variety. At present, 'Maudamani' rice variety was spread among 450 farmers in and around the district and it covered an area of about 60 ha area. It is being popularized day by day.

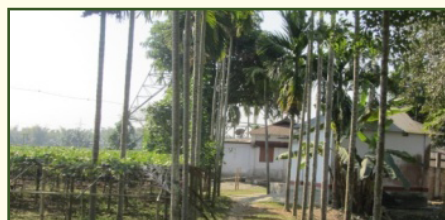
Economics of production

Impact factor	Before adoption	After adoption
Farmers' practice	Pooja cultivation	Maudamani cultivation
Yield of product	17quintals/yr	25 quintals/yr
Fixed cost (Rs.)	Seeds-700/-	Seeds-800/-
Recurring cost (Rs./year)	20000/-	20000/-
Gross income (Rs./year)	25000/-	33750/-
Net profit (Rs./year)	4300/-	12950/-
B:C ratio	1.20	1.62

Contributor: FFP, ICAR-NRRI, Cuttack, Odisha

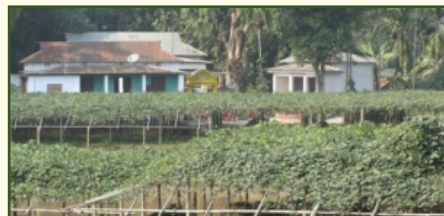
Pond based integrated farming systems with innovative technologies enhanced farmers' income

Shri Nibaran Roy, 53 years old, is an energetic and informative farmer residing at Char Chura Bhandar, Ranihat More near Jaldhaka Bridge under Maynaguri block in Jalpaiguri district. He had 3.3 acres of land with a cultivated pond. The main entrance road of his house was beautified with arecanut plantation. He, along with his family members, was engaged in agricultural production for last 26 years. He practiced farming of rice, jute, arecanut and vegetables (potato, cabbage, cauliflower) and pisciculture.



But, total income from the land was

not as per his expectation. Then, he came in contact with the Scientists of Jalpaiguri KVK. The KVK personnel advised him to implement other innovative technologies in his land to enhance annual income. Accordingly, KVK Jalpaiguri gave training to Shri Roy. Gradually, pond based integrated farming systems were introduced in his farm. To get early market, he started cucurbitaceous vegetable cultivation in dyke areas or trellis. Trellis was properly utilized round the year by vegetable based cropping systems with special emphasis on cucurbitaceous vegetables like bottle gourd, snake gourd, bitter gourd,

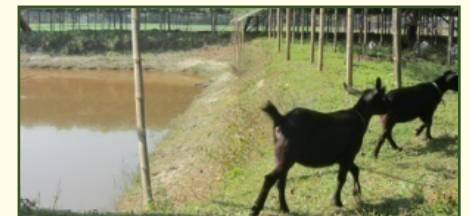


cucumber and dolichos beans. He collected water hyacinth every year from nearby areas for compost

making. His family members were also interested to intensify their farming through introducing cattle and goat



rearing and they did that. Thus, he increased the cultivable area in his farm. As a result, he got a substantial increase of profit from his same area of land adopting those innovative technologies. The comparative economic feasibility of before and after adoption of technologies has been given in the table.



Income before adoption

Enterprises	Area / No.	Cost of production* (in Rs.)	Return (in Rs.)	Net income (in Rs.)
Crop-Rice	2.2 acre	20700	49500	28800
Crop-Jute	1.5 acre	9500	23750	14250
Crop-Arecanut	35 plants	1250	4800	3550
Crop-Vegetables (potato, cabbage, cauliflower)	0.5 acre	12500	32700	20200
Fish (Pond)	0.4 acre	12800	37500	24700
Total		56750	148250	91500

* Includes cost of input, labour and others like marketing and transport of the products

Income after adoption

Enterprises	Area / No.	Cost of production* (in Rs.)	Return (in Rs.)	Net income (in Rs.)
Crop-Rice	1.7 acre	16000	38000	22000
Crop-Jute	1.2 acre	7500	19000	11500
Crop-Cucurbitaceous vegetables (cucumber, bitter gourd, bottle gourd, beans etc. on trellis)	0.8 acre	85000	195000	110000
Crop-Arecanut	65 plants	2750	11000	8250
Livestock-Cow	03 nos.	36500	52500	16000
Livestock-Goat	06 nos.	4500	13500	9000
Fish (Pond)	0.6 acre	16200	43200	27000
Total		168450	372200	203750

* Includes cost of input, labour and others like marketing and transport of the products

Real time cucumber production changed livelihood of farmers

Sh. Siba Muduli, Village- Gopalpur, block- Begunia, Distt.- Khordha, Odisha and his farmer friends used to cultivate vegetables including cucumber before 2017-18 in their limited lands. Their villages are surrounded by forests with *sal* as the pre-dominant tree. The climate is characterized by hot and dry summer and mild winter with an average annual rainfall of about 1408 mm.

Economics of production

Impact factor	Before adoption	After adoption
Farmers' practice	Local variety	Hybrid cucumber var. 'Rajmata'
Yield of product	3.75 tonnes in 0.2 ha	5.65 tonnes in 0.2 ha
Total cost (Rs.)	25000/-	15000/-
Gross income (Rs.)	60000/-	82300/-
Net profit	35000/-	67300/-
B:C ratio	2.4	5.5



The soil is red lateritic with clay loam texture. As they used local variety seeds, the production was not good and they did not fetch good return from their produce. During Rabi season of 2017-18, through 'Farmer FIRST Programme' under OUAT, Bhubaneswar, Odisha, one attempt was made to improve the livelihood of cucumber growers through introducing new hybrid variety 'Rajmata' with scientific package of practices. Regular interactions among



the farmers and scientists were made through person-to-person interaction, training programmes, field diagnostics etc.

