ICAR-CENTRAL ISLAND AGRICULTURAL RESEARCH INSTITUTE
SRI VIJAYA PURAM – 744 105, A & N ISLANDS

F.No. PA/8-17/RAC/2025/ **Dated: April 22, 2025**

Proceedings of the third meeting of the 10th Research Advisory Committee – 2025 held on April 22, 2025

The Research Advisory Committee meeting was held at ICAR-CIARI, Sri Vijaya Puram, under the Chairmanship of Dr. Anil Kumar Singh, former DDG (NRM), ICAR, New Delhi on April 22, 2025. The following officials were present in this meeting:

1. Dr. R.R.B. Singh, Vice Chancellor, DSVCKV, Durg and Member, RAC
2. Dr. Vishaw Bandhu Patel, ADG (Fruits and Plantation Crops), ICAR, New Delhi and Ex-Officio Member, RAC.
3. Dr. N. P. Sahu, Joint Director, ICAR-CIFE, Mumbai and Member, RAC
4. Dr. S. K. Singh, Former Director, NBSS & LUP, Nagpur and Member, RAC
5. Dr. J. Rema, Former Director, ICAR-IISR, Kozhikode and Member, RAC
6. Dr. Eaknath B. Chakurkar, Director, ICAR-CIARI, Sri Vijaya Puram and Ex-Officio Member, RAC.
7. Shri. Varadharajan, Progressive Farmer, South Andaman and Member, RAC
8. Shri. Ankit Kumar Mridha, Progressive farmer, North and Middle Andaman and Member, RAC
9. Dr. P. K. Singh, Principal Scientist, Division of Horticulture and Crop Improvement, ICAR-CIARI, Sri Vijaya Puram and Member Secretary, RAC
10. Dr. Jai Sunder, Head, Division of Animal Science, ICAR-CIARI
11. Dr. Raj Narayan, Head, Division of Horticulture and Crop Improvement, ICAR-CIARI
12. Dr. I. Jaisankar, Head I/c, Division of Natural Resource Management
13. Dr. R. Kiruba Sankar, Head I/c, Division of Fisheries Science
14. Dr. Y. Ramakrishna, Head, KVK, South Andaman

At the outset, Dr. P.K. Singh, Member Secretary, welcomed the Chairperson and Members of the RAC. Dr. E.B. Chakurkar presented the salient achievements of the Institute during the year 2024-25. It was followed by a presentation by the member secretary on Action Taken Report of the second meeting of the 10th RAC. All the Head or Head I/c also presented the achievements of their respective divisions.

General suggestions for the Institute:

- Time allocation of scientists should be planned to ensure equitable distribution of workload among all scientists.

- It was suggested to include a slide on *Targets vs. Achievements* in both the presentations and the report.
- Divisional presentations should include the status of area, production, and demand of specific commodities prior to presenting research achievements.
- For report preparation, the start and end dates of each project including month must be mentioned. And projects that have been closed should be excluded.
- Publications should be uniformly categorized across divisions as either above or below NAAS rating of 6, with the names of awarding organizations/agencies clearly mentioned.
- Targets for the year should be clearly stated prior to the presentation of achievements.
- The selection of co-PIs for projects should be appropriate and aligned with the specific needs of the project.
- Mechanization should be promoted among farmers for enhanced productivity and efficiency.
- The shift in cropping patterns towards arecanut across the islands should be studied by a team comprising scientists from the Institute and ICAR-CPCRI.
- An updated inventory of Institute-developed varieties, technologies, and registered germplasm should be prepared by the Institute's ITMU.
- The Island Information System should be enhanced to include data on various crops, in addition to freshwater ponds.
- The Institute's publication portfolio should be strengthened by encouraging publications in high-impact factor journals.
- A comprehensive assessment of the requirements, current availability, and future production potential of various livestock and agricultural commodities should be conducted to identify research priorities.
- Work carried out under one division but related to another should be consolidated and presented under the concerned division, giving due credit to the contributing scientists from other divisions.
- Knowledge mapping should be conducted by integrating data on crops, livestock, and fisheries across the islands. Soil and climate suitability maps may be developed with inputs from agrometeorologists.
- Before the upcoming IRC, ensure that the man-month allocation for each scientist remains within 100% of total activity.
- Collaboration with SAUs and Deemed Universities should be enhanced through postgraduate student exchange programs to improve research outcomes.
- A mid-term review of RAC recommendations should be carried out to assess the progress of the work.

Division of Natural Resource Management

- The chairperson suggested Dr. Abhilash to use 'CropSyst' model for his experiments involving sequential cropping. He suggested to include microbiology work in the experiments on natural farming/organic farming as it was a crucial element of the same.

