

**SEVENTEENTH (17<sup>th</sup>)  
INSTITUTE RESEARCH COUNCIL  
(IRC) MEETING**

**10-11 & 16 May, 2024**

**PROCEEDINGS**



**ICAR – Central Island Agricultural Research Institute**

**भा.कृ.अनु.प. – केंद्रीय द्वीपीय कृषि अनुसंधान संस्थान**

**Port Blair, A & N Islands-744105**

**पोर्टब्लेयर, अं तथा नि द्वीप समूह- ७४४१०५**



## **XVII INSTITUTE RESEARCH COUNCIL (IRC) MEETING 2024**

**Chairman, IRC, 2024: Dr. Eaknath B. Chakurkar, Director, ICAR-CIARI, Port Blair**

**Member Secretary, IRC, 2024: Dr. Jai Sunder, I/c PME Cell**

### **Rapporteurs**

<b>Division</b>	<b>Rapporteurs</b>
Division of Horticulture & Crop Improvement	Dr. Ajit Arun Waman Dr. R.Kirubasankar
Division of Natural Resource Management	Dr. K.Saravanan Dr. Harsangh Kumar Talaviya
Division of Fisheries Science	Dr. Pooja Bohra Dr. Chitranjan Raul
Division of Animal Science	Dr. T. Subramani Dr. P. Perumal

## **PROCEEDINGS OF THE XVII ISTITUTE RESEARCH COUNCIL MEETING (10,11 and 16 May, 2024)**

The XVII Institute Research Council of ICAR-Central Island Agricultural Research Institute (ICAR-CIARI), Port Blair, was held on May 10, 11, and 16, 2024, under the chairmanship of Dr. E. B. Chakurkar, Director, ICAR-CIARI, Port Blair. All the scientists of the institute attended the meeting and presented the progress of institute-funded projects. At the onset, Dr. Jai Sunder, Member Secretary, welcomed the Director and all the scientists to the meeting. A total of 23 ongoing projects and 10 new institute-funded projects were discussed and reviewed during the meeting.

Speaking on the occasion, the Chairman emphasized that all projects should result in significant outputs, such as innovative technologies, high-quality research papers, products, policies, and new varieties. He urged all scientists to seek more external funding from agencies like DBT and DST. He also stressed that under the corpus fund, ICAR will be inviting proposals for research projects. Furthermore, he emphasized that RAC recommendations should be taken into account while finalizing the technical programs and research activities.

He instructed that all reports should be submitted to the PME cell on time. He directed AKMU to establish a photography hub, where quality photographs of technologies, products, varieties, breeds, etc., should be taken, properly labelled, and organized into a database. He highlighted the crucial role of Co-PIs in every project, stating that Co-PIs must contribute significantly and their roles should be clearly defined.

Presentations were made by all PIs, followed by a detailed discussion of all the institute-funded projects.

## Division of Horticulture and Crop Improvement

### 1. Project title: **Harnessing variability of multi-parent advance generation intercross (MAGIC) population of rice for genetic improvement**

**PI :** P.K. Singh (4)

**Co-PIs :** Y. Ramakrishna (1), P Prabhu (1), & Pooja Kapoor (1)

**Duration:** 2022-2026

**Project Code:** HORTCIARISIL202200400233

#### **Decisions:**

- Superior genotype of long duration rice should be screened for submergence tolerance along with the existing set of lines.
- Initiate efforts for commercialization of the lines, which have been given for multilocation trials in the AICRP.
- The name of rice varieties developed by the institute should be in tune with the current name of the institute and it was suggested that naming can be in the way like 'DWEED Dhan 5' (CARI Dhan 5)

**Remarks:** The house approved continuation of the project.

### **Technical programme 2024-2025**

Sl. No	Activity	Quarters				Name of PI
		I	II	III	IV	
1	Evaluation of selected AILs under yield evaluation trials (YET) at different locations.	✓	✓	✓	✓	YR
2	Seed production of eight BLB resistant CARI Dhan 5 BILs.	✓	✓	✓	✓	PKS
3	Nomination of selected BLB resistant BILs of CARI Dhan 5 under AICRP rice trials.	✓	✓	✓	✓	PKS
4	Evaluation of selected Advanced Inter-crossed Lines (AILs) of rice for submergence tolerance.	✓	✓	✓	✓	PKS, YR
5	Screening of rice AILs and BILs for BLB resistant in field conditions through artificial inoculation method.	✓	✓	✓	✓	PKS
6	Grain quality analysis of BILs derived from CARI Dhan 5.	✓	✓	✓	✓	PK

### 2. Project title: **Name of the project: Identification and characterization of superior germplasm of cinnamon, tejpat, long pepper and clove under Bay Islands condition**

**PI :** Ajit Arun Waman (3)

**Co-PIs:** Pooja Bohra (3) and Dr. P.K. Singh (1)

**Duration:** 2021-2026

**Project Code:** HORTCIARISIL202100200226

#### **Decisions:**

- Carry out important analysis in clove, cinnamon and tejpat on priority so that the superior germplasm could be registered/ released within one year at the earliest and made available for the stakeholders.

- In cinnamon, collections with difficult-to-peel bark should also be studied for all the quality parameters.

**Remarks:** The house approved continuation of the project.

**Technical programme: 2024-2025**

Sl.No	Activity	Quarter				Name of PI
		I	II	III	IV	
1	Maintenance of collections of cinnamon, tejpat, long pepper and clove	✓	✓	✓	✓	AAW, PKS
2	Characterization and evaluation of germplasm of cinnamon (25), tejpat (6), long pepper (7 nos.) and clove (6 nos.)	✓	✓	✓	✓	AAW, PB
3	Performance evaluation of cinnamon varieties in arecanut	✓	✓	✓	✓	AAW, PB

**3. Project title: Conservation, bioprospection and utilization of selected underutilized fruit species of Bay Islands**

**PI :** Pooja Bohra (5)

**Co-PIs :** Ajit Arun Waman (1) & P. Prabhu (1)

**Duration:** 2021-2026

**Project Code:** HORTCIARISIL202100200225

**Decisions:**

- Mass multiplication of the identified promising lines of Malabar tamarind through grafting for area expansion to be done.
- As per the recommendations of RAC, it was suggested to initiate work on major fruit crops. PI proposed inclusion of crop improvement work on Korangi banana, which was agreed upon by the house. It was suggested to produce planting material of Korangi banana through micropropagation (tissue culture) for providing to the stakeholders.
- Work on collection, characterization and conservation of mango should be initiated by Dr. P. Prabhu, who should be included as Co-PI in the project. Area should be identified for mango germplasm conservation.
- A communication should be made to ICAR-IIHR, Bengaluru to get the planting material of improved avocado varieties.
- The project title should be modified by dropping the word ‘underutilized’ from it.

