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भारतीय कृषि अनुसंधान परिषद

Agrisearch with a human touch

In this issue

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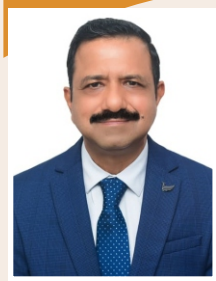


Rice Germplasm and Its Diversity in the Western Ghats

The Western Ghats, a UNESCO World Heritage Site and one of the eight hotspots of biological diversity in the world, represent a treasure house of rice germplasm in India. The Western Ghats have predominantly lateritic, red, and alluvial soils, with black soils occurring in some rain-shadow areas. These soils, though often low in fertility, support diverse crops like paddy, spices, coconut, and arecanut. The climate is tropical monsoon type, marked by heavy rainfall (2,000–7,500 mm annually), high humidity, and moderate temperatures. The windward side receives abundant rain, while the leeward side is relatively drier; creating varied agro-climatic conditions favourable for rich biodiversity and multiple cropping systems.

The unique agro-ecological conditions of this region, ranging from coastal saline lowlands to midland valleys and hilly uplands, have given rise to a remarkable diversity of traditional rice varieties, each adapted to specific micro-niches and farmer preferences. In Kerala, rice is cultivated across diverse niches, from below sea level in Kuttanad (–10 m) to uplands at 1200 m in Anamudi, with four altitude-based zones viz., high ranges (>750 m), highlands (75–750 m), midlands (7.5–75 m) and lowlands (<7.5 m). In Goa, rice is mainly grown in low-lying coastal *khazan* lands reclaimed by dykes and canals. In Maharashtra, rice is grown on a small scale in the rainfed Konkan region (85–90% area). In Karnataka, drill sowing is common under rainfed Western Ghats conditions. In Tamil Nadu, rice area is limited due to forests, with cyclones, floods and salinity reducing production. Farmers of Goa, Karnataka, Kerala, and Maharashtra have, over centuries, conserved and cultivated numerous landraces with traits of immense agronomic and nutritional significance. These include varieties tolerant to salinity, submergence, drought, and pest incidence, as well as those possessing aromatic grains, unique grain quality, medicinal value, and high micronutrient content.

The Western Ghats region is home to numerous traditional rice varieties, each with unique features and stress adaptations. In Karnataka, varieties like *Rajamudi*, *Gowri Sanna*, and *Jeerige Sanna* are specialty rices valued for their distinctive taste and high nutritional content, while *Kagga* is salinity-tolerant and *Jeddu Batta* is submergence-tolerant. In Goa, *Korgut* and *Asgo* are popular for salinity tolerance, whereas *Saalsi* is an aromatic variety traditionally used in festive sweet preparations. In Kerala *Njavara*, a medicinal rice used in Ayurveda, and aromatic varieties like *Jeerakasala* and *Gandhakasala*, prized for special dishes such as Biryani and fetching high market value; *Pokkali* is another key variety tolerant to salinity. In Maharashtra, aromatic rices such as *Ambemohar, Ghansal*, and *Indrayani* are well-known, while *Khara Rata* and *Bura Rata* are salinity-tolerant, and *Korga Bhat* is a hardy upland landrace resilient to drought. Many of these varieties continue to be grown under low-input conditions, demonstrating their adaptability and ecological sustainability.

The germplasm of the Western Ghats is not only important for ensuring local food and nutritional security but also offers a rich genetic resource for modern crop improvement programs. With the looming challenges of climate change, these genetic resources serve as a vital reservoir for developing rice varieties resilient to multiple stresses. Conservation, characterization, and utilization of this diversity remain a top priority for agricultural research institutes.

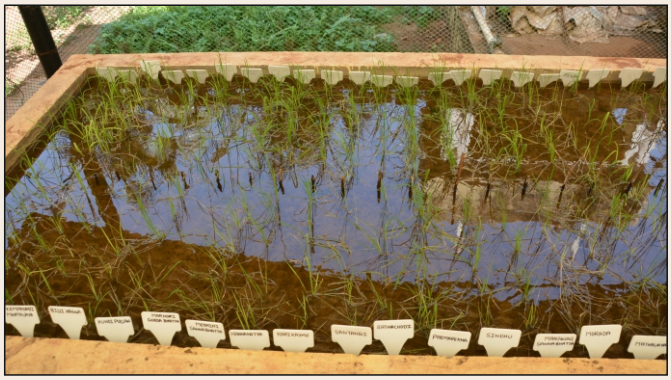
DIRECTOR

RESEARCH HIGHLIGHTS

Identification of novel rice germplasm accessions tolerant to salinity stress at seedling stage

(Manohara KK and Paramesha V)

Two hundred thirty-four rice genotypes comprising landraces, wild relatives, advanced breeding lines, and released varieties were screened for salinity stress at the seedling stage in micro plots during Rabi 2022 under induced salt stress of 10 dS/M(iw). Among the genotypes screened, 13 genotypes showed tolerant reaction with SES scoring of 3, 58 of them showed moderately tolerant reaction (SES score 5), 99 accessions were sensitive (SES score 7) and 62 were highly sensitive (SES score 9). None of the accessions recorded a highly-tolerant (SES ~ 1) reaction. The genotypes viz., *Mara batta, Sanna IET, Chitga, Dodgi, Karna, Shirali local, Bilashi local, Byalearya, Aravat hilla, Korgut, Walayo, Barkur bhatta, Jeddu batta* showed tolerant reaction with SES scoring of 3. These landraces could become novel sources for salinity tolerance at the seedling stage. FL 478 was used as a tolerant check while IR29 was used as a sensitive check.



Screening of rice germplasm for salinity tolerance under micro plots

Jaya × Goa Dhan 2 Recombinant Inbred Line Population: A Valuable Resource for Rice Improvement

(Manohara KK and Paramesha V)

A recombinant inbred line (RIL) population was developed from a cross between Jaya, a high-yielding salt-sensitive variety, and Goa Dhan 2, a low-yielding salt-tolerant variety. This population, consisting of 272 lines, was phenotyped during Rabi 2022 under rainfed, shallow-lowland conditions. The RILs displayed wide variation across all traits studied. Days to 50 % flowering ranged from 76 to 130 days, and days to maturity from 109 to 160 days. Plant height varied from 92 cm to 259 cm, productive tillers from 2.43 to 14.27, and panicle length from 22.05 to 36.75 cm. Grains per panicle spanned 36.63 to 247.67, percent fertility ranged from 20.95 % to 99.05 %, and grain yield ranged from 295 kg/ha to 9,771 kg/ha.

The highest yield was recorded in RIL-JG-115 (9,771 kg/ha), followed by RIL-JG-135 (8,615.7 kg/ha) and RIL-JG-193 (up to 8,297.1 kg/ha). Broad-sense heritability and genetic advance were greatest for grain yield (86.77 %, 87.92), followed by grains per panicle (84.17 %, 49.97) and plant height (91.12 %, 37.86). The highest grain yield was recorded in RIL-JG-115 (9771 kg/ha) followed by RIL JG RIL 135 (8615.7 kg/ha), RIL JG RIL 193 (8297.1 kg/ha), RIL JG RIL 193 (8250.0 kg/ha) and RIL JG RIL 193 (7590.0 kg/ha). Heritability in broad sense and genetic advance was highest in grain yield (86.77, 87.92) followed by grains per panicle (84.17, 49.97) and plant height (91.12, 37.86). Overall, the population exhibited wide variability for all the studied traits making it a valuable resource for future genetic mapping and trait-improvement studies.