- Dr. S.K. Singh suggested to include baseline scenario of climate change in the islands in the divisional presentation. He emphasized that site characteristics should be defined for the IFS models developed by the Institute as well as for all other site-specific experiments. Income generated from all the components had to be defined individually. He also suggested modification of the components of IFS models while propagating in the North and Middle Andaman district. Division should collaborate with NBSS&LUP, Nagpur for mapping of the areas in the islands. Geo-referening of the experimental sites to be uploaded on the island information system. He suggested to collect the feedback of farmers from different islands receiving agro-advisory services under GKMS project. The term organic farming + natural farming should be avoided in the report.
- Dr. V.B. Patel observed that very little focus on horticultural crops was being given in the project being run under the Division and suggested to improve the same. Further, DUS characterization in noni and work on tuber crops should be reported under Division of Horticulture and Crop improvement.
- Dr. J. Rema opined that the work on Pandanus was of little use to the farmers and hence, efforts should be made to develop suitable technologies/products pertaining to Pandanus that would benefit the farmers. She further inquired about the utility of wood dye and nanoparticle generation work in noni being done under PPVFRA funded project. She also suggested avoiding the term 'DUS characterization' for work on Pandanus as there were no established DUS guidelines for the same.
- IFS model must be chosen as per ecosystem diversity, land holding and component suitability. Accordingly, two to three combinations should be chosen for this Island ecosystem and thereafter, social scientist should be involved for economic evaluation of the combinations of IFS model.

Division of Horticulture and Crop Improvement

- Dr. Patel recommended initiating new efforts for the collection and conservation of mango germplasm. He also emphasized the need to study the effects of various seaweed extracts on vegetable crops.
- Mr. Varadarajan recommended increasing the availability of quality turmeric planting material."
- Mr. Ankit Mridha suggested developing an organic package of practices for key vegetable crops in the islands, as many farmers rely on these crops for their livelihood.
- Research initiatives focused on the development of an Island Agricultural Information System, along with the application of AI and IoT in agriculture, may be integrated into the activities of the Division of Horticulture and Crop Improvement.
- The Chairperson recommended evaluating rice varieties under island-specific stress conditions rather than relying on general global standards.
- He also suggested merger of the section with the Division of Horticulture and Crop Improvement for smooth functioning.

Division of Animal Science

- Dr. R.R.B. Singh opined that improvement work on animals was meagre and suggested to focus more on improvement particularly in case of goats. He also expressed his dissatisfaction on a smaller number of research papers published by the division despite having more than 40% scientific strength of the Institute.

- Mr. Varadarajan informed about the need of artificial insemination facilities in poultry for the island farmers and asked the Institute to provide technical and extension support for the same.
- Mr. Ankit Mridha suggested to include Girirani breed of poultry in the multiplication programme of the Institute as the breed was currently in high demand among the island farmers.
- The **BSI standard gap** for crude protein content in poultry feed (currently between 17% and 18%) should be addressed by **increasing the number of trials** to achieve optimal standards.
- Seaweed has been used as an alternate feed resource. However, effect of feeding of seaweed on methane emission should be worked out for formulation of strategy to address the issue of greenhouse effect.
- Economic analysis must be carried out for CIARI developed cattle, goat and pig feeding practices and mineral mixture with a recommendation to the farmers for proper dissemination of the developed technology.
- Ideal protein concept must be implemented by biofortifying amino acids to reduce the crude protein (CP) concentration for livestock and poultry feed suitable for Island ecosystem.
- Teressa goat is having better productivity compared to Andamani goat. Therefore, Feasibility study on introduction of Terresa goat in Andaman Islands should be carried out.
- Dual purpose Vanaraja poultry is having immense market value. Therefore, Vanaraja must be introduced in poultry production system for economic upliftment of rural youth.
- Correlation of AMR results with human infection must be undertaken based on passive data as a part of one health programme.
- Fodder availability across the Island ecosystem to be worked out to reveal clear cut scenario on nutritional resources for livestock species.

Division of Fisheries Science

- Promote scientific shrimp farming and native ornamental fish farming among the Island farmers.
- Provide advisories to fish farmers on scientific aquaculture practices to boost fish productivity in the Andaman Islands.
- Farmers should be sensitized to the use of high-quality brood-stock to produce superior fish seed and mitigate the effects of inbreeding depression.
- Interactive maps for the culture of various fish species should be developed based on baseline data.
- Suitable combinations of fish species for cultivation in farm ponds should be identified and promoted among farmers who primarily depend on horticulture-based farming systems.
- An economic evaluation should be conducted following the successful implementation of the fish farming strategy to assess its viability and impact.

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- Jayanti Rohu developed by ICAR-CIFA may be introduced for better production.
- The bioactive compounds of locally available seaweeds should be analyzed and compared with those found in seaweeds from other coastal regions.

Finally, RAC recommended the following important action points.

- Site characteristics should be defined for the IFS models developed by the Institute as well as for all other site-specific experiments. IFS model must be chosen as per ecosystem diversity, land holding and component suitability baseline scenario of climate change in the islands, Geo-referening of the experimental sites to be uploaded on the island information system.
- A block of mango germplasm needs to be established by fruit scientist for collection and conservation. Additionally, an organic package of practices for key vegetable and spice crops in the islands may be developed.
- Economic analysis should be carried out for CIARI developed cattle, goat and pig feeding practices and other technologies.
- Suitable combinations of fish species for cultivation in farm ponds should be identified for horticulture-based Integrated farming systems and sensitization through capacity building should be undertaken to increase farmers income.
- Bio flock culturing should be standardized and promoted for shrimp production.

The meeting ended with formal vote of thanks by Dr. Jai Sunder, Head, Division of Animal Science.

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