**Remarks:** The house approved continuation of the project.

### Technical programme 2024-2025

Sl.No	Activity	Quarter				Name of PI
		I	II	III	IV	
1	Biochemical studies in <i>Garcinia xanthochymus</i> , <i>G. gummi-gutta</i> , <i>G. dhanikhariensis</i> etc.	✓	✓	✓	✓	PB, AAW
2	Vegetative propagation studies in Andaman Kokum, mangosteen etc	✓	✓	✓	✓	PB, AAW
3	Exploring preservative properties of <i>Garcinia</i> species	✓	✓	✓	✓	PB, AAW
4	Value added product from underutilized fruits	✓	✓	✓	✓	PB, AAW
5	Collection, maintenance and multiplication of underutilized fruit species	✓	✓	✓	✓	PB, PP

### New Institute funded Projects

**1. Project title: Introduction of Sesame and Safflower Oilseed Crops to Island Conditions: Evaluating Performance in the Andaman Islands**

**PI :** P. Prabhu (4)

**Co-PIs :** P.K. Singh (1) & Abhilash (1)

**Duration:** 2024-2027

**Project Code:** HORTCIARISIL202400300247

**Decisions:**

- It was suggested that instead of package of practices, selected agro-techniques could be standardized and the trial should be for a minimum of two years duration.
- As the varieties identified for inclusion in the project are already released, instead of characterization, evaluation is relevant.

**Remarks:** The house approved the project with suggested modification.

### Technical programme 2024-2025

SL. No.	Activities	Quarter				Name of PI/Co-PI
		I	II	III	IV	
1.	Augmentation of Sesame and Safflower genotypes		✓			PP
2.	Evaluation of Sesame and Safflower genotypes			✓	✓	PP, PKS
3.	Optimization of cropping window			✓	✓	Ab

**2. Project title: Collection, conservation, characterization and evaluation of cucurbitaceous germplasm for the Andaman and Nicobar Islands**

**PI :** P. Prabhu (4)

**Co-PIs :** I. Jaisankar (1)

**Duration :** 2024-2027

**Project Code:** HORTCIARISIL202400400248

**Decisions:**

- It was suggested to modify the title by including ‘evaluation’ and excluding ‘sustainable agriculture’ from it.
- It was suggested to review the work done at the institute under AICRP on Vegetable Crops by referring to the Annual Reports/ Proceedings of the Annual Group Meeting of the project to avoid duplication of the work.
- Bloomsdale Farm will be suitable for carrying out seed multiplication and morphological characterization work.
- Suggested to exclude Dr. P.K. Singh from the project and include Dr. I. Jaisankar.

**Remarks:** The house approved the project with suggested modifications.

**Technical programme 2024-2025**

SL. No.	Activities	Quarter				Name of PI/Co-PI
		I	II	III	IV	
1.	Exploration to South Andaman district to collect cucurbit germplasm	✓	✓			PP
2.	Exploration to Nicobar district to collect cucurbit germplasm		✓			PP, IJ
3.	Exploration to North and Middle Andaman district to collect cucurbit germplasm			✓		PP, IJ
4.	Evaluation and multiplication of cucurbit germplasm			✓	✓	PP

## Division of Natural Resource Management

### **1. Project title: Enriching coconut plantations of Andaman and Nicobar Islands through augmentation of indigenous multipurpose tree resources**

**PI:** I. Jaisankar

**Co-PIs:** V. Damodaran

**Duration:** 2018-2023

**Project Code:** HORTCIARISIL201800600192

#### **Decisions:**

- The most effective treatment from the project should be replicated at Sippighat Farm once a suitable site is identified within the farm area.
- Geographical location of the study site should be specified in the project report.
- Recommendations on inter-cropping and fodder details need to be included in the project report.
- The analyzed data of soil parameters should be mentioned in order to track the changes from initiation of the project to its conclusion.
- High-quality publication should be prepared from the findings of the project.

**Remarks:** The house approved closure of the project with all the suggested modifications.

### **2. Project title: Development of sequential cropping system of Andaman Padauk based agro-forestry**

**PI:** I. Jaisankar (3)

**Co-PIs:** T. Subramani (1) & S.Yeligar (1)

**Duration:** 2022-2025

**Project Code:** HORTCIARISIL202200900238

#### **Decisions:**

- Dr. Sharath S. Yeligar has been added as Co-PI in the project.
- Include the data regarding Lux readings of the experimental plot.
- Provide the analyzed soil parameters in tabular form with statistical analysis.

**Remarks:** The house approved continuation of the project.

### **Technical programme 2024-2025**

Sl.No	Activity	Quarter				Name of PI
		I	II	III	IV	
1.	Periodic soil sample collection and analysis	✓	✓	✓	✓	IJ
2.	Biometric & meteorological observation	✓	✓	✓	✓	IJ
3.	Soil and plant sample analysis			✓	✓	IJ, TS
4.	Crop/vegetable/fruit/tuber growth and yield observation	✓	✓	✓	✓	IJ, TS



**3. Project title: Organic farming studies for sustaining productivity of Island cropping systems**

**PI:** T. Subramani (2)

**Co-PIs:** Y. Ramakrishna (1)

**Duration:** 2018-2024

**Project Code:** HORTCIARISIL201800900195

**Decisions:**

- Add control treatment in all the organic experiments.
- Upscale the organic farming experiment in farmers' fields with the support of KVK, South Andaman.
- Soil samples should be collected and analyzed before and after conducting the experiment.
- Recommended to bring out a high-quality publication from the research findings of the project.
- It was advised to submit a new project proposal on natural farming.