Trait	Minimum	Maximum	Mean	CV (%)	GCV	PCV	H^2	GAM
DFF	75.9	130.1	99.35	1.5	15.68	15.75	99.09	32.20
DM	109.05	160.45	134.08	2.37	11.32	11.57	95.82	22.87
PHT (cm)	92.83	259.04	169.53	6.04	19.23	20.14	91.12	37.86
NPT	2.43	14.27	5.72	15.55	17.77	23.93	55.16	27.23
PL (cm)	22.05	36.75	29.86	2.6	8.98	9.35	92.36	17.81
GPP	36.63	247.67	126.96	11.5	26.4	28.78	84.17	49.97
PF	20.95	99.05	82.69	8.24	7.61	11.22	46.05	10.66
GY (kg/ha)	295.75	9771.05	3668.74	16.06	44.85	47.83	87.92	86.77

Note: DFF: Days to 50% flowering; DM: Days to maturity; PHT: Plant height; NPT: Number of productive tillers per hill; PL: Panicle length; GPP: Grains per panicle; PF: Percent fertility; GY: Grain yield per ha; H2: Heritability in Broad sense; GAM: Genetic advance as percent of Mean

Development of Mapping Populations in Rice for Trait Mapping and Genetic Improvement

(Manohara KK)

During Kharif 2022, 21 different mapping populations of rice were advanced using the Single Seed Descent (SSD) method to stabilise lines for further evaluation and utilisation. These populations serve as valuable resources both for trait mapping and genetic improvement of rice. A total of seven F_4 populations, nine F_5 populations, one F_6, three F_{11}, and one F_{12} population were advanced to the next generations. This process ensured the stabilization of segregating populations while maintaining genetic diversity for important agronomic traits. The advancement of these populations provides a strong foundation for phenotyping, trait mapping, and selection of elite lines for future rice breeding programs, aimed at improving yield, stress tolerance, and other agronomic traits.

Generation	Numberof Populations	List of populations maintained
F_4	7	Jaya x Jaddu batta; (Jaya x CSR 27) x Jaddu batta; Pusa 44 x CSR 27; Karjat 3 x Goa Dhan 4 Goa Dhan 4 x Jyothi; CSR 27 x Pusa 44 Jaya x Goa Dhan 4
F_5	9	Goa Dhan 1 x CSR 27; (Goa Dhan 3 x Jaya) x CSR 27 (Jaya x CSR 27) x Goa Dhan 4; Goa Dhan 1 x Guddadani batta; Mysore sanna x Goa Dhan 4 Jaya x CSR 27; Karjat 3 x KS 16-1 Jyothi x Goa Dhan; 4 Pusa 44 x KS 19-2
F_6	1	Jaya x Goa Dhan 2
F_{11}	3	Karjat 3 x KS 17; Naveen x KS 19-2 MTU 1010 x KS 16-1
F_{12}	1	Pusa 44 x KS 17

Evaluation of Newly Developed Stress-Tolerant Advanced Breeding Lines of Rice under Rainfed Shallow Lowland Conditions

(Manohara KK and Paramesha V)

A total of 43 shortlisted lines developed using elite x elite crosses were assessed under rainfed shallow lowland conditions in a Randomised Complete Block Design with two replications at the Institute farm. Key yield and agronomic traits were recorded to identify the best-performing lines. Significant variability was observed among the tested lines: days to 50% flowering ranged from 90 to 124 days, plant height from 99.3 cm to 236 cm, productive tillers per hill from 5.0 to 13.7, panicle length from 20.2 cm to 32.3 cm, grains per panicle from 58.3 to 209.3, fertility from 44.3% to 95.7%, and grain yield from 2,628.6 to 8,707.1 kg/ha.

The highest grain yield of 8,707.1 kg/ha was recorded in RIL (GD1 × CSR 27), followed closely by 7,831 kg/ha and 7,825 kg/ha in RIL (KARJAT 3 × KS 19-2), 7,723.8 kg/ha in RIL (GD1 × CSR 27), and 7,692.9 kg/ha in RIL (GD1 × JAYA). Among the five checks, Jaya recorded the highest yield at 6,896.4 kg/ha. The average grain yield across all lines tested was 6,100.6 kg/ha, demonstrating the potential of these lines for future stress-tolerant rice breeding programs.

Evaluation of advanced breeding lines under rainfed shallow lowland conditon @ Institute farm during Kharif 2022

Top five entries among the lines tested under rainfed shallow lowland condition during Kharif 2022

Sl. no	Test Entries	Days to 50% flowering	Plant height (cm)	Productive tillers per hill	Grain yield (Kg/ha)
1	RIL (GD1 x CSR 27)	114.5	134.5	8.5	8707.1
2	RIL (KARJAT 3 x KS 19 -2)	97.5	126.2	11.2	7831.0
3	RIL (KARJAT 3 x KS 19 -2)	97.5	126.2	11.2	7825 .0
4	RIL (GD1 x CSR 27)	93.0	109.2	10.8	7723.8
5	RIL (GD1 x JAYA)	104.0	112.2	8.7	7692.9
	JAYA (Check)	99.5	135.7	11.3	6896.4

	GOA DHAN 1 (Check)	101.5	155.7	10.2	6533.5
	GOA DHAN 4 (Check)	98.0	147.7	8.5	6166.2
	GOA DHAN 3 (Check)	94.0	141.2	8.2	6064.5
	GOA DHAN 2 (Check)	116.0	226.8	7.3	5250.0
	Mean	102.29	131.98	8.54	6100.6
	CD @ 5%	9.19	23.21	3.03	1739.7
	CV (%)	4.45	8.71	17.59	14.13

Evaluation of Newly Developed Stress-Tolerant Advanced Breeding Lines of Rice under Coastal Saline Conditions

(Manohara KK and Paramesha V)

Forty-three promising rice lines developed from elite x elite variety cross were evaluated under natural coastal salinity at Chorao Island to identify the best performers. The trial was conducted in a Randomized Complete Block Design with two replications. Key yield and agronomic traits were measured, revealing considerable variability among the tested lines. Days to 50% flowering ranged from 97 to 128 days, plant height from 91.7 cm to 199.3 cm, productive tillers per hill from 5.3 to 11.3, panicle length from 18.2 cm to 30.8 cm, grains per panicle from 46.0 to 215.3, fertility from 45.4% to 95.7%, and grain yield from 789 to 5,036.1 kg/ha.

The highest yield of 5,036.1 kg/ha was recorded in RIL (GD1 × CSR 27), followed by 4,855.6 kg/ha and 4,847.2 kg/ha in RIL (KARJAT 3 × KS 19-2), 4,811.1 kg/ha in RIL (GD1 × CSR 27), and 4,675.0 kg/ha in RIL (GD1 × JAYA). Among the five checks, Goa Dhan 3 recorded the highest yield at 4,005.6 kg/ha. The average grain yield across all lines was 3,426.5 kg/ha, highlighting their potential for coastal saline-tolerant rice breeding.

Evaluation of advanced breeding lines under coastal salinity condition @ Chorao Island during Kharif 2022

Top five entries among the lines tested under coastal salinity condition during Kharif 2023

SL no	Test Entries	Days to 50% flowering	Plant height (cm)	Number of productive tillers per hill	Grain yield (Kg/ha)
1	RIL (GD1 X Jaya)	108.50	109.17	9.33	5036.11
2	RIL (K3 X KS 192)	114.00	123.17	9.67	4855.56
3	RIL (GD1 X CSR 27)	120.50	142.17	7.33	4847.22
4	(RIL GD1 X Jaya)	111.00	122.67	9.33	4811.11
5	(RIL GD1 X Jaya)	109.00	109.83	8.17	4675.00
	Goa Dhan 3 (Check)	109.50	135.00	9.83	4005.56
	Goa Dhan 1 (Check)	119.00	118.50	8.33	3594.45
	GoaDhan 4 (Check)	99.00	122.00	10.50	3562.50

	Jaya (Check)	117.00	102.33	7.83	2863.89
	Goa Dhan 2 (Check)	118.00	198.83	6.83	2572.23
	Mean	109.8	119.0	8.3	3426.5
	CD @ 5%	5.7	18.6	2.6	1943.8
	CV	2.55	7.69	15.28	27.94

Empowering Farmers with Quality Seeds: Institute-Farmer Partnerships

(Manohara KK)

Quality seed production of major field crops in Goa was undertaken both at the Institute farm and in farmers' fields. Progressive farmers were involved for producing the quality seeds through participatory seed production approach during Kharif 2022. Breeder seed production in paddy varieties viz., Goa Dhan 1, Goa Dhan 2, Goa Dhan 3 and Goa Dhan 4 and cowpea variety Goa Cowpea 3 was taken up as per the indent received from the Department of Agriculture, Govt. of Goa and other stakeholders in the state. Apart from breeder seeds, TL seeds were produced in paddy varieties viz., Jaya, Jyothi, Karjat 3 and Sahbhagi Dhan. Small quantity of TL seed production was taken up in green gram varieties TM 96-2 and IPM 2-14. Participatory seed production involving progressive farmers not only ensures the availability of quality seeds but also provides additional income opportunities for farmers engaged in seed production. Seed production of paddy and ragi varieties was promoted with identified farmers to enhance overall seed availability and facilitate wider adoption of improved varieties.