The beneficiary farmers were provided with technical know-how and critical inputs viz. 'Rajmata' hybrid seed. The best management practices were popularized through field demonstrations. Amongst them, as an example, the success case of Sh. S. Muduli has been considered and the

economic feasibility of his farming has been highlighted here. Sri Siba Muduli earned Rs. 82300/- from an area of 0.2 ha of land by producing 5.65 tonnes with an expenditure of Rs. 15000/-. He harvested cucumber fruits in 17 phases for a period of 35 days after fruit set. Sri Muduli was

Contributor: KVK Jalpaiguri, WB

highly convinced about off season cultivation of cucumber to catch better market price. He also experienced the importance of scientific package of practices of high value crops. That demonstration encouraged other farmers for commercial cultivation to improve their livelihood. From the success of Mr. Muduli, more than 25 farmers started hybrid cucumber and off-season vegetable production covering more than 15 ha area in the selected villages.

Contributor: FFP, OUAT, Bhubaneswar, Odisha

Supplementation of concentrate mixture improved performances in peri-parturient does

Goat farming is an important source of income for landless, marginal and small farmers in our country. Rearing of goats depends mainly on the grazing or pasture lands and unutilized forest fringes in almost all districts/states. But, due to lack of sufficient pasture and sometimes, the restrictions put by the local forest authorities, the animal grazing has become very limited day by day. As a result, goats are suffering

from malnutrition and other related diseases causing low birth weight and weaning body weight of kid, high kid mortality etc. Supplementing of concentrate mixture during peri-parturient period was found to be an alternative to overcome those problems. Considering that, a multi-locational trial was conducted by KVK Angul, Odisha in five different locations in the district involving 45 advanced pregnant (133.5 ± 2.1 d of gestation) does. A total number of 45 does were divided in 3 equal treatment groups. The group-1 was kept as control i.e. without any supplementary feeding (grazing



only) while group-2 was given with 100 g concentrate mixture per day along with grazing and considered as treatment group-1. The group-3 was supplemented with 200 g concentrate mixture per day along with grazing and was considered as treatment group-2. The study continued till weaning i.e. 5 months of age of kids.

It was found that the lowest body weight of peri-parturient does was recorded in group-1 (23.84 kg) while the highest was in group-3 (24.92 kg). The average daily gain in body weight was 275 g/ d in group-3 as compared to 214 g/ d in group-1. The cost of production for 15 does in group 1 was recorded as Rs. 9000/- while it was Rs. 12600/- in group-3 and Rs. 10800/- in group-2. The BC ratio was highest in group-3 (2.90) as compared to 2.71 in group-1. It was recommended for the goat keepers that addition of concentrate feed in ration of indigenous does during late gestation and early lactation periods along with grazing improved growth performance of kids and reduced kid mortality.

Production and economic performances

Groups	Production performance				Economic performance			
	Post- parturient weight of does (kg)	Av.birth wt. of kid (kg)	Av. weaning wt. of kid (kg)	Kid mortality (%)	Cost of rearing (in Rs.)	Gross return (in Rs.)	Net return (in Rs.)	BC ratio
Group1: Grazing only (No supplementary concentrate feeding)	23.84	0.96	4.17	13.33	9000	24394.5	15394.5	2.71
Group 2: Grazing + 100 g of concentrate feed	24.61	1.15	4.75	6.6	10800	29925	19125	2.77
Group 3: Grazing + 200 g of concentrate feed	24.92	1.3	5.43	0.0	12600	36652.5	24052.5	2.90

Contributor: KVK Angul, Odisha

Important activities of KVKs (July to Dec., 2019)

Sl. No.	Activities	Achievements
1.	Number of on- farm trials conducted (Number of technologies)	1835 (301)
2.	Number of frontline demonstrations conducted	7942
3.	Farmers trained (in lakh)	0.65064
4.	Extension personnel trained (in lakh)	0.08377
5.	Participants in extension activities (in lakh)	7.07
6.	Production of seed (in quintals)	5154.58
7.	Planting material produced (in lakh)	17.67

Sl. No.	Activities	Achievements
8.	Livestock strains and finger lings produced (in lakh)	9.42
9.	Soil, water, plant, manures samples tested (in lakh)	0.15825
10.	Mobile agro-advisory provided to farmers (in lakh)	14.6

News from KVKs

'Jal Sakti Abhiyan' conducted

'Jal Sakti Abhiyan- A Water Conservation Campaign' was launched by Jal Sakti Ministry, Govt. of India on 01.07.2019 to create awareness among all stakeholders including farmers on water conservation and rainwater harvesting. Various activities i.e. water conservation and

rainwater harvesting, renovation of traditional and other water bodies, reuse bore well recharge structures, watershed development and intensive afforestation were undertaken by 254 districts in the country. Under ICAR-ATARI Kolkata, 3 KVKs namely, Port Blair (A & N Islands), Kendrapara (Odisha) and Hooghly (West Bengal) were selected for the

purpose and they were instructed to organize one big programme (Mela) on 02.10.2019. For each Mela, Rs. 1.50 lakh fund was provided to these selected KVKs. In addition, all other KVKs under ATARI Kolkata had organized various events at their KVKs. The details of 'Jal Sakti Abhiyan' programmes have been given in the table.