**Remarks:** The project is being extended for one year to complete the above-mentioned suggestions.

**Technical programme 2024-2025**

Sl. No	Activity	Quarter				Name of PI/Co-PIs
		I	II	III	IV	
1.	Continuation of all organic farming field experiments after adding absolute control	√	√	√	√	TS, YR
2.	Demonstration of best organic farming treatment in farmer's field.	√	√	√	√	TS, YR
3.	Initial and post-harvest soil sample collection for nutrient analysis.	√	√	√	√	TS, YR
4.	Conducting field day and trainings to farmers			√	√	TS, YR

**New institute funded projects**

**1. Project Title: Determining suitable cropping window and varieties in rice-based cropping system under Island ecosystem**

**PI:** Abhilash (4)

**Co-PIs:** T. Subramani (1), P. K. Singh (1) & Subash Nataraja Pillai

**Duration:** 2024-2027

**Project Code:** HORTCIARISIL202400500249

**Decisions:**

- Instead of maize crop, select other crops like pulses and vegetables that are commonly cultivated in the Islands.
- To attempt a pilot study using machine learning for coconut crop in the Islands.
- Head, Agricultural Physics, ICAR-IARI, New Delhi has agreed to serve as Co-PI, an official letter will be sent for the same.

- It was also suggested to include the promising varieties of rice crops in the treatment.
- A proposal for including one Co-PI from ICAR-IARI should be submitted by the PI through the proper channel

**Remarks:** The house approved the project with suggested modification.

### Technical Programme 2024-25

Sl. No	Activity	Quarter				Name of PI/CO-PIs
		I	II	III	IV	
1.	Soil Sample Analysis	✓				Ab, TS
2.	Nursery Raising for Rice crop	✓				Ab, TS, PKS
3.	Rice Transplanting	✓	✓			Ab, TS, PKS
4.	Rice Crop Growth observations		✓	✓		Ab
5.	Microclimate observations in rice crop canopy across different date of sowing		✓	✓		Ab
6.	Rice Yield attributes observations			✓		Ab, TS, PKS
7.	Datasets preparation for Rice Crop Simulation Model				✓	Ab, SNP
8.	Soil Sample Analysis				✓	Ab, TS
9.	Sowing of Green Gram				✓	Ab, TS, PKS
10.	Green Gram Crop Growth observations				✓	Ab
11.	Microclimate observations in Green Gram crop canopy across different date of sowing				✓	Ab

### 2. Project Title: Development of *Panchamrit* mediated silver nanoparticles and its antimicrobial activities

**PI:** Talaviya Harshangkumar (7)

**Co-PIs:** Praveenraj (0), Ajit Arun Waman (0) & Jai Sunder (0)

**Duration:** 2024-2027

**Project Code:** HORTCIARISIL202400600250

#### Decisions:

- Standardization of components of *Panchamrit* should be included in the project activity.
- Target size of the nanoparticle needs to be decided based on the literature survey.
- Dr. Jai Sunder has been added as Co-PI from the Animal Science Division
- Include the plant pathogen, *Phytophthora* and add Dr. Ajit Arun Waman as Co-PI.

**Remarks:** The house approved the project with suggested modification.

### Technical programme 2024-2025

SL. No.	Activities	Quarter				Name of PI/Co-PI
		I	II	III	IV	
1.	Optimization of components ratios	✓				TH
2.	Standardization of the physical forms of Panchamrit and its preparation for extraction		✓	✓		TH
3.	Optimization of Reaction conditions			✓	✓	TH

### 3. Project title: Feasibility of natural farming under tropical island ecosystem

**PI : T. Subramani (3)**

**Co-PIs : Y. Ramakrishnan (1), Ajit Arun Waman (1), Talaviya Harshangkumar (1)**

**Duration: 2024-2027**

**Project code: HORTCIARISIL20240100254**

#### Decisions:

- In Experiment I, it was suggested to include Burmese coriander as an intercrop in coconut instead of ginger due to its high nutrient requirement.
- In Experiment II, it was suggested to select some upland areas in the Bloomsdale farm and conduct a rice + vegetable trial.
- According to standard guidelines, the selection of varieties should be traditional, requiring minimum NPK inputs.
- The house approved the project and suggested including the following Co-PIs: Dr. Y. Ramakrishnan, Dr. Ajit Arun Waman & Dr. Talaviya Harshangkumar

### Technical programme 2024-2025

Sl.No	Activity	Quarter				Name of PI/CO-PIs
		I	II	III	IV	
1.	To study the effect of natural farming on soil health and yield of Coconut based cropping system		✓	✓	✓	TS/AAW/TH
2.	To study the effect of natural farming on soil health and yield of Rice		✓	✓		TS/YR
3.	To study the effect of natural farming on soil health and yield of vegetables			✓	✓	TS/YR
4.	Soil analysis, plant analysis and microbial work		✓		✓	TS/ TH

## Division of Fisheries Science

**1. Project title: Opportunities and Challenges of Sustaining Agriculture in Andaman and Nicobar Islands and Lakshadweep Islands: A Behavioural Perspective**

**PI:** S.K. Zamir Ahmed

**Co-PIs:** D. Karunakaran, Gladston Y, S. Sharath Yeligar & Y. Ramakrishna

**Duration:** 2021-2024

**Project Code:** HORTCIARISIL201700200224

**Decision:**

- It was suggested to prepare a policy paper for both groups of islands based on the findings and communicate to the local administration.
- Information sources should be acknowledged in the policy document.

**Remarks:** The house approved the closure of the project.

**2. Project title: Mapping the brackishwater resources of South Andaman for Aquaculture site suitability using GIS approach.**

**PI:** R. KirubaSankar (4)

**Co-PIs:** K. Saravanan (1) & J. Praveenraj (1)

**Duration:** 2022-25

**Project Code:** HORTCIARISIL202200500234

**Decisions:**

- All the advisories, maps, data, and other information generated under the project should be shared with the administration through the PME Cell of the Institute only.

**Remarks:** The house approved the continuation of the project.

### Technical programme 2024-2025

Sl.No	Activity	Quarter				Name of PI
		I	II	III	IV	
1.	Developing multi-criteria based on literature review and local conditions	✓	✓			RKS, SA
2.	Soil and water samples collection and analysis from study sites	✓	✓	✓	✓	RKS, KS, JP
3.	Analyzing the distances, proximities, and other criteria from the selected sites.			✓	✓	SA, RKS
4.	Using pairwise comparison matrix, site suitability index, consistency ratio			✓	✓	RKS, JP
5.	Overlay of weighted parameters and decision making				✓	RKS, SA

**3. Project title: Deciphering the *in-vitro* bioactive potential of selected seaweed species of Andaman Islands and evaluation of its immunomodulatory effect on fish**

**PI:** K. Saravanan (4)

**Co-PIs:** J. Praveenraj (1) & R. Kirubasankar (1)

**Duration:** 2022-25

**Project Code:** HORTCIARISIL202200600235

**Decisions:**

- To quantify the bioactive compounds, present in three selected seaweed species by using GC-MS.