The details of seed production for the year 2022

Crop	Varieties	Class of seed	Qty (Quintal)
Institute farm			
Paddy	Goa dhan 1	Breeder seed	5.0
	Goa dhan 2	Breeder seed	2.0
	Goa dhan 3	Breeder seed	5.0
	Goa dhan 4	Breeder seed	5.0
	Jaya	Truthfully labelled seed	1.0
	Jyothi	Truthfully labelled seed	0.5
	Sahbhagi dhan	Truthfully labelled seed	1.5
	Karjat 3	Truthfully labelled seed	0.5
Cowpea	Goa Cowpea 3	Breeder seed	2.0
Green gram	TM 962	Truthfully labelled seed	0.5
In farmer's field			
Paddy	Goa Dhan 4	Breeder seed	5.0
	Goa Dhan 3	Breeder seed	3.0
	Sahbhagi Dhan	Truthfully labelled seed	40.0
Rabi	KMR 3	Truthfully labelled seed	5.0
	Total quality see produced at the Institu farm and in Farmers' fiel during 2022/23 year	76.5	

Seed production during Kharif 2022 at the Institute farm and in farmers field at Kanakumbi village and in Gaondongrim village

Geographical land suitability mapping for augmenting coconut production in Goa state

(V Arunachalam, SK Singh, B Das)

Coconut is an important crop of Goa state grown in 25,000 ha of land area. and the productivity is low 5100 nuts per hectare. The value of output in Goa is Rs 225 crores from coconut in a year. Salcette taluk covers 25 % of coconut area in the state. Coconut contributes 0.3 % of state GDP of Goa state. Using geoinformatic tools, suitable locations for coconut cultivation in the Goa state are identified which can be taken for the cultivation of the crop if not done so far. About 383 villages covering 75,622 ha area are identified as moderately suitable for coconut cultivation in the state considering the parameters of soil depth, slope, rooting depth, drainage, water table depth, and soil nutrient status.

Of which, about 100 villages were surveyed for presence and yield status of coconut cultivation. The locations identified are suitable for coconut cultivation but not highly suitable hence appropriate management practices are required to get good yields.

Appropriate management practices were suggested for the moderately suitable location

For new planting

- Spacing of plants at 7.5 m x 7.5 m
- Pits of 1 cubic meter size
- Seedlings of one year with minimum of collar girth 15 cm and 3-4 leaves and preferably split leaves (raised from selected nuts of select mother palms)

For existing bearing gardens

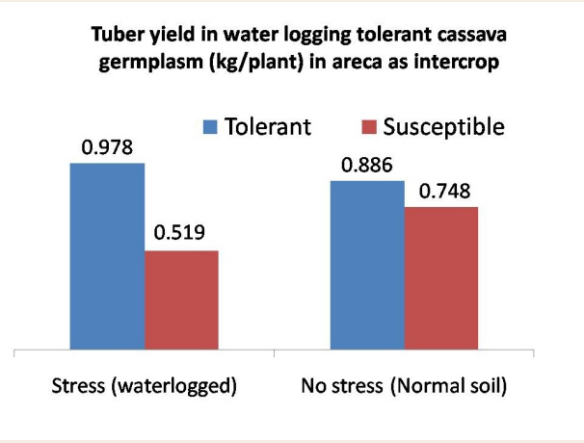
- Integrated nutrient management of each bearing palm each year with 50 kg farm year manure, 500 g nitrogen, 320 g phosphorous, 1200 g potassium, 500 g magnesium sulphate and 500 g Borax, and 150 g Zinc application during April or Sep on a ring or semi ring made at 1-2 m from the stem and 30-60 cm soil depth.
- Palms located in acid soil should be supplemented with agricultural lime application.
- Integrated pests and disease management

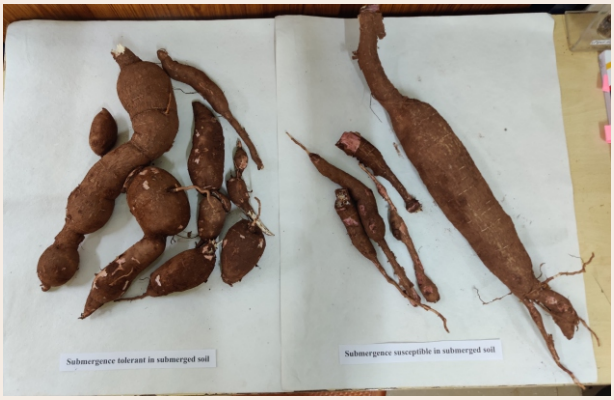
Climate resilient cassava selection with tolerance to water logging and suitable to areca based *Kulagar* systems for flash flood stress

(V Arunachalam)

Cassava also known as tapioca or kappa (Manihot esculenta Crantz) is a tropical tuber crop commonly grown in coastal districts of India. It is a climate resilient crop whose starch rich roots are used for making sabudhana and many industrial products. It is also suitable as a food, feed and as a biofuel crop. Recent years due to aberrations in climate especially the shifts in the pattern of rain fall causing heavy rains in few consecutive days leading to severe floods in major cassava growing districts in 2018, 2019, and 2021 years at Ernakulam District of Kerala, in 2015 at Villupuram, in 2011 at Perambalur and in 2021at Kanyakumari Districts of Tamil Nadu. Due to incessant rains and water logging situation, the cassava crop is harvested prematurely due to low tuberisation by hypoxia. Hence the water logging tolerant cassava genotype is the need of the hour.

A waterlogging tolerant cassava germplasm was obtained from Kerala during the visit during 03-05 September 2018 to flood-affected Ernakulam District where a heavy rainfall was received during 9th – 15th August 2018. Stem cuttings from surviving plants of Tapioca (Cassava) were collected and multiplied. The tolerant genotype was tested in waterlogged soils. A trial was conducted by comparing cassava varieties during Oct 2021 as intercrop in adult Arecanut cv. Mangala garden in a submergence area adjacent to normal soil. About a total of 48 plants were planted with four treatments (submergence tolerant accession in normal soil, submergence tolerant accession submerged soil, submergence susceptible accession in normal soil, and submergence susceptible accession in submerged soil. After 8-12 months of planting, the data on weight of plant, total number of leaves, number of tubers, weight of tubers harvested were recorded. The waterlogging tolerant cassava recorded twice the tuber yield than susceptible check variety in waterlogged condition (Fig. 1) Tolerant genotype produced lesser leaves and heavier tubers (Fig. 2) than susceptible check especially in waterlogged soil.