State/UT	Mela			Other events		
	No. of KVKs	Number of Melas organized	Number of participants	No. of KVKs	Number of events organized	Number of participants
A & N Islands	01	01	454	03	66	1936
Odisha	01	03	3149	33	850	49231*
West Bengal	01	03	3149	23	49	3154
Total	03	07	6752	59	965	5090

*One KVK (Kendrapara) reported about 44000 participants.

'National Animal Disease Control Programme' organized

On the occasion of launching of National Animal Disease Control Programme (NADCP) for FMD and Brucellosis and National Artificial Insemination Programme (NAIP) by Hon'ble Prime Minister on 11-09-2019 in Mathura, Uttara Pradesh, an elaborative programme has been executed to kick start NADCP and NAIP, making India animal diseases free and genetic upgradation of indigenous cows.

At ATARI Kolkata which comprises of two states namely West Bengal and Odisha and an Union territory of A & N Islands where the same programme was implemented massively. The total 57 KVKs participated in this programme. In Odisha, 33 KVKs

was involved in this Animal Disease Control Programme, while 22 KVKs in West Bengal and 2 KVKs in A & N Islands took participated in this programme. A good number of Member of Parliaments was there in the programme as a chief guest to encourage the farmers and also discuss the importance of this programme. A total of 21 nos. of MLA and other dignitaries were also present at different KVKs of this zone.



About 5852 nos. of farmers join this programme and took benefit of this programme. A total 2927 nos. of animals were used for vaccination and Artificial Insemination (AI) which comprised of 2341 nos. of animal in West Bengal, 535 and 51 nos. of animals in Odisha and A & N Islands, respectively. In particular, KVKs of Purulia, Nadia (Addl.) under NDRI, Howrah, Malda and Uttar Dinajpur covered 1380, 248, 216, 134 and 123 animals, respectively.



Celebrated 150th birth Anniversary of Mahatma Gandhi and ‘Swachhta Hi Seva 2019’

The 150th Birth Anniversary of Mahatma Gandhi on 2nd October 2019 was celebrated by ICAR-ATARI



Kolkata and all 59 KVKs through organizing many events related to the theme- ‘Making India Free from Single Use Plastic’ in a befitting manner.

At KVKs



Plantation Programme

In collaboration with IFFCO, ICAR-ATARI Kolkata organized plantation programme on 17th September, 2019



The mega event was actually the concluding event of ‘Swachhta Hi Seva 2019’ programme which spanned from 11.09.2019 to 02.10.2019.



A total of around 30 participants attended the programme at ATARI Kolkata on the day. The theme of ‘Swachhta Hi Seva 2019’ as well as the thoughts of Mahatma Gandhiji were discussed and explained in details during conducting the event.



ICAR-ATARI Kolkata and all 59 KVKs of this Zone conducted the programme successfully with involvement of about 4797 farmers and 2399 students apart from around 1405 KVK staff. A total number of 78 villages were involved in 126 programmes having the theme in



core. More than 100 photographs were uploaded in the portal meant for the purpose.



through 59 KVKs of this zone. The KVKs were provided fund for making available at least 1000 planting materials to the farmers and planting at KVK premises. The programme

was attended by two MPs, three MLAs and 288 other VIPs in different KVKs. Altogether 64416 no. of plants were planted on that day.



State	Number of KVKs organised program	Number of MPs attended program	Number of MLAs attended program	Number of other VIPs	No. of farmers attended program	Total no. of participants	Total no. of plants planted
A & N Islands	3	0	1	5	273	289	1825
Odisha	33	1	1	181	5881	6346	29712
West Bengal	23	1	1	102	4853	5804	20779
Total	59	2	3	288	11007	12439	52316

Events

‘Sadbhavana Diwas 2019’ celebrated

‘Sadbhavana Diwas’ was celebrated at ICAR-ATARI Kolkata on 20th August, 2019. All staff members of ATARI Kolkata assembled at

Conference Hall of the institute to attend the programme. In his address, the Director of this institute highlighted that ‘Sadbhavana Diwas’ was celebrated on 20th August every

year to commemorate the birth anniversary of former Prime Minister Rajiv Gandhi who dreamed to make India a developed country. The day was observed to encourage the



national integration, peace, affection and communal harmony among the Indian people of all religions and languages. The programme was also commenced with an oath taking occasion by reading a pledge to promote national integration and communal harmony among people.