**Remarks:** The house approved the continuation of the project.

#### Technical programme 2024-2025

Sl.No	Activity	Quarter				Name of PI
		I	II	III	IV	
1.	Conduct of field trials to evaluate the effect of seaweed incorporated feed on fishes.	✓	✓			JPR, RKS, KS
2.	Analysis of growth and hematoimmunological parameters of the experimental fishes.		✓	✓		KS, JPR
3.	Compilation and preparation of report.				✓	KS

#### 4. Project title: Development of control & treatment measures for the management of parasitic diseases in freshwater fishes

**PI:** J. Praveenraj (4)

**Co-PIs:** Ajit Arun Waman (1), Talaviya Harshangkumar (1) & Chittaranjan Raul (1)

**Duration:** 2023-2026

**Project Code:** HORTCIARISIL202300100239

#### Decisions:

- Being a traditional practice for parasite control in livestock, arecanut extract could be explored for *in vivo* studies in fish as well.
- Water quality parameters have to be studied in relation to parasite infection.

**Remarks:** The house approved the continuation of the project.

#### Technical programme 2024-2025

Sl.No	Activity	Quarter				Name of PI
		I	II	III	IV	
1.	Phytochemical screening of medicinal plants possessing antiparasitic activities	✓				JP, AAW
2.	Studying the impact of test solution on water quality	✓				JP, CR
3.	LC50 and LD50 on test fish		✓	✓		JP, CR
4.	Synthesis of Silver Nano particles & evaluation on parasites infected fish				✓	JP, CR

#### 5. Project title: Exploration of fishery, biology and market potential of tuna resources of Minicoy Islands

**PI:** Y. Gladston (7)

**Co-PIs:** S.M. Ajina (2) & V.M. Gafoor

**Duration:** 2022-25

**Project Code:** HORTCIARISIL202200200231

**Decisions:**

- Photographic evidences should be collected while conducting socio-economic surveys in the Islands.
- Taxonomic study on marine leech species encountered during the study should be undertaken.
- It was suggested to collect the relevant data from the local administration also.
- It was suggested to study the fish catch data comparison with and without FADs in Minicoy Island.

**Remarks:** The house approved the continuation of the project.

### Technical programme 2024-2025

Sl.No	Activity	Quarter				Name of PI
		I	II	III	IV	
1.	Cataloguing marine fish diversity	✓	✓			GY & ASM
2.	Biological data collection			✓	✓	GY & ASM
3.	FAD catch data collection			✓	✓	GY, ASM & VMG
4.	Market potential and socioeconomics	✓	✓			CR, SKZ

### 6. Project title: Integrated farming system for enhancing livelihood of tribal community of Minicoy Island

**PI:** S.M. Ajina (8)

**Co-PIs:** S.K. Zamir Ahmed (1), Y. Gladston (2), Chittaranjan Raul (1), Pooja Bohra (1) & V. M. Gafoor

**Duration:** 2022-25

**Project Code:** HORTCIARISIL202200300232

**Decisions:**

- It was suggested to carry out the economic analysis of farmers who have adopted the IFS system.
- Use of organic matter generated from animal excreta for manuring the vegetable crops in IFS. Quantification of organic matter generated and recycled in the system should be done.
- Soil analysis of the IFS site should be carried out every year to know the pattern of change in soil nutrient status.
- Light traps could be advised to the local people for management of *Euproctisfraterna* infestation in *Terminalia catappa*.

**Remarks:** The house approved the continuation of the project.

### Technical programme 2024-2025

Sl.No	Activity	Quarter				Name of PI
		I	II	III	IV	
1.	The ornamental and food fish introduction	✓	✓			ASM & GY

Sl.No	Activity	Quarter				Name of PI
		I	II	III	IV	
2.	Vegetable cultivation			✓	✓	ASM,PP & SKZ
3.	Livestock component integration & its management study			✓	✓	ASM, VMG & EBC
4.	Estimation of economics and demonstration training			✓	✓	SKZ & CR

### 7. Project title: Development of Island-based information management system for decision making in agriculture

**PI:** D. Karunakaran (4)

**Co-PI:** Sirisha Adamala (1), S.Yeligar (1), S.K. Zamir Ahmed (1)

**Duration:** 2022-2026

**Project Code:** HORTCIARISIL202200100230

#### Decisions:

- As Dr. Sirisha Adamala has been transferred to ICAR-NBSSLUP, Nagpur, it was suggested to write a letter to the Director of the Institute through proper channel for her inclusion in the project.
- It was suggested to involve all the scientists for receiving the relevant information pertaining to their respective disciplines.
- Dr. Sharath S. Yeligar to contribute in locating the technology spread across the islands.

**Remarks:** The house approved continuation of the project and inclusion of Dr. Sharath S. Yeligar as the co-PI.

### Technical programme 2024-2025

Sl.No	Activity	Quarter				Name of PI
		I	II	III	IV	
1.	Creation of Maps and update in geospatial database	✓	✓	✓	✓	DK, SKZ, KS
2.	Integration of layers with Web GIS	✓	✓	✓	✓	DK, SY
3.	Configuration of GIS server using web technologies				✓	DK, SA

### New Institute Funded Projects

#### 1. Project title: Standardization of live feed based seed rearing of *Labeo rohita* and *Penaeus vannamei* culture in biofloc system

**PI:** Mr. Chittranjan Raul (6)

**Co-PI:** J. Praveenraj (1)

**Duration:** 2024-2027

**Project Code:** HORTCIARISIL202400100245

#### Decisions:

- It was suggested to take up the study on one species (*Labeorohita*) initially, from spawn to fingerling stage, with an objective to reduce the early mortality percentage. Once successful, other species of IMC could be tried.
- Losses at various growth stages to be quantified from spawn to fingerling stage.

- One objective on standardization of shrimp culture in biofloc system to be added in the project.
- Sludge from bioflock should be analyzed for nutrient composition before its use for pot culture studies.
- Details on statistical design and treatment details to be included in the RPP-I.
- It was suggested to take help from Dr. T. Subramani for pot experiment.