A methodological framework developed for prioritizing research programmes in coastal agriculture

(Shripad Bhat and Monica Singh)

A thorough understanding of the problems faced by farmers in coastal agriculture is crucial for effectively addressing these issues. A methodological framework was developed that employs a systematic approach encompassing stakeholder identification, consultation, questionnaire design, data collection, continuous feedback mechanism, identification of major problems, and expert ranking to prioritize these problems. This comprehensive methodology ensures an inclusive process for identifying the problems for prioritizing research programmes. During 2021-22, using this framework, a list of 520 stakeholders of coastal agriculture was compiled covering progressive farmers, farmer groups, Farmer Producer Companies/ Organizations, researchers/ academicians, KVK and state government officials and other stakeholders from all the coastal districts and Union Territories (UT). Subsequently a stakeholders' consultation meeting was organized in which 60 participants involving progressive farmers, entrepreneurs, processors, representatives from KVKs of coastal districts, state government officials, Agricultural Research Stations and other stakeholders from Maharashtra, Goa, Karnataka, Kerala, West Bengal and other coastal states participated and provided feedback. With the inputs from stakeholders, an online questionnaire was developed through Google Form covering agriculture & horticulture, animal husbandry & poultry and fisheries sectors. To capture emerging issues effectively, the questionnaire was also hosted on the Institute website to allow continuous feedback from stakeholders, beyond the initial response (https://ccari.res.in/welcome.php). This allows real-time reporting of emerging issues by the stakeholders and enhances agility in addressing these concerns. Data were collected from 69 stakeholders engaged in coastal agriculture from all coastal states and Union Territories. The collected responses were analysed using Garrette's ranking technique to identify the major problems. These major problems were then ranked by experts for prioritizing the research programmes. The findings revealed that weather-related issues, marketing & prices, labour scarcity & higher wages and poor soil fertility & salinity were the prominent problems in the coastal agriculture and horticulture sector. In animal husbandry and poultry sector, major problems included lower productivity/ profitability, unavailability of resilient breeds & repeat breeding and diseases. In fisheries sector, shortage of high-quality fish seeds, weather-related issues and habitat degradation were the major problems. These findings provide valuable insights for effectively prioritizing research programmes.

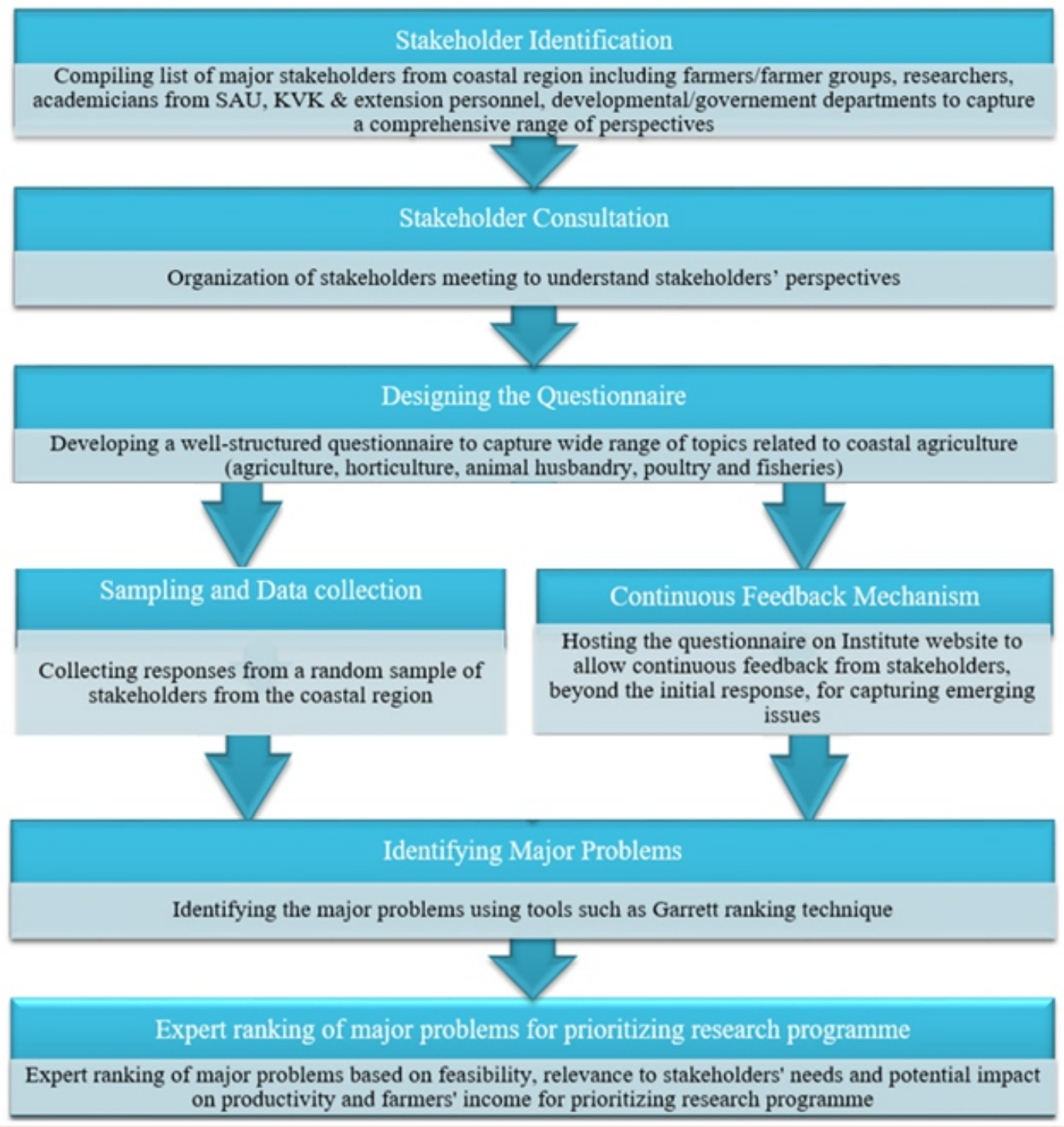
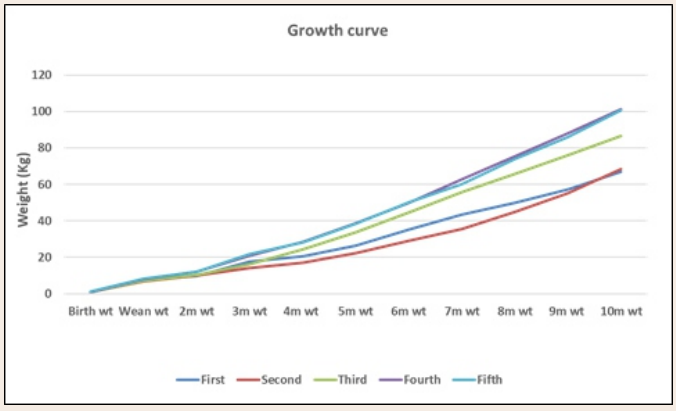


Fig. Methodological framework for prioritizing research programmes in coastal agriculture

Evaluation of crossbred pig performance in intensive system of rearing Generation-wise growth performance

(Amiya Ranjan Sahu)

Crossbreed pigs (75% LWY and 25% Agonda Goan inheritance) of different generations were produced and data on growth and litter traits recorded. The growth performance of improved crossbred pig variety 'Goya' in the fifth generation was 1.051±0.05 kg (n=531) as birth weight, 7.75± 0.47 kg (n=405) as weaning weight and 74.24±5.09 kg (n=74) as marketing weight at eight months of age. The mortality rate was 6.71% in pre-weaning and 4.54% in post-weaning period. The least square means were calculated for body weights till 10 months of age and compared among all the generations.

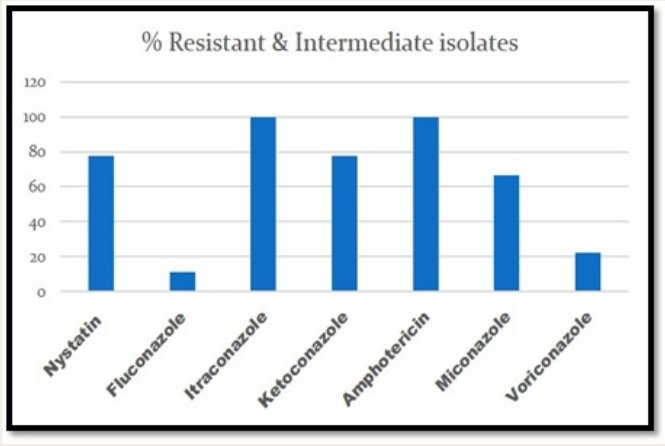


Generation-wise growth performance

Isolation of yeast pathogen from clinical mastitis and study of the antibiotic resistance profile

(Susitha Rajkumar)

A total of 60 milk samples were collected from cows affected with clinical mastitis and were unresponsive to antibiotic treatment. Isolation of bacteria and fungus were attempted. Yeast could be isolated from 12 milk samples. Species identification of yeast pathogens were carried out by *16srRNA* gene using NL1-NL4 primers and identified species were *Trichosporon faecale* and *Rhodotorula muciloginosa*. The isolates were subjected to antibiotic susiceptibility test by Kirby Bauer disc diffusion test on Meuller hinto agar which showed high resistance against antifungal antibiotics.