“हिन्दी पखवाड़ा. 2019” समारोह का आयोजन

भा.कृ.अनु.प.-कृषि तकनीकी अनुप्रयोग संस्थान, कोलकाता में दिनांक 09.09.2019 से दिनांक 23.09.2019 तक “हिन्दी पखवाड़ा-2019” का समापन समारोह का आयोजन किया गया। इनमें संस्थान के सभी अधिकारी एवं कर्मचारी भाग लिया। संस्थान में 23.09.2019 को “हिन्दी पखवाड़ा-2019” का समापन समारोह आयोजित की गयी। इस समापन समारोह की अध्यक्षता संस्थान के निदेशक महोदय डॉ. एस. एस. सिंह ने की।



पखवाड़ा का समापन समारोह का शुभारंभ डॉ. एस. के. मंडल, प्रधान वैज्ञानिक के स्वागत भाषण एवं मुख्य अतिथि के परिचय से हुआ। तत्पश्चात डॉ. मंडल ने संस्थान में राजभाषा कार्यान्वयन की प्रगति प्रतिवेदन प्रस्तुत की। इस प्रतिवेदन में संस्थान से प्रकाशित हो रहे वार्षिक वैज्ञानिक पत्रिका “कृषि- पूर्वी किरण” का रद्द होना, हिन्दी में पत्राचार एवं सभी हिन्दी पत्रों में हिन्दी टिप्पणी देना इत्यादि के उल्लेख किए गए।

हिन्दी पखवाड़े के दौरान आयोजित हिन्दी काव्य पाठ प्रतियोगिता, हिन्दी अनुवाद प्रतियोगिता (तत्कालिक) एवं हिन्दी टिप्पणी प्रतियोगिता

(समूह में) के विजेताओं को मुख्य अतिथि डॉ. एस. के. झा, प्रधान वैज्ञानिक, काईजाफ, वाराकपुर द्वारा पुरस्कार वितरित किए गए।



पखवाड़े के समापन समारोह के मुख्य अतिथि डॉ. एस. के. झा, प्रधान वैज्ञानिक, काईजाफ, वाराकपुर ने अपने संबोधन में संस्थान के सभी अधिकारी एवं कर्मचारी के प्रशंसा करते हुए हिन्दी को और तेजीसे बढ़ावा देने पर जोर दिए एवं सूचना प्रौद्योगिकी के सफल प्रयोग के साथ हिन्दी के प्रगति पर अपने विचार रखें। डॉ. के. एस. दास, प्रधान वैज्ञानिक के धन्यवाद ज्ञापन के उपरांत समारोह समाप्त हुआ।



‘Vigilance Awareness Week’ celebrated

To observe ‘Vigilance Awareness Week-2019’, all staff of ICAR-ATARI Kolkata assembled in front this institute on 28th October, 2019. Dr. S. S. Singh has spoken on moral values, ethics, good governance practices etc. to generate awareness on the ill effects and prevention of corruption in the office as well as in the society. The programme was also commenced with an oath taking occasion by reading a pledge on integrity.



‘Rashtriya Ekta Divas’ or ‘National Unity Day’ celebrated

The ‘Rashtriya Ekta Divas’ or ‘National Unity Day’ was celebrated at ICAR-ATARI Kolkata on 31st October, 2019. All staff members of ATARI Kolkata assembled at Conference Hall of the

institute to attend the programme. The programme was commenced with an oath taking occasion by reading a pledge to reinforce our commitment to strengthen the security, unity and integrity of our country.



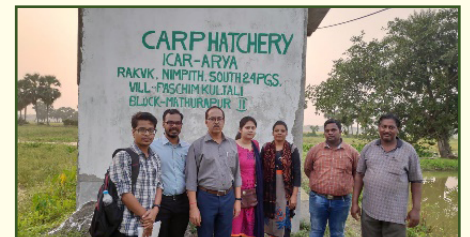
‘Constitution Day 2019’ celebrated

The ‘Constitution Day’ was celebrated at ICAR-ATARI Kolkata on 26th November, 2019. All staff members of ATARI Kolkata assembled in front of the institute to celebrate the day. The programme was commenced with an oath taking occasion by reading a pledge to commemorate the adoption of the Constitution of India.



Visited farmers’ fields for monitoring ARYA project

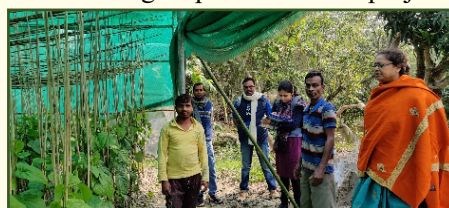
Ms S. Halder, SRF, ARYA project; Mr. S. Ghosh, SRF, NEMA project of ICAR- ATARI Kolkata along with Mr. M. Das and Miss S. Saswini, SRFs of ICAR- CIFA, Bhubaneswar, Sri P. Chatterjee, SSH (In-charge) of Nimpith KVK visited carp hatchery of ARYA beneficiary under Nimpith KVK on 19th November, 2019. It was observed that after adopting that enterprise, annual income of the youths increased substantially and they were gaining a remunerative profit throughout the year. Other youths of the neighbouring villages were frequently visiting the established enterprise and were interested to adopt the enterprises on their own.





Ms S. Halder, SRF, ARYA project, Mr. S. Ghosh, SRF, NEMA project of ICAR-ATARI Kolkata alongwith Sri P. Chatterjee, Dr. M. Chakraborty, Dr. C. Mondal, SMSs and other officials

of Nimpith KVK, South 24 Paraganas, West Bengal visited farmers' fields of ARYA villages of Mathurapur-II and Pathar Pratima Block during 19-21st December, 2019. They interacted with ARYA beneficiaries and collected data for assessing impact of ARYA project.



It was observed that the enterprises like betel vine plantation, Vanaraja poultry farming, Pekin duck farming, carp hatchery and catfish hatchery were running very successfully and the youths were earning a substantial profit on sustainable basis.