**Remarks:** The house approved the project with suggested modification.

### Technical Programme 2024-25

Sl.No	Activity	Quarter				PI/Co-PIs
		I	II	III	IV	
1	Evaluation of the growth of live feed ( <i>Moina sp.</i> ) in biofloc system of different carbon sources.	✓				CR
2	Evaluation of growth of live feed ( <i>Moina sp.</i> ) in biofloc system of different C:N ratios		✓			CR
3	To study the water quality parameters for optimisation of live feed production in biofloc system.		✓	✓		CR
4	Quantitative and qualitative characterisation of live feed based biofloc.			✓	✓	JP

## 2. Project title: Application of artificial intelligence (AI) and internet of things (IoT) in agriculture for efficient management

**PI:** D. Karunakaran (4)

**Co-PIs:** Abhilash (1), Chittranajan Raul (1), Pooja Bohra (1) P.Perumal (1) & Debabrata Sethi

**Duration:** 2024-27

**Project code:** HORTCIARISIL202400200246

### Decisions:

- Dr. P. Perumal has been included as a co- for controlling the microenvironment of the cattle shed.
- Suggested to include clove or arecanut for studies on mitigating their moisture stress during dry period.
- Official letter should be written to ICAR-IIWM, Bhubaneswar for inclusion of Dr. Debabrata Sethi as a co-PI in the project.

**Remarks:** The house approved the project with suggested modifications.



### Technical programme 2024-2025

Sl.No	Activity	Quarter				Name of PI/CO-PIs
		I	II	III	IV	
1.	Installation of drip irrigation system, soil moisture sensors and Establishment of LoRa wireless network at Medicinal plant garden	✓	✓			DK, PB, AB & DS
2.	Installation of DO sensor and automation of aerator in pond at Garacharma farm	✓	✓			DK, CR & AB & DS
3.	Data Analysis of hourly generated Soil moisture data using Machin learning techniques			✓	✓	DK, PB & AB
4.	Data Analysis of hourly generated dissolved oxygen data using Machin learning techniques			✓	✓	DK, CR & AB

## Division of Animal Science

### 1. Project title: Sorting of X and Y bearing spermatozoa in pig and rabbit model

PI: R. R. Alyethodi (4)

Co. PI: P. Perumal (1)

Duration: 2023-2025

Project code: HORTCIARISIL202300400242

#### Decisions:

- Change the title of the project from “Sorting of X and Y bearing spermatozoa in rabbit model” to Rabbit and Pig model”.
- Check the semen quality parameters of pig and rabbit before processing for sex sorting
- Increase the number of semen collection and artificial insemination in pig and rabbit.
- Sorting of semen for female and male bearing sperms

Remarks: The house approved to continue the project

#### Technical programme:2024-2025

Sl.No	Activity	Quarter				Name of PI
		I	II	III	IV	
1	Ssex sorting in the Rabbit and Pig model involving more animals	✓	✓	✓	✓	RRA,PP
2	Optimization of F body staining	✓	✓			RRA
3	Development of Probe for in vitro assessment of sex sorting		✓	✓	✓	RRA
4	Development of protocol specific to female sorting	✓	✓	✓	✓	RRA,PP

### 2. Project title: Evaluation of Serum levels of ERBB2, FGFR1, MAP3K19, GDF9, and IGF1R as goat fecundity biomarkers

PI: R. R. Alyethodi (3)

Co. PI: K. Muniswamy (1)

Duration: 2023-2026

Project code: HORTCIARISIL202300500243

#### Decisions:

- Focus on DNA based markers on fecundity in goats

Remarks: The house approved to continue the project

#### Technical programme 2024-2025

Sl.No	Activity	Quarter				Name of PI
		I	II	III	IV	
1	Extraction of DNA and quality assessments	✓	✓			KM, RRA
2	Optimization of PCR and T-ARMS PCR		✓	✓		RRA
3	Genotyping of all sample		✓	✓	✓	RRA, KM

**3. Project title: Exploring the transcript variants and expression profile of germ line markers Vasa and DAZL genes in Goat**

**PI:** K. Muniswamy (8)

**Co. PIs:** R. R. Alyethodia (1)

**Duration:** 2023-2026

**Project code:** HORTCIARISIL202300300241

**Decisions:**

- Prepare a Loop-mediated isothermal amplification (LAMP)-PCR kit for diagnosis of *Corynebacterium pseudotuberculosis* (causes Caseous lymphadenitis) for goat as in one scientist one product scheme.
- Suggested that for plasmid extraction, transformed *E. coli* DH5 $\alpha$  has to be cultured in LB medium for 3 days prior to extraction.

**Remarks:** The house approved to continue the project.

**Technical programme 2024-2025**

Sl.No	Activity	Quarter				Name of PI
		I	II	III	IV	
1	Primers designing for estimation of tissue specific quantitative expression of various splice variants of Vasa gene.	✓				RRA, KM
2	Optimization of Quantitative qPCR for estimation of tissue specific quantitative expression of various splice variants of Vasa gene.		✓	✓		RRA, KM
3	Purification of PCR products of Vasa and cloning into suitable plasmid.			✓		KM
4	Transformation into E. Coli to produce recombinant clones and screening for positive clones			✓		KM
5	Plasmid isolation from positive clones and sequencing of cloned products.			✓	✓	KM
6	Editing and analysis of sequences				✓	KM

**4. Project title: Goat improvement through Assisted Reproductive Techniques in Andaman and Nicobar Islands**

**PI:** P. Perumal

**Co. PIs:** R. R. Alyethodi and & P.A. Bala

**Duration:** 2021-2024

**Project code:** HORTCIARISIL202100400228

**Decisions:**

- Include the artificial insemination and kidding rate data from the farm and field in the final RPP-3 report.

**Remarks:** The House approved the project to be closed with inclusion of artificial insemination and conception rate data from the farm and field in final RPP-3.

**5. Project title: Probiotics supplementation in pig health and immunity**

**PI:** Arun Kumar De

**Co. PI:** P.A. Bala

**Duration:** 2021-2024

**Project code:** HORTCIARI202100300227

**Decisions:**

- The meat quality profiles of probiotic treated pigs need to be analysed and included in the final RPP-3 report.

**Remarks:** The House approved the project to be closed with inclusion of meat quality profiles of probiotic treated pigs in final RPP-3.