Sarcoptic Mange infestation in a goat herd in North Goa

(Susitha Rajkumar)

Sarcoptic mange is a highly contagious skin disease which can affect a variety of wild, domestic and farmed animals caused by Sarcoptis mites (*Saroptes scabiei*) and has zoonotic potential. A severe outbreak of mange infestation was reported in a goat farm at North

Goa District in October 2022. The affected farm was visited, skin scraping samples were collected from the animals. A total of 70 goats out of the 100 goats were affected ranging from mild to very severe infestation. The owner was advised for treatment using injection Ivermectin and chlorpheniramine maleate. The skin samples were processed by standard protocol using 10% potassium hydroxide and examined under light microscope. The DNA isolation was carried out from skin samples and subjected PCR targeting cytochrome c oxidase subunit 1 cox1 gene. The microscopic examination revealed presence Sarcoptis mites in the skin scraping. The PCR confirmed the presence of Saroptes scabiei DNA which confirmed that the goat herd suffered from Sarcoptes scabiei infection.

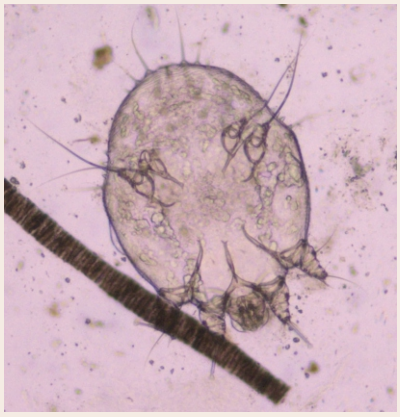


Fig. Goat showing severe infestation on hipregion and Adult Saroptes scabiei mite

Front Line Demonstrations on Paddy Variety Sahbhagi Dhan and Ragi Variety KMR 301

(Manohara KK)

A total of twelve Front Line Demonstrations (FLDs) on the drought-tolerant paddy variety Sahbhagi Dhan were conducted over an area of 4 ha in farmers' fields at Goandongrim and Cotigao villages of Canacona block. The variety recorded grain yields ranging from 45 to 50 q/ha, as against 30 to 35 q/ha in the local check varieties, demonstrating its clear superiority in both grain and straw yield.

Similarly, five FLDs covering 2 ha area were conducted on the ragi variety KMR 301 in farmers' fields at Kanakumbi village. The variety yielded 20 to 22 q/ha of grain, significantly outperforming the local checks, which recorded 10 to 15 q/ha.

Paddy FLD at Gaondongrim village, Goa

Ragi FLD at Kanakumbi village, Goa

Demonstration of Newly Developed Salt-Tolerant Rice Varieties

(Manohara KK)

Demonstration on high-yielding salt-tolerant rice varieties developed at the Institute were laid out for demonstration at the Institute farm and in the Institute rice salinity experimental field at Chorao Island. The demonstration included newly released salt-tolerant rice varieties, namely Goa Dhan 1, Goa Dhan 2, Goa Dhan 3 and Goa Dhan 4. Farmers visited these plots during field days and exposure visits, where they were familiarized with the advantages of these improved varieties over local cultivars. They were also guided on recommended production practices and plant protection measures to achieve better yields under saline conditions.

Demonstration of salt tolerant rice varieties at the Institute Farm

Demonstration of salt tolerant rice varieties at Chorao Island

NEW INITIATIVES

Whiteness index to quantify the color in jasmine flower

(V Arunachalam)

A method to quantify the white color of jasmine flowers is important to discriminate the variety, know the freshness of flower. An attempt was made to quantify the white color of the jasmine flowers using Hunterlab tristimulus colorimeter. The Hunter Lab instrument MiniScanXE model A60–1010–352, of Hunter Associates (USA) is employed to measure the color attributes of flowers viz. 'L' which indicates lightness (100 = white, 0 = black); 'a' which indicates redness/greenness ratio (positive = red, negative = green) and 'b' which indicates yellowness-blueness (positive = yellow, negative = blue).

Whiteness index is calculated using the formula following Gooch (2011).

$$W=100-[(100-L)+(a+b)]$$

About 259 opened flowers of Goan jasmine germplasm in the field gene bank were measured and whiteness index was found to vary from 79.67 to 92.25. Whiteness index has scope in quantifying the flower color (Fig4A jasmine.jpg) in the important ornamental crop of jasmine with varying applications ranging from cultivar identification, freshness of flower, post harvest shelf life.

Gooch, J.W. (2011). Whiteness Index. In: Gooch, J.W. (eds) Encyclopedic Dictionary of Polymers. Springer, New York, NY. https://doi.org/10.1007/978-1-4419-6247-8_12823

EVENTS

Capacity building programme on ornamental fish culture @ AKAM

The Institute organised a capacity building programme on entrepreneurship development and livelihood improvement through training and demonstration of ornamental fish culture with the funding support from NABARD under Azadi Ka Amrit Mahotsav on 2nd July, 2022. A group of 20 fishermen/enthusiasts from Diwar Island, Goa were benefitted with the knowledge on various ornamental fish culture systems and their management. Dr. Parveen Kumar, Director highlighted about the potential of ornamental fish culture as a livelihood option. Dr. Shirish Narnaware, Section In-Charge, Animal and Fishery Science emphasized the role of local communities'/ self-help groups in promoting the ornamental fish culture as an income source. Shri. Trivesh Mayekar, Scientist (Fish genetics and breeding) highlighted about the project. The invited speakers were Dr. TT Ajith Kumar, Principal Scientist, ICAR-NBFGR, Kochi, Dr. Nitin Sawant, Fisheries Scientist, Fisheries Farm, Mulde, Dr. BSKKV, Dapoli and Dr. Hrishikesh Pawar, SMS, KVK South Goa. The participants were given exposure to the ornamental fish hatchery of the institute including wet lab, fisheries aquarium, breeding and rearing sections and fisheries pond facility. Shri. Trivesh Mayekar, (Fish genetics and breeding) and Dr. Sreekanth GB, Scientist (Fisheries resource management) co-ordinated the training program.

भा.कृ.अनु.प. केन्द्रीय तटीय कृषि अनुसंधान संस्थान गोवा के राजभाषा संबंधी कार्यों का निरीक्षण

राजभाषा विभाग, गृह मंत्रालय , भारत सरकार द्वारा निर्धारित लक्ष्यों के अनुपालन के संबंध में परिषद मुख्यालय के राजभाषा निरीक्षण दल द्वारा भा.कृ.अनु.प. केन्द्रीय तटीय कृषि अनुसंधान संस्थान गोवा के राजभाषा संबंधी कार्यों का निरीक्षण दिनांक 04.07.2022 प्रातः 10.30 बजे संस्थान के निदेशक (कार्यकारी) डॉ अ. रायज़ादा एवं राज भाषा समिति के सदस्यों के उपस्थिति में किया गया। निरीक्षण दल द्वारा संस्थान के राजभाषा संबंधी कार्यों को सराहा गया तथा संस्थान के प्रशासनिक कार्यों में और अधिक हिन्दी के प्रयोग करने के लिए सुझाव दिए गए।

Training on turmeric cultivation and processing @ AKAM

A training programmes was organized by ICAR-CCARI, Goa and ICAR- KVK, North Goa on turmeric cultivation and value addition at ICAR-KVK, North Goa on 11 July, 2022 under Azadi ka Amrit Mahotsav. The training programme was attended by state agriculture department officials and farmers from all the zones. Dr. A.R. Desai, Principal Scientist, Horticulture gave lecture on cultivation and processing of turmeric and also explained on different machineries required for processing of turmeric. Total 45 participants attended the programme.