Meeting/ workshop/ training programme organized/ conducted

Orientation course on GKMS organized

Under the joint initiative of India Meteorological Department (IMD) and Indian Council of Agricultural Research (ICAR), a short term training course on preparation and dissemination of agromet advisories at block level under Gramin Krishi Mausam Seva (GKMS) scheme for SMS (Agromet) & Agromet Observers of KVKs of West Bengal, Odisha, Bihar & Jharkhand was held at WBUAFS, Kolkata during August 06-10, 2019. While welcoming the guests and participants, Dr. F. H. Rahman,



Principal Scientist and Nodal Officer, GKMS at ATARI Kolkata presented the activities undertaken by the KVKs so far. Dr. S. S. Singh, Director, ICAR-ATARI Kolkata enlightened the house regarding the climate change and its effects on agriculture, which is a global issue nowadays. He said that agriculture is affected by rainfall and temperature. Creating a strong database through weather service will help the farmer to plan the cropping cycle. Prof. A. Goswami, DREF, WBUAFS, Kolkata mentioned that the advisory service will address the problem related to weather conditions prevailing in that particular area, thereby helping farming community. Dr. S. Bandopadhyay, DDG, RMC,

Kolkata gave a detailed information regarding the conventional observatories, Automatic Weather Station (AWS), Automatic Rain gauge (ARG), Satellite information, Doppler Radar and access to these observations by KVKs. Dr. G. Debnath, Head, Meteorology Division, Kolkata Airport discussed about the methodologies to collect weather parameters from the farmers and micro-level offices as well. Dr. K. K. Singh, Head, Agromet Advisory Science Division, IMD, New Delhi spoke about the purpose of upgradation of existing agromet advisory system in different agro climatic zones. He suggested carrying out the block level agromet concept based on NICRA learning during last six years. Dr. K. Ghosh, IMD, Pune conducted various technical sessions on agromet products and their application in agromet advisory services and dissemination of the bulletin. Dr. S. Banerjee, Prof. and Head, Department of Meteorology, BCKV, Nadia spoke about the importance of Agromet Advisory Services to meet up the gap between the farmer and Scientist. There was a visit to meteorological observatory and automatic weather station at RMC, Alipore, Kolkata for hands-on training to the participants.



The programme was also attended by faculties and technical persons of Meteorology Department of BCKV, WBUAFS, RMC, Kolkata.

Quinquennial review meeting organized

The Quinquennial Review Meeting (2011-12 to 2018-19) of ATARI Kolkata and Patna was organized at ICAR-ATARI Kolkata on July 19, 2019. The programme was chaired by Dr. R. K. Samanta, Former VC, BCKV, Mohanpur, West Bengal. The QRT Members were Dr. C. Satapathy, Former DEE, OUAT, Bhubaneswar; Dr. Y. V. Singh, Former Director ICAR-ATARI Jodhpur; Dr. R. B. Sharma, Former DEE, IGKV, Raipur and Dr. F. H. Rahman, QRT Member Secretary and Principal Scientist, ICAR-ATARI Kolkata. The programme was attended by Dr. S. S. Singh, Director, ICAR-ATARI Kolkata, Dr. Anjani Kumar, Director, ICAR-ATARI Patna, DEAN, DREF and DEEs of OUAT, Odisha; BCKV, UBKV and WBUAFS of West Bengal; BAU, Bhagalpur; RPCAU, Pusa; BASU, Patna and BAU, Ranchi. The programme was started with the welcome address by Dr. F. H. Rahman, QRT Member Secretary and Principal Scientist, ICAR-ATARI Kolkata. Dr. R. K. Samanta,



Chairman of QRT gave a brief description of QRT objectives and method of functioning. He advised that the DEEs of both the zone should submit a brief note in bulletin form on how to improve the performance and the problems of KVKs under them (SWOT analysis). Dr. C. Satapathy, Former DEE, OUAT, Bhubaneswar, the QRT member emphasizes on the mandate of KVK and the achievement of KVKs till date. He also advised to develop some methodology to find out the problems by monitoring some selected KVKs. Dr. Y. V. Singh, Former Director ICAR-ATARI Jodhpur mentioned to identify the problem of the zone. He also advised that any programme taken up by the KVKs should be relevant or beneficial for progress of farmers. Dr. R. B. Sharma, Former DEE, IGKV, Raipur suggested that the number of training programmes in KVKs should be increased and KVK should be located where it is actually needed. Dr. S. S. Singh, Director, ICAR-ATARI Kolkata and Dr. Anjani Kumar, Director ATARI Patna presented an overview of all ongoing programmes of ATARI Kolkata (Zone V) and Patna (Zone IV) respectively. Dr. S. S. Singh also advised to prepare guidelines for the mode of visit. He also suggested the DEEs to prepare limited number of recommendations along with addressing the regional problem. The DEEs of different State Universities of these two zones individually presented their KVKs activities and achievements.



This is not the out of place to mention that the team interacted with all 59 KVKs under ATARI Kolkata and 68 KVKs under ATARI Patna at their respective Host Organizaions.

In different phases, the team visited some selected KVKs from ATARI Kolkata (i.e. KVK Port Blair in Andaman & Nicobar Islands; KVK Angul, Balasore, Bargarh, Bhadrak, Dhenkanal, Jharsuguda, Khurda, Puri and Sonepur in Odisha; KVK Cooch Behar, Jalpaiguri, Nadia-Additional, North 24 Parganas, South 24 Parganas-Narendrapur and Uttar



Dinajpur in West Bengal) and from ATARI Patna (i.e. KVK Bhagalpur, East Champaran, Gaya, Kisanganj, Lakhisarai, Muzaffarpur, Nalanda, Purnea, Samastipur and Vaishali in Bihar; KVK Deoghar, Gumla, Hazaribagh, Lohardaga and Ranchi in Jharkhand) along with their adopted villages during the period. All concerned line departments in the respected districts were also present in the meeting/ visit.