**6. Project title: Nutrient intake and digestibility of the Andaman local and Nicobari Pigs in intensive system of rearing**

**PI:** P.A. Bala (5)

**Co. PIs:** A.K.De (1)

**Duration:** 2021-2024

**Project code:** HORTCIARISIL00500229

**Decisions:**

- The experiment needs to be repeated for nutrient requirement and intake and digestibility in pigs: three groups are Gr 1: 20% CP, Gr 2: 22% CP and Gr 3: 24% CP with each group contains 3 castrated males and 3 females during the year 2024-25.
- Simultaneously, nutrient intake and digestibility trial in Nicobari Pigs are to be conducted during the year 2024-25.
- These experiments are to be done with proper care, correct procedure and proper standard protocols.

**Remarks:** The house approved to continue the project

**Technical programme 2024-2025**

Sl.No	Activity	Quarter				Name of PI
		I	II	III	IV	
1	Conducting trial in female, intact male and castrated in Andaman local pigs	✓	✓	✓	✓	PAB, AKD
2	Conducting trial in female, intact male and castrated in Nicobari pigs					PAB, AKD

**7. Project title: Tree fodder resources of A & N islands for its nutrient analysis and digestibility in livestock**

**PI:** P. A. Bala (4)

**Co. PIs:** I.Jaisankar (2) & T. Subramani (1)

**Duration:** 2023-2028

**Project code:** HORTCIARISIL202300600244

**Decisions:**

- Planting of all the selected tree and shrub species for fodder purpose should be completed before August, 2024.

**Remarks:** The house approved to continue the project

**Technical programme 2024-2025**

Sl.No	Activity	Quarter				Name of PI
		I	II	III	IV	
1.	Observing the growth of the trees	✓	✓	✓	✓	IJ,TS
2.	cultivation of fodder grasses		✓	✓	✓	PAB, TS
3.	Recording the growth performance of the grasses		✓	✓	✓	PAB, IJ, TS
4.	Feeding and digestibility trial on grass fodder (2 grass)		✓	✓	✓	PAB

**8. Project title: Mitigation of heat stress of endemic poultry breeds of Andaman Islands under impending climate change scenario**

**PI:** T. Sujatha (5)

**Co. PIs:** D. Bhattacharya (1), Nibedita Nayak (1) & Dr Abhilash (1)

**Duration:** 2022-2026

**Project code:** HORTCIARISIL202200700236

**Decisions:**

- In simulated environment, increase 1-2 °C temperature and repeatedly observe all the experimental parameters
- Experiment on nutritional supplements (probiotics, amino acids and vitamins) on mitigation of heat stress under the simulated environmental condition needs to be conducted.
- Included Dr. Abhilash as Co-PI of the project

**Remarks:** The house approved to continue the project

**Technical programme 2024-2025**

Sl. No	Activity	Quarter				Name of PI
		I	II	III	IV	
1.	Study on thermal stress under habitat condition - Ducks	✓	✓	✓	✓	TS, DB
2.	Assessment of thermal stress under simulated condition @ (Nicobari fowl, Vanaraja) Embryonic thermal conditioning Temp : 38.5C	✓	✓	✓	✓	TS, NN, Ab
3.	Initiation of Mitigation practice	✓	✓	✓	✓	TS, NN

**9. Project title: Evaluation of traditional knowledge of plants in the management of *Rhipicephalus microplus* in cattle and goat**

**PI:** D. Bhattacharya (5)

**Co. PIs:** T. Sujatha (1), Jai Sunder (1), Ajit Arun Waman (1), A. K. De (1), Dr. Sharath S. Yeligar (1) and P. Perumal (1)

**Duration:** 2022-2025

**Project code:** HORTCIARISIL202200800237

**Decisions:**

- Dr. Sharath S. Yeligar has been included as Co-PI to analyze the economic benefit of the herbal drugs in the management of *Rhipicephalus microplus* in cattle and goat.

**Remarks:** The house approved to include as Co-PI and the project to continue.

#### Technical programme 2024-2025

Sl. No	Activity	Quarter				Name of PI
		I	II	III	IV	
1.	In vivo evaluation of herbal acaricide	✓	✓	✓	✓	DB, TS, JS, AKD, PP, AAW
2.	Economic evaluation of treatment on 20 cattle and 20 goats	✓	✓	✓	✓	DB, TS, JS, AKD, PP

#### 10. Project title: Studies on prevalence of antimicrobial resistance in bacteria of zoonotic importance in food chain and environment

**PI:** Jai Sunder (3)

**Co. PIs:** T. Sujatha (1), A. K. De (1) & D. Bhattacharya (1)

**Duration:** 2023-2026

**Project code:** HORTCIARISIL202300200240

#### Decisions:

- Soil samples are to be included in the analysis
- Mint, coriander, cucumber and other salad vegetables which are consumed raw are to be included in sampling
- Different experimental samples are to be collected from North and Middle Andaman and Nicobar districts for analysis

**Remarks:** The house approved to continue the project

#### Technical programme 2024-2025

Sl.No	Activity	Quarter				Name of PI
		I	II	III	IV	
1.	Collection of samples, isolation, identification and screening	✓	✓	✓	✓	JS, TS, AKD
2.	Phenotypic antibiotic resistance		✓	✓	✓	JS, TS, AKD
3.	Molecular screening of AMR and virulence genes		✓	✓	✓	JS, AKD, DB

### New Institute funded project

#### 1. Project title: Impact assessment of CIARI technologies on Andaman and Nicobar Island farmers

**PI:** Sharath Yeligar (6)

**Co. PIs:** Ramakrishna (1), Santosh Kumar (1) & V.Damodaran (1)

**Duration:** 2024-2027

**Project Code:** HORTCIARISIL202400700251

#### Decisions:

- The house suggested to start impact analysis studies on the technologies for which the desired information is available.
- For technologies where sufficient information regarding the number of farmers who have adopted them, or other relevant details, is not available, the impact assessment can be taken up next year. In the meantime, the developers of these technologies are requested to collect the necessary information so that the assessment can be conducted next year.