National Campaign on "Emerging Aquaculture Systems and Practices" @AKAM

Under TSP programme, 21 nos. of beneficiary farmers were distributed with 88 crossbred piglets, 500 kgs of grower feed, medicinal supplements, feed storage drums (50 nos.) weighing balances (10 nos.). Under, SCSP programme, seven beneficiary farmers were distributed with 13 breeding sows.

ICAR-CCARI, Goa inks MoA with a-IDEA, NAARM, Hyderabad

The Institute signed the Memorandum of Agreement (MoA) with Association for Innovation Development of Entrepreneurship in Agriculture (a-IDEA), Technology Business Incubator of ICAR -NAARM, Rajendranagar, Hyderabad, Telangana on 8th July 2022. Dr. Parveen Kumar, Director, ICAR-CCARI, Goa underlined the main objective of the MoA which aims at mutual cooperation for accessing the laboratory infrastructure facilities and mentoring under incubation programmes of a-IDEA, NAARM. Both the parties recognised their respective strengths and mutually agreed to co-operate for accessing the laboratory infrastructure facilities and mentoring under the Incubation programme of a-IDEA, NAARM which aims to promote entrepreneurship in agriculture and allied sectors. The MoA will be valid for a period of three years. The ITMU & PME Cell of the Institute facilitated in signing this MoA.

94th ICAR Foundation Day Celebration @AKAM

ICAR- CCARI, Goa and ICAR-KVK, North Goa organized web casting programme on the eve of 94th ICAR foundation day at Surla village under Azadi ka Amrit Mahotsav. Mr. Gopal Surlekar, Zilla Panchayath member and chief guest, congratulated the ICAR team on conducting the awareness programme in Surla village, and urged farmers to take full advantage of the various training programmes organized at ICAR-CCARI, Goa. Mrs. Sunetra Talualikar (SMS, Home Science) educated the attendees about the need of secondary agriculture for sustainability and the need of creating value-added goods from locally accessible fruits. Dr. Monica Suresh Singh (SMS, Agri. Extension) greeted all participants and provided a brief presentation on organic farming, kitchen gardens, and other training programmes offered by ICAR-CCARI and ICAR-KVK, North Goa. Mr. Rahul Kulkarni (Assistant Chief Technical Officer, Soil Science) discussed on soil sampling, soil testing, the importance of organic farming, jeevamruth, and vermicompost. A group of 75 progressive women farmers including various self-help groups participated in this programme. The participants were given seed kits for promoting nutrition garden. Mr. Vishwajeet Prajapati (Technical officer, Computer) provided technical advice, while Mrs. Shishira D (SRF, NICRA) proposed vote of thanks.

Distribution of improved variety of Poultry germplasm to tribal farmers of Goa under scheduled tribe component (STC)

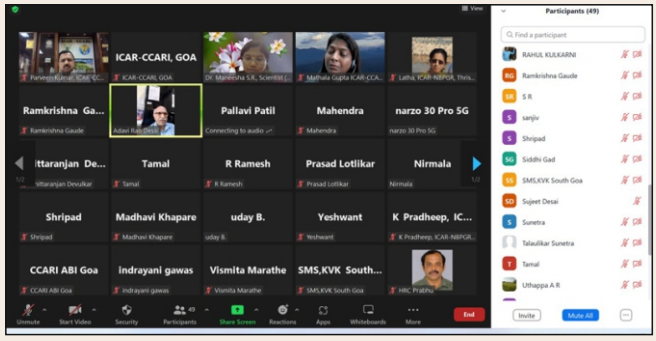
The Institute conducted a distribution programme under scheduled tribe component (STC) for tribal farmers of Goa on 19th July 2022. Dr. Parveen Kumar, Director, ICAR-CCARI, Goa addressed the farmers about importance of backyard poultry farming in goa. Dr. Shirish Narnaware, Senior Scientist and In-charge (Animal Science and Fishery Science) also interacted with the farmers for sustainable poultry production. Total 14 numbers of farmers from divar, shiroda, pedne, tiswadi areas of Goa received germ plasm including CARI- Debendra grower birds, quails and fertile eggs and poultry feeder and waterers. Extension folders were distributed among farmers. Dr. Nibedita Nayak, Scientist (Poultry science) co-ordinated the programme and briefed about poultry husbandry in different seasons.

Organization of Animal Health and Infertility camp

Institute organized an Animal Health and Infertility camp at Cattle Breeding Farm, Copardem, Valpoi on 19th July, 2022. Camp was organized in collaboration with the officials of Directorate of Animal Husbandry and Veterinary Services, Government of Goa. Team of scientists from the Institute interacted with the officials and provided technical guidance on diseases diagnosis, health and reproductive management of cattle. Animals were examined and blood and other biological samples were also collected for disease diagnosis and assessing the health status of the herd stock. Clinico-gynaecological examinations were also performed in selected animals. Dr. Shirish D Narnaware, Dr. Gokuldas P.P., Dr. Susitha Rajkumar coordinated the programme.

Stakeholders meet on kokum and Jackfrui' @AKAM

ICAR-CCARI, Goa organized a Stakeholders meet on Kokum and Jackfruit on 22nd July 2022 in zoom platform under Azadi ka Amrit Mahotsav. Dr. Parveen Kumar, Director, ICAR-CCARI emphasised the relevance of kokum and jackfruit crops in his introductory remarks and explained the research activities carried out by ICAR-CCARI in these crops. Around 50 participants from different coastal states interacted in the meeting and expressed the research and promotional needs in these crops. Dr. A.R. Desai, Principal Scientist (Hort.), ICAR-CCARI, Goa; Dr. Pradip Sarmokadam, Member Secretary, Goa State Biodiversity Board; Dr. M. Latha, Principal Scientist (Plant Breeding) & OIC, ICAR-NBPGR, Thrissur; Mr. Shree Padre, Editor (Adike Patrike) interacted along with scientists and researchers from various ICAR institutes, state agricultural universities, extension officers from KVKs and state agricultural departments and farmers. Dr. A.R. Desai, Principal Scientist (Hort.), ICAR-CCARI, Goa gave concluding remarks and the meeting ended by vote of thanks given by Dr. Maneesha SR, Scientist (Fruit Science), ICAR-CCARI, Goa.



Farmers' Field Day under ICAR-AICRP on Pig

ICAR-CCARI, Goa organized a field day for piggery farmers on 27th July 2022 under ICAR-AICRP on Pig. Dr. Amiya Ranjan Sahu (Scientist and P.I. of the project) and Dr. Shripad Bhat (Scientist, Agri. Economics) visited the progressive pig farmers' fields in Agassaim and Cortalim villages of Goa. Awareness among the farmers was created for scientific pig rearing emphasizing nutritional, breeding, reproductive management and on pig diseases especially Swine Fever disease. The stocks (around 200 nos. of pigs) in the aforementioned villages were vaccinated with the Classical Swine Fever (CSF) vaccine. Blood samples were collected to study the pre-CSF and post-CSF titre content. The farmers were also provided with deworming medicines (around 250 doses) for pigs. Feedback and data on the impact of interventions implemented by the Institute were also collected from pig farmers.

Van Mahotsav celebration @AKAM

The Institute and the ICAR – Krishi Vigyan Kendra (KVK), North Goa celebrated the Van Mahotsav on 01 August, 2022 in collaboration with the Forest Department Goa under the Azadi Ka Amrit Mahotsav. Shri Rajiv Kumar Gupta, IFS, Principal Chief Conservator of Forests, Goa was the Chief Guest of this function. Dr. Parveen Kumar, Director of ICAR-CCARI, Goa welcomed the guests. Tree planting was done in the newly developed field in the B block by the Chief Guest, Shri Rajiv Kumar Gupta, Dr. Parveen Kumar, staff of ICAR-CCARI and Forest Department, Goa. The Chief Guest visited the lab and experimental fields of the Institute and appreciated the Institute for its good work. A total of 100 participants were present on the occasion and actively participated in the tree seedling planting of Sandalwood (*Santalum album*), Red Sanders (*Pterocarpus santalinus*) and Malabar Neem (*Melia dubia*). The programme was coordinated by Dr. A. Raizada, Principal Scientist (Agroforestry) and Dr. Uthappa, A.R., Scientist (Agroforestry).