Visit of Zonal Monitoring Committee of NICRA-TDC conducted



The Zonal Monitoring Committee under the Chairmanship of Hon'ble Dr. H.K. Senapati, Former VC & Dean, PGF cum DRI, OUAT, Bhubaneswar along with Dr. B. Kandpal, Joint Director, ICAR Research Complex, Tripura as DDG (NRM) nominee and Dr. J. V. N. S. Prasad, NICRA Coordinator, CRIDA, Hyderabad as

Director, CRIDA nominee and Dr. F. H. Rahman, Principal Scientist & NICRA Nodal Officer, ICAR-ATARI, Kolkata, visited Nimpith KVK, South 24 Parganas on 10.07.2019 to monitor the activities and outcome of the project on NICRA- TDC. The best performing climate resilient technology was found to be land shaping that supported integrated farming system. The other important technologies were *ail* cultivation, bund-cum-trench system, rejuvenation of water bodies and drainage channel, plantation



of mangrove, green manuring, vermicomposting, introduction of submergence and salinity tolerant rice varieties, organic mulching, animal health care, stress tolerant poultry birds and fishes, fish hatchery, seed bank, custom hiring centre, weather observatory *etc.* All the developmental work were organized through Village Climate Risk Management Committee (VCRMC), which is represented by 30% women members. The committee appreciated the efforts of KVKs and active involvement of the partner farmers and suggested to scale-up the useable interventions in the adjoining villages



Meetings/workshops/symposia etc. attended by scientists/ staff

Sl. No.	Name of the programme(s)	No. of scientist(s)/ staff attended
1	Participated in Foundation Day Ceremony of ICAR and KVK Award Ceremony at ICAR H.Q., New Delhi	1
2	Participated in Director's Conference and Farm Innovators Meet of ICAR at New Delhi	1

Sl. No.	Name of the programme(s)	No. of scientist(s)/ staff attended
3	Participated in an orientation workshop under the project of ICAR-IWMI at NASC Complex	1
4	Attended meeting of QRT for ATARI Kolkata and Patna	15
5	Attended meeting of site selection committee team at Jhargram for selecting KVK site	3
6	Attended meeting of the Heads of Food & Eng., RTC and RTAG of IIT Kharagpur on various issues	2
7	Attended meeting on QRT team visit at NASC Complex, N. Delhi	2
8	Attended meeting on FLD and developmental issue of Annual Group Meet for Rabi pulses under AICRIP on MULLaRP and visit of ICAR RCNEH KVK Imphal West and local field visit	1
9	Participated in plantation programme in collaboration with IFCO, Kolkata at North 24 Parganas KVK	1
10	Attended Scientific Advisory Committee meeting at various KVKs under ICAR-ATARI Kolkata	7
11	Participated in the International Conference on Crop Residue Management at Patna	1
12	Participated in Plant Genome Savior Farmers Award Function and exhibition organized by PPV&FRA at N. Delhi.	2
13	Attended training of trainers programme for ASCI Skill Training at WBUA&FS, Belgachia	2
14	Attended training programme of DAESI and ASCI at KVK Nadia	1
15	Attended meeting of QRT team at Kalyani and Belgachia	2
16	Attended brainstorming session on Backyard Poultry at Directorate of Poultry Research, Hyderabad	1
17	Attended brainstorming session on Backyard Poultry at Directorate of Poultry Research, Hyderabad	1
18	Attended meeting on Eastern Agro-Forestry initiative	1
19	Attended meeting with Director Finance, ICAR on ERP at CRIJAF, Barrackpore	3
20	Attended meeting with DREF, WBUAFS, Kolkata for ToT for ASCI Skill Training	2
21	Attended meeting of DPC/ selection committee/ screening committee etc. at ICAR-ATARI Kolkata and other KVKs	9
22	Attended Pre-Zonal Workshop for KVKs under OUAT, Bhubaneswar	2
23	Attended Annual Zonal Workshop 2019 for KVKs of ATARI Kolkata and Patna	10
24	Attended meeting for presentation of project on “IFS for DFI by 2022 in West Bengal”	3
25	Attended Workshop on e-National Bank on Agricultural Technology (e-NBAT) System at ICAR-IARI, New Delhi	1
26	Attended meeting with entrepreneur Mr. Asit Ghosh on opportunities of Cocoa cultivation in West Bengal at ICAR-ATARI Kolkata	7
27	Attended National / International Conferences/ Workshops etc.	7
28	Attended/ conducted Review Workshop of ARYA projects under ATARI Kolkata	8
29	Attended stakeholders’ workshop/ meeting of QRT of ICAR-ERS, Patna	10
30	Attended Preliminary Meeting of Research Advisory Committee (RAC) of Agricultural Extension Division, ICAR, New Delhi for 11 ATARIs	4
31	Attended many other meetings on various issues	11