**Remarks:** The house approved the project with suggested modifications.

### Technical programme 2024-2025

Sl.No	Activity	Quarter				Name of PI/Co-PIs
		I	II	III	IV	
1.	Data collection and analysis for Dweep Gau Maa Rakshak	√	√			SY, YR
2.	Data collection and analysis for coconut climbing device	√	√			SY, YR, VD, SK
3	Data collection and Analysis for Dweep-Carp grower feed technology		√			SY
4	Data collection for CIARI Dhan 5, 10 and 11			√	√	SY, YR, VD, SK
5	Data collection for CIARI Brinjal 1			√	√	SY, YR, VD, SK
6	Review of literature and standardize methodology for Coconut based IFS				√	SY

## 2. Project title: Reproductive performances of cattle and goat in modern and traditional housing models in Islands conditions.

**PI:** P. Perumal (4)

**Co. PIs:** Abhilash (1) & Sharath S Yeligar (1)

**Duration:** 2024-2027

**Project code:** HORTCIARISIL202400800252

### Decisions:

- Include the cattle at different physiological stages in both housing models
- Measure the climatic factors at micro and macro environments and correlate with reproduction parameters in cattle and goat
- Included Dr. Abhilash as Co-PI to work on climatological factors associated with reproduction parameters in different housing model for cattle and goat

**Remarks:** The house approved the project with suggested modifications and submit RPP-I.

### Technical programme 2024-2025

Sl No	Activity	Quarter				Name of PI/Co-PIs
		I	II	III	IV	
1.	Selection of goat and cattle and preparing housing system	✓	✓			PP
2.	Analysis of reproductive, physiological, heamatological, endocrine and antioxidant profiles		✓	✓	✓	PP, Ab
3.	Analysis of milk and semen quality		✓	✓	✓	PP
4.	Correlation analysis with micro and macro environmental factors			✓	✓	PP, Ab
5.	Economic analysis				✓	SY

### 3. Project title: Molecular epidemiology and vaccine development for caseous lymphadenitis in goat

**PI:** Arun Kumar De (5)

**Co. PIs:** Jai Sunder (1) & D. Bhattacharya (1)

**Duration:** 2024-2027

**Project code:** HORTCIARISIL202400900253

#### Decisions:

- Contact ICAR-NIVEDI, Bengaluru for detailed information and data related to the caseous lymphadenitis
- Economic analysis is to be conducted before and after treatment of disease in farm and field conditions

**Remarks:** The house approved the project with suggested modifications and submit RPPI.

### Technical programme for 2024-25

Sl. No	Activity	Quarter				Name of PI/CO-PIs
		I	II	III	IV	
1	Survey of South, North and Middle Andaman and Nicobar	✓	✓	✓		AKD, JS
2	Sample collection from suspected cases of Caseous lymphadenitis in goats	✓	✓	✓		AKD, JS
3	Isolation of bacteria (causative agent <i>Corynebacterium pseudotuberculosis</i> )	✓	✓	✓		AKD, JS
4	Molecular characterization of the bacteria				✓	AKD, JS, DB



## **Concluding remarks by Chairman**

The Chairman, IRC commended all the scientists for their excellent work and remarkable contributions. However, he emphasized the following key points for continued progress and improvement. He encourages more interdisciplinary collaborations to foster innovation and resource sharing. Stresses the importance of focusing on the tangible impact of our research and technologies on the farming community. Urges all scientists to adhere to deadlines for submitting reports and updates to ensure smooth project monitoring and accountability. Furtherer, he emphasizes the need to publish high-quality research papers in reputable journals to enhance the institute's visibility. He also informed that a mid-term review of the ongoing projects will be conducted within 3-4 months. All HoDs should conduct regular meetings to review the progress of all ongoing projects at the divisional level and should provide the necessary facilities to carry out the experiments. All externally funded projects should be discussed in the study circle in the presence of AO and FAO for smooth facilitation.

At the end, the Member Secretary, IRC thanked the Chairman and all the scientists for their valuable suggestion, remarks and active participation

## **Summary of the projects presented and discussed in IRC 2024**

<b>Division</b>	<b>Ongoing 2023-24</b>	<b>Close</b>	<b>New project</b>	<b>In Hand 2024-25</b>
Division of Horticulture & Crop Improvement	3	0	2	5
Division of Natural Resource Management	2	1	3	5
Division of Animal Science	8	2	3	11
Division of Fisheries Science	6	1	2	8
<b>TOTAL</b>	<b>19</b>	<b>4</b>	<b>10</b>	<b>29</b>

**Annexure 1****Man month allocation in different projects**

Sl. No.	Name of the Scientist	Manmonth	Total
<b>Horticulture and crop Improvement</b>			
1.	Dr. Pankaj Kumar Singh Pr Scientist & Head (A) (Genetic & Plant Breeding)	Project 233-PI (4), Project 226-Co-PI (1), Project 247-Co-PI (1), Project 249-Co-PI (1), ICAR Seed- (1), Other activities including extension (2), Administration/ management (2)	12
2.	Dr. Ajit Arun Waman, Scientist (Spice, Plantation, Medicinal & Aromatic Plants)	Project 226-PI (3), Project 225-Co-PI (1), Project 237-Co-PI (1), Project 239-Co-PI (1), Project 254-Co-PI (1), Project CSS NHM-(1), AYUSH-(1), AICRP palm-(1), Extension (2)	12
3.	Dr. Pooja Bohra, Scientist (Fruit Science)	Project 225-PI (5), Project 226-Co-PI (3), Project 232-Co-PI (1), Project 246-Co-PI (1), Extension (2)	12
4.	Dr. P. Prabhu, Scientist (Economic Botany & Plant Genetic Resources)	Project 247-PI (4), Project 248-PI (4), Project 225-Co-PI (1), Project 233-Co-PI (1), Extension (2)	12
<b>Natural Resource Management</b>			
1.	Dr. T. Subramani, Sr. Scientist & Head (A), (Agronomy)	Project 195 -PI (2), Project 254-PI (3), Project 238-Co-PI (1), Project 249-Co-PI (1), Project 244-Co-PI (1), Project SSAP-(1), AICRP IFS (1), Extension (2)	12
2.	Dr. I. Jaisankar, Sr. Scientist (Agroforestry)	Project 238-PI (3), Project 244-Co-PI (2), Project 248-Co-PI (1) Project DUS noni-(1), AICRP tuber-(1), NMBP pandanus-(1), Extension (3)	12
3.	Dr. Abhilash, Scientist (Agricultural Meteorology)	Project 249-PI (4), Project 236-Co-PI (1), Project 246-Co-PI (1), Project 247-Co-PI (1), Project 252-Co-PI (1), Agromet advisory- (2), Extension (2)	12
4.	Harshangkumar Talaviya, Scientist (Agricultural Chemicals)	Project 250-PI (7), Project 239-Co-PI (1), Project 254-Co-PI (1) Project MPRNL-(1), Extension (2)	12
<b>Animal Science Division</b>			
1.	Dr. Jai Sunder, Pr Scientist & Head, (Vet Microbiology)	Project 240-PI (3), Project 237-Co-PI (1), Project 253-Co-PI (1), FMD-(1), NADEN-(1), AICRP goat-(1), Other activities including extension (1), Administration/ management (3)	12
2.	Dr. D. Bhattacharya, Pr Scientist (Vet. Parasitology)	Project 237-PI (5), Project 236-Co-PI (1), Project 240-Co-PI (1), Project 253-Co-PI (1), FMD (1), NADEN (1), Extension (2)	12