76th Independence Day celebration @AKAM

The Institute celebrated the 76th Independence Day with traditional fervor, gaiety and great enthusiasm under Azadi ka Amrit Mahotsav. Dr. D.C Verma, MLA, Meerganj, Uttar Pradesh and Dr. Vinod Tiwari, Retd Principal Scientist, Directorate of Wheat Research, Karnal, Haryana were the Special Guests for the function. In the welcome address, Dr. Parveen Kumar, Director ICAR- CCARI, Goa welcomed the guests and in detail explained the importance of celebrating the Azadi ka Amrit Mahotsav. He emphasised that, India has achieved many milestones in last 75 years and major contributions were in the fields of food security, white revolution, space research, nuclear power and health infrastructure. In his speech, he also gave the scientific directions and vision for the next 25 years (Amrit Kal). Dr. D.C. Verma in his speech remembered India's glorious past and its achievements especially in the field of education. Dr. Vinod Tiwari, appreciated the achievements of the Institute and urged the staff to work towards fulfilling the ICAR Vision of 2050. During the programme, the Director felicitated the staff of the Institute who had immensely contributed for the development of the institute. The dignitaries also distributed prizes to the winners of Annual ICAR-CCARI Games-2022. A cultural programme on this occasion was also organized at the Institute in which the children of Institute staff actively participated and performed various activities like patriotic songs, dance, speeches and fancy dress of patriotic leaders. Around 200 people participated in this program. The program was coordinated by the Institute Staff Recreation Club.

Training-cum-Demonstration on "Scientific Breeding Practices in Poultry Husbandry" organized under the STC Program

A one-day training and demonstration program on "Scientific Breeding Practices in Poultry Husbandry" was conducted at - ICAR-CCARI, Goa under the STC Program on 11th August 2022. The training was attended by a total of 12 farmers from Tiswadi and Salcete talukas. In his inaugural address Director Dr. Parveen Kumar emphasized on development of suitable breeds and package of practices for backyard poultry farming in coastal region. In first session, Dr. Shirish Narnaware (I/C, Animal and Fisheries section) and Dr. Susitha Rajkumar (Vet. Pathology) delivered insightful lectures on bacterial and viral diseases of poultry, their diagnosis and management, respectively. This was followed by a practical demonstration on breeds of poultry, their important characteristic features and different systems for mating by Dr. Amiya R. Sahu, Scientist (Animal Genetics and Breeding). Two practical demonstrations were performed in the second half. Dr. Gokuldas P.P. demonstrated semen collection and artificial insemination in poultry. Scientific practices in poultry farm operations, feed preparation and sexing of chicks was demonstrated by Dr. Nibedita Nayak. Various Hatchery operations and candling of eggs were explained to the trainees. Visit to institute duck farm and integrated farming system with poultry

component were also arranged. The training concluded with an interactive session with the farmers and felicitation of the farmers. Dr. Nibedita Nayak, Scientist (Poultry Science) and Dr. Gokuldas PP., Senior Scientist (Animal Reproduction) acted as training coordinators of the program.

World Coconut day celebration

World coconut day was celebrated at ICAR-CCARI, on 05 Sep 2022 Goa under AICRP on Palms and Schedule Tribe Component. During the event twenty two farmers, farm workers, padelis participated in the event. Dr. Parveen Kumar, Director ICAR-CCARI chaired the inauguration meeting stressed the need for enhancing productivity of coconut palms in Goa state and listed serious pests affecting the crop. The inauguration was followed by short lectures on pest management by Dr. R Maruthadurai, Senior Scientist (Ag. Entomology) and on disease management by Dr R. Ramesh, Principal Scientist (Plant Pathology). The trainees visited the experimental fields and nursery of the institute, Coconut-fodder plot and the virgin coconut oil plant at ICAR-KVK. Participants also attended demonstration of coconut climbing device. Dr. V. Arunachalam, Principal Scientist (Horticulture) and Scientist in charge AICRP (Palms) Goa centre, organized the event with the help of Ms. Sunetra Talaulikar SMS (Home Science) ICAR-KVK, North Goa.

33rd Institute Research Council (IRC) Meeting

The 33rd Institute Research Council (IRC) meeting was held from 22-26th August 2022. In the inaugural remarks, Chairman, IRC and Director, Dr. Parveen Kumar, briefed the house about the Institute achievements in the last one year. He appreciated the efforts of the Scientists for bringing externally funded projects from different funding source. He also apprised the house about different awards and accolades received by the Institute and Scientists of the Institute. He advised the Scientists to be focussed, and to take up demand driven and need based research which will benefit the farmers of the coastal ecosystem. He also informed the house to take technologies in the targeted areas. Dr. K.P. Ramesha, Principal Scientist and Head, ICAR-NDRI, Bengaluru, was present on the first day of the meeting as special invitee to review the ongoing institute and externally funded projects in animal sciences and fisheries section. During the meeting, the project PIs presented the progress of work done under their respective Institute and externally funded projects. The work done under STC programme of the institute was also reviewed for the information of the house. The plan of work were discussed thoroughly and modified wherever required before being approved by the house. Dr. Manohara, K.K., member secretary, IRC thanked Director and all the Scientists for their cooperation in the successful completion of the meeting.

संस्थान में हिंदी पखवाड़े का आयोजन

संस्थान में 06 सितंबर 2022 को हिंदी पखवाड़े का उद्घाटन समारोह संपन्न हुआ। संस्थान के माननीय निदेशक महोदय डॉ. प्रवीण कुमार ने इस कार्यक्रम का उद्घाटन दीप प्रज्वलन से किया। सभा को संभोदित करते हुए निदेशक महोदय ने हिंदी पखवाड़ा एंव हिंदी दिवस का महत्व बताते हुए कहा कि हिन्दी विश्वभर दूसरी सबसे ज्यादा बोले जाने वाली भाषा है । उन्होंने संस्थान के सभी कार्मिकों को खुले मन से राजभाषा को अपनाने एवं उसकी प्रयोग को बढ़ाने केलिए प्रोत्साहित किया। इसके अतिरिक्त मंच पर उपस्थित प्रशासनिक अधिकारी श्रीमति मोंटीया रीता डिसिल्वा ने हिंदी भाषा के विषय में अपने मौलिक विचार सभा में रखे और प्रशासनिक कार्यों में हिन्दी की प्रतिदिन हो रहे बढोत्तरी के बारे में बताया तथा संस्थान के राजभाषा कार्यान्वयन को सराहा । इस संस्थान की राजभाषा अधिकारी डॉ० मतला जूलियट गुप्ता ने सभा में उपस्थित सभी को हिंदी पखवाड़े के कार्यक्रम का विवरण देते हुए आयोजित की जाने वाले विविध प्रतियोगिताओं के बारे में अवगत कराया । उन्होंने सबको प्रतियोगिताओं में उत्साह से भाग लेने केलिए अनुग्रह किया । तदुपरान्त कर्मचारियों के बच्चों के लिए प्रतिभा दर्शन एवं चित्रकला प्रतियोगिता का आयोजन किया गया था। संस्थान के सभी वर्ग के कर्मचारियों के बच्चो ने इस प्रतियोगिता में उत्साहपूर्वक भाग लिया। संस्थान के सहायक श्री० विश्वास शर्मा के धन्यवाद प्रस्ताव के साथ कार्यक्रम की समाप्ति हुई ।

Inauguration of Small-Scale Dairy Processing Unit established in collaboration with KVASU under STC fund for the skill development of Tribal Farmers of Kerala