Distinguished visitors

- Dr. R. K. Samanta, Former Vice Chancellor, BCKV, Mohanpur, West Bengal
- Dr. R. Parsad, Former Assistant Director General, Agril. Extension, ICAR, New Delhi
- Prof. C. Satapathy, Former Dean, Extension Education, OUAT, Bhubaneswar
- Dr. Y. V. Singh, Former Director, ICAR-ATARI, Jodhpur
- Dr. R. B. Sharma, Former Director, Extension Education, IGKV, Raipur
- Dr. A. Kumar, Director, ICAR-ATARI Patna
- Dr. K. Ghosh, Scientist E and Head, Agricultural Meteorology Division, IMD, Pune

Publications

Research articles

- Ananth P N, Sundaray J K, Kumar V, Barik N K, Pal P P and Sontakki B S. 2019. Positioning farmers innovation in agricultural innovation systems, Odisha: A case from Eastern India. Accepted for publication in *Current Agriculture Research Journal*.
- Chaudhary R, Prakash V, Sailo L, Singh A, Karthikeyan A, Bashir A, Mondal S K, Sahoo N R and Kumar Amit. 2019. Estimation

- of genetic parameters and breeding values for growth traits using random regression model in Landrace × desi crossbred pigs. *Indian Journal of Animal Sciences* **89**(10): 1104–1108.
- Chaudhary R, Sailo L, Singh A, Karthikeyan A, Mehrotra A, Mondal S K, Sahoo N R and Kumar Amit. 2020. Genetic parameter estimates for growth performance of crossbred piglets. Accepted for publication in *Indian Journal of Animal Sciences*.
- Das K S, Singh, J K and Chandrasekar T. 2019. Effect of prepartum management on the post production performance in Nili-Ravi primiparous buffaloes. Accepted for publication in *Indian Journal of Animal Sciences*.
- Debnath T, Bera S, Deb S, Pal P, De S, Haldar A. 2019. Radio-frequency based digital thermometer for real-time monitoring of rectal temperature in Murrah buffaloes. *Journal of Animal Health and Production* **7**(4): 142- 146.
- Ghosh S, Baidya A, Sahu N C, Rahaman F H and Das K S. 2019. Comparative socio-economic study between traditional fish farmers and trained aquaculturists in Indian Sunderban. Accepted for publication in *Journal of Coastal Research*.
- Ghosh S, Sahu N C, Rahman F H and Das K S. 2019. Periphyton based climate smart aquaculture for the farmers of Indian rural Sunderban areas. Accepted for publication in *Indian Research Journal of Extension Education*.
- Haldar A, De S, Gautam D, Chakraborty D, Dey S, Pal P. 2019. Age-specific peripheral anti-müllerian hormone (AMH) concentration: A candidate endocrine marker for fertility assessment in cattle. *International Journal of Livestock Research* **9** (9): 104- 115.
- Haldar A, De S, Singh V, Datta M, Pal P, Prakash BS. 2019. Age-specific peripheral anti-müllerian hormone concentrations in goats (*Capra hircus*). *Indian Journal Animal Research* **53**(5): 599-603.
- Haldar A, Patra A, Biswas C K and Prakash BS. 2019. Enzyme immunoassay for determination of plasma total estrogen in Black Bengal goat during peripubertal period. Accepted for publication in *International Journal of Livestock Research*.
- Mukherjee S and Rahman F. H. 2019. Evaluation of a new organic farming technology towards crop sustainability and soil quality development. *Indian Journal of Extension Education*, **55** (3): 73-84.
- Roy Burman R, Sharma J P, Padaria R N, Reshma G, Sharma S, Tiwari G, Singh R, Adhiguru P, Pal P P, Dubey S K, Murai A S and Paul S. 2019. Extent of adoption and economic impact of NARS rice varieties in Indo-Gangetic Plains. Accepted for publication in *Indian Journal of Agricultural Sciences*.
- Sundaray J K, Ananth P N, Barik N K, Sahoo P R, Pal P P and Dash A K. 2019. Institutional perspective for doubling fish farmers' income: A case study. Accepted for publication in *Indian Journal of Fisheries*.
- Technical bulletins**
- Das K S, Mondal S K, Rahman F H, Pal P P, Roy S K, Singh S S and Haldar A. 2019. ATARI Kolkata News. Published by the Director, ICAR-ATARI Kolkata, Vol. 3, No. 1, pp:1-12.
- Mandal B, Sarkar D, Botbyal K and Rahman F H. 2019. Compendium of invited papers and book of abstracts of National Seminar on 'Use of Agro-chemicals for a Sustainable Agriculture and Environment'. Published by the Society for Fertilizers and Environment, pp:1-113.
- Mondal S K, Das K S, Roy S K, Pal P P, Rahman F H, Singh S S and Haldar A. 2019. ICAR-ATARI Kolkata Annual Report 2018-19. Published by the Director, ICAR-Agricultural Technology Application Research Institute, Salt Lake, Kolkata, pp:1-152.
- Pal P P, Das K S and Haldar S. 2019. Annual Report ARYA (Attracting and Retaining Youth in Agriculture)-An approach towards youth empowerment. Published by the Director, ICAR-ATARI Kolkata, pp:1-54.
- Rahman F H, Bhattacharya R and Nandi S. 2019. NICRA Newsletter: Towards Climate Smart Agriculture. Published by the Director, ICAR-ATARI Kolkata, Vol. V, No. 2, pp:1-8.
- Rahman F H, Singh S S and Bhattacharya R. 2019. NICRA Annual Report 2018-19. Published by the Director, ICAR-ATARI Kolkata, pp:1-48.
- Sen H S, Mandal B, Ghorai D, Rahman F H, Murmu K, Chandra S, Bandyopadhyay S and Sarkar D. 2019. Fertilizers and Environment News. Published by the Society for Fertilizers and Environment, BCKV, Mohanpur, Vol. 5, No.1, pp:1-16.
- Books edited**
- Haldar A, Kumar A, Singh S S, Roy S K, Pal P P, Mondal S K, Rahman F H and Das K S. 2019. Success stories: Pathways for Doubling Farmers' income by 2022 in Bihar and Jharkhand. Published by the Director, ICAR-ATARI Patna, Bihar, pp:1-188.
- Mondal S K, Das K S and Singh S S. 2020. Ascend: Smart decisions at small farms. Published by Director, ATARI Kolkata, pp 1-28.
- Mondal S K, Das K S, Singh S S and Kumar A. 2019. Symbolizing success: Hovering prosperity. Published by the Director, ICAR-ATARI Kolkata, pp:1-104.
- Rahman F H, Singh S S and Bhattacharya R. 2019. Resilience in agriculture enhanced through Technology Demonstration-Experience of NICRA-TDC. Published by the Director, ICAR-ATARI Kolkata, pp:1-115.
- Abstracts presented in national/international seminars, conferences etc.**
- Behera M, Das S, Das K S, Singh S S and Mondal S K. 2019. Growth responses and economic of supplementing concentrate in peri-parturient does under field condition. Abstract published