Sl. No.	Name of the Scientist	Manmonth	Total
3.	Dr. T. Sujatha, Pr. Scientist (Poultry Science)	Project 236-PI (5), Project 237-Co-PI (1), Project 240-Co-PI (1), PSP- (2), Extension (3)	12
4.	Dr. P. A. Bala, Sr. Scientist (Animal Nutrition)	Project 229-PI (5), Project 244-Co-PI (4), AICRP pig (1), Extension (2)	12
5.	Dr. P. Perumal, Scientist (Animal Reprod & Gyneac)	Project 252-PI (4), Project 237-Co-PI (1), Project 242-Co-PI (1), Project 246-Co-PI (1), AICRP Goat (1), Extension (4)	12
6.	Dr. A.K. De, Scientist (Animal Biotechnology)	Project 253-PI (5), Project 229-Co-PI (1), Project 237-Co-PI (1), Project 240-Co-PI (1), AICRP Pig (2), Extension (2)	12
7.	Dr. K. Muniswamy, Scientist (Animal Biotechnology)	Project 241-PI (8), Project 243-Co-PI (1), Extension (3)	12
8.	Dr. Rafeeqe Rahman Alyethodi (AGB)	Project 242-PI (4), Project 243-PI (3), Project 241-Co-PI (1), AICRP goat (2), Extension (2)	12
9.	Dr. S. Sharath Yeligar, Scientist (Agricultural Economics)	Project 251-PI (6), Project 237-Co-PI (1), Project 238-Co-PI (1), Project 252-Co-PI (1), Project 230-Co-PI (1), Extension (2)	12
<b>Fisheries Science Division</b>			
1.	Dr. S. K. Zamir Ahmed, Pr Scientists & Head (A), (Agriculture Extension)	Project 224-PI (1), Administration/management (1)	2
2.	Dr. R. KirubaSankar, Sr. Scientist (Fish & Fisheries Science)	Project 234-PI (4), Project 235-Co-PI (1), Coastal fisheries HUB (2), AINP-(1), NSPAAD-(1), Extension (3)	12
3.	Dr. K. Saravanan, Sr. Scientist (Fish Health)	Project 235-PI (4), Project 234-Co-PI (1), NSPAAD-(2), AINP-(1), Coastal fisheries HUB-(1), Extension (3)	12
4.	Mr. J. Praveenraj, Scientist (Fish Health)	Project 239-PI (4), Project 234-Co-PI (1), Project 235-Co-PI (1), Project-245-Co-PI (1), NSPAAD-(1), Coastal fisheries Hub-(1), Extension (3)	12
5.	Dr. Karunakaran, Scientist (Computer Application in Agri.)	Project 230-PI (4), Project 246-PI (4), Coastal fisheries Hub-(1), Extension (3)	12
6.	Mr. Gladston Y., Scientist (FRM)	Project 231-PI (7), Project 232-Co-PI (2), Extension (3)	12
7.	Mrs. Ajina S.M., Scientist (FRM)	Project 232-PI (8), Project 231-Co-PI (2), Extension (2)	12
8.	Mr. Chittaranjan Raul, Scientist (Aquaculture)	Project 245-PI (6), Project 232-Co-PI (1), Project 239-Co-PI (1), Project 246-Co-PI (1), Extension (3)	12

**The following officials attended the meeting:**

1. Dr. Eaknath B. Chakurkar, Director & Chairman, IRC
2. Dr. S.K. Zamir Ahmed, Pr. Scientist & Head (A), Division of Fisheries Science
3. Dr. P.K. Singh, Pr. Scientist & Head (A), Division of Horticulture & Crop Improvement
4. Dr. T. Subramani, Sr. Scientist & Head (A), Division of Natural Resource Management
5. Dr. D. Bhattacharya, Pr Scientist
6. Dr. T. Sujatha, Pr. Scientist
7. Dr. I. Jaisankar, Sr. Scientist
8. Dr. P.A. Bala, Sr. Scientist
9. Dr. R. Kirubasankar, Sr. Scientist
10. Dr. Arun Kumar De, Sr. Scientist
11. Dr. P. Perumal, Sr. Scientist
12. Dr. Ajit Arun Waman, Sr. Scientist
13. Dr. Pooja Bohra, Sr. Scientist
14. Dr. K. Saravanan, Sr. Scientist
15. Shri. D. Karunakaran, Scientist
16. Dr. K. Muniswamy, Scientist
17. Dr. Rafeeqe Rahman Alyethodi, Scientist
18. Dr. J. Praveenraj, Scientist
19. Dr. Gladston Y., Scientist
20. Mrs. Ajina S.M., Scientist
21. Dr. Sharath S. Yeligar, Scientist
22. Dr. Abhilash, Scientist
23. Dr. Harshangkumar Talaviya, Scientist
24. Dr. C. Raul, Scientist
25. Dr.P.Prabhu, Scientist
26. Dr. Y. Ramakrishna, Head KVK, South Andaman
27. Dr. Santosh Kumar, Head, KVK, Nicobar
28. Dr. V.Damodaran, Head, KVK, North & Middle Andaman
29. Dr. Jai Sunder, Head, Division of Animal Science & In charge, PME Cell & Member Secretary IRC 2024

**(Jai Sunder)**  
Incharge, PME Cell &  
Member Secretary, IRC-2023

F.No. 4-4/PMEC/IRC Proceeding/2024

Dated: 31.05.2024

Copy to: All concerned through e-mail for information and necessary action.  
P.S. to Director for information of the Competent Authority.