The established a Small-Scale dairy processing unit at Vaniyampara Village of Thrissur District of Kerala in collaboration with Kerala Veterinary and Animal Sciences University (KVASU), for the skill development of Scheduled Tribe farmers of Coastal Districts of Kerala. The Small-Scale Dairy Processing Unit was inaugurated on 19th September 2022 in the august presence of Prof. M.R. Saseendranath, Hon'ble Vice Chancellor, KVASU, Dr. Parveen Kumar, Director, ICAR-CCARI, Goa and other dignitaries form KVASU and the local village panchayat. The Director, ICAR-CCARI along with the team of scientists visited the tribal hamlets and interacted with the farmers to get the first-hand information on the socio-economic status and research intervention needs of the scheduled tribes of Kerala. In continuation to the inauguration, skill development programs were conducted in different batches for the tribal farmers of seven tribal hamlets of Thrissur district on "Value added Milk Products" at the Department of Dairy Technology, Varghese Kurien Institute of Dairy and Food Technology (VKIDFT), Mannuthy, Kerala. The skill development program was jointly coordinated by Smt. Divya, K.B, Assistant Professor, Dr. Anu George, Assistant Professor, Dr. Justin Davis (Assistant Professor) from KVASU and Dr. R. Solomon Rajkumar (Senior Scientist) and Dr. Udharwar Sanjaykumar (Subject Matter Specialist) from ICAR-CCARI, Goa under the guidance of Dr. T.S. Rajeev, Director of Entrepreneurship, KVASU, Wayanad, Kerala.

ICAR-CCARI, Goa inks MoA with Milestone Resorts, Goa for promoting agro-ecotourism

ICAR-CCARI, Goa signed a Memorandum of Agreement (MoA) with the Milestone Resorts, Candolim, Goa for promoting agro-ecotourism.

As per the MoA, the Institute will undertake the contract research on the "Assessment of agro-ecotourism conceptual framework models in an island ecosystem of Goa". On the occasion, Dr. Parveen Kumar, Director, ICAR-CCARI, Goa emphasized that this association will have a synergistic impact on the development of agro-ecotourism entrepreneurship. Mr. Anubhav Sharma, Director, Milestone Resorts, Goa shared that his firm is aiming to create a model demonstration unit for promoting agro-ecotourism entrepreneurship in the state of Goa with technical guidance from ICAR-CCARI, Goa. The MoA will be valid for a period of three years. The ITMU and PME Cell of the Institute facilitated in the signing of this MoA.

Tribal empowerment program and distribution of fishing traps to traditional fishermen/women of Goa

In order to support the fishermen/women of the Divar Island, North Goa a program was organized on 30th September, 2022 in which twenty estuarine fish traps and posters of fisheries resources were distributed to twenty tribal fishermen/women under Scheduled Tribe Component. During the occasion, Dr. A. Raizada, Director (In-Charge), ICAR-CCARI appreciated the efforts of fishermen in supporting the institute to document, conserve and manage the fishery of the island. Dr. Shirish Narnaware, Senior Scientist (Veterinary Pathology) and Section-In-Charge, Animal and Fishery Science ensured the complete co-operation from the institute for research and extension activities in the Island. The fisheries scientists of ICAR-CCARI; Dr. Sreekanth GB, and Shri. Trivesh Mayekar, demonstrated the operation of the trap in the estuarine waters. The fishermen also operated the local fishing gears to demonstrate the type of common fish species caught from the island. The traps were distributed to the beneficiaries. The fishermen/women also appreciated the efforts of the institute in improving the fishing conditions, income and livelihood and highlighted important issues in fishing that result from the natural and anthropogenic stressors. They also assured continued participation in the research and development activities of the institute. The programme was co-ordinated by Dr. Sreekanth GB, Shri. Trivesh Mayekar, Dr. Shirish Narnaware, and Dr. Paramesha V, Scientist (Agronomy) & STC Nodal officer.

Rabies awareness program on World Rabies Day

World Rabies day is celebrated to raise awareness about rabies prevention and highlight progress in defeating the disease annually on 28th September on the death anniversary of Louis Pasteur. ICAR-CCARI in collaboration with Mission rabies India conducted a rabies awareness program for the Institute staff on 29th September. Dr.Murugan Appupillai, education director, Mission Rabies India was the chief guest and he has given a talk on Rabies awareness. He briefed the audience about the activities carried out by Mission rabies India in Goa and explained in detail how rabies disease occurs after a dog bite and the measures to prevent the disease. Also, he spoke about measures to control the stray dog population and how to avoid dog bites. Staff from Mission Rabies Goa demonstrated measures to be taken to avoid dog bites in situations when the dogs attack people. Dr. A. Raizada, Principal Scientist and Director in charge, also explained the importance of the disease and the need for preventive measures. Dr. Shirish D. Narnaware, Head, Animal and Fisheries Science Section spoke about the seriousness of the rabies disease and the importance of World Rabies Day. The program was attended by staff including scientists, technical officers, supporting staff, and

contractual staff. The scientists had interaction with the chief guest about rabies disease in livestock. Dr. Shirish D. Narnaware, and Dr. Susitha Rajkumar, Senior Scientist coordinated the program.

Ethnic egg recipe competition on the occasion of World Egg Day

Signifying the importance of ethnic foods meeting nutritional requirements, as well as binding identities and cultures, an ethnic egg recipe competition was organized at ICAR-CCARI on 14th October 2022 the occasion of World Egg Day 2022. A total of 20 ethnic recipes were presented and judged for the best recipes. On this occasion, a lecture on "Eggs for better life" was delivered by Dr. R. Solomon Rajkumar, Senior Scientist (Livestock Products Technology) highlighting their versatility and the benefits they bring to people of all ages. During the valedictory function, Mrs. Varsha Naik, Faculty of Food Science, Nutrition and Dietetics, Goa College of Home Science emphasized the "Eat right" concept of a balanced diet and especially the inclusion of eggs in the right proportion. Dr. Parveen Kumar, Director, ICAR-CCARI reminded the gathering that an egg is excellent in terms of nutritional content as well as affordability.

Web casting of PM Kisan Samman Sammelan

The Institute and ICAR – Krishi Vigyan Kendra, North Goa organized webcasting of Kisan Samman Sammelan" programme organized at ICAR – IARI, New Delhi on 17th October, 2022 at Sanquelim Municipal Council Hall, Sanquelim. Shri Vinay D. Tendulkar, Hon'ble Member of Parliament, Rajyasabha, was the Chief Guest and in his address highlighted the different central Agricultural Schemes like Kisan Samman Nidhi, PM Fasal Bima Yojana, etc. and also appreciated the efforts of ICAR – CCARI, Goa and ICAR – KVK, North Goa in transferring different technologies to the farmers. Shri Kundan Fulari, Chairperson, Bicholim Municipal Council advised the farmers to take the benefit from ICAR- CCARI, Goa. Dr. Parveen Kumar, Director, ICAR – CCARI, Goa, spoke on the technologies developed by the institute for the farmers. Shri H.R.C. Prabhu, Sr.

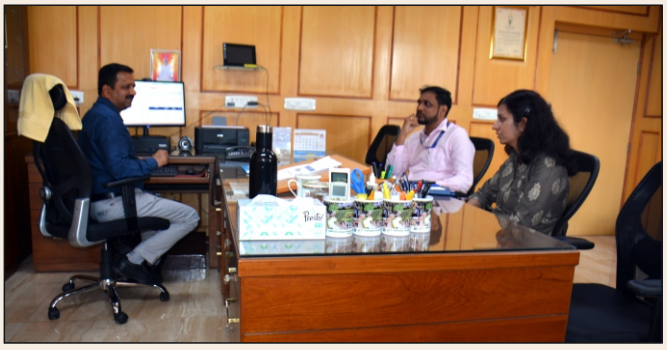
Scientist and Head Incharge, ICAR – KVK, North Goa in his welcome address briefed about various KVK activities. During the webcasting all the farmers witnessed the address by Hon'ble Prime Minister. The programme was attended by 168 farmers & farmwomen and councilors of Sanquelim and Bicholim. During the programme progressive farmers shared their experience with other farmers and farmwomen. Shri Kabir Shirgaonkar, Chief Officer, Sanquelim Municipal Council gave vote of thanks and programme was compered by Shri Rahul