in International Conference on Animal Nutrition 2019 on 'Nutritional strategies for improving farm profitability and clean animal production' organized by Department of Animal Nutrition, WBUAFS, Belgachhia, Kolkata in collaboration with Animal Nutrition Society of India held at Biswa Bangla Convention Centre, New Town, Kolkata, during 17-19 December, 2019, 43.

Kumar D, Sharda K, Sohane R K and Haldar A. 2019. A case study on transfer of technology: Hydroponic green fodder production under low cost management and its economical benefit in milk production. Presented in the International Conference on Animal Nutrition 2019 on 'Nutritional Strategies for Improving Farm Profitability and Clean Animal Production' organized by WBUAFS, Kolkata, WB and Animal Nutrition Society of India on December 17- 19, 2019 at Biswa Bangla Convention Centre, New Town, Kolkata.

Book chapters/ contribution made in compendium

Datta D, Mondal S K and Das K S. 2019. Sustainable Computing Technologies for Agriculture.

In: Proceedings of the 2nd International Conference on Communication and Computational Technology (ICCCT 2019) held at Rajasthan Institute of Engineering and Technology, Jaipur, India during 30-31 August 2019.

Dutta N, Das K S and Mondal S K. 2019. Use of Nanotechnology in Provisioning Agriculture. In: Proceedings of the 2nd International Conference on Communication and Computational Technology (ICCCT 2019) held at Rajasthan Institute of Engineering and Technology, Jaipur, India during 30-31 August 2019.

Rahman F H and Bhattacharya R. 2019. Climate Resilient Agriculture through natural resource management in Eastern India. In: Book 'Perspective of climate change and Inland fisheries in India'. Published by Director, ICAR-CIFRI, Barrackpore, pp:151-169.

Singh S S and Rahman F H. 2019. Resource Conservation Technologies in the Eastern Region for doubling Farmers Income. Lead paper published in the Compendium of National Conference on Resource Conservation in Eastern Region of India. Published by Indian Association of Soil and Water

Conservationists, Dehradun, pp:119-130.

Singh S S, Haldar A, Kumar A. 2019. Agricultural entrepreneurship in rural Eastern India. In: Section of Agriculture and Forestry Sciences in the proceedings of the 107th Indian Science Congress held University of Agricultural Sciences, Bangalore from January 3- 7, 2020, pp:57- 58.

Invited lectures

Mondal S K. 2019. Current scenario of animal husbandry and fishery sector and KVK's role for further improvement. Lecture delivered intraining programme on 'Recent advancement in animal husbandry and fishery sector' for KVK personnel held during 26-29th November, 2019 at West Bengal University of Animal and Fishery Sciences, Belgachhia, Kolkata on 27.11.2019.

News items

- ❖ 'Training of Trainers for Skill Development in Agriculture'
- ❖ 'Annual Zonal Workshop 2019 of KVKs under ATARI Kolkata and Patna'
- ❖ 'Sadvabna Diwas 2019 celebration'
- ❖ 'Farmer FIRST Review Meeting 2019'
- ❖ 'Celebration of 150th Birthday Anniversary of Mahatma Gandhiji'

Personalia

Joining

- Mr. Swayambhu Ghosh joined as SRF in NEMA project on 01.10.2019.
- Mr. Shubhodeep Nandi joined as DEO in DAMU project on 04.09.2019.
- Mr. Sudipta Paul joined as DEO in CSISA project on 23.09.2019.

Relieving

- Mr. Shubhodeep Nandi, DEO, CSISA project relieved on 03.09.2019.

Award

- Received Best Oral Presentation Award for the paper 'A case study on transfer of technology: Hydroponic green fodder production under low cost management and its economical benefit in milk production' authored by Kumar D, Sharda K, Sohane R K and Haldar A and presented by Kumar D in International Conference on Animal Nutrition 2019 held on December 17- 19, 2019 at BBCC, New Town, Kolkata.

A PDF version of the Newsletter is also available at: <http://www.atarikolkata.org/publications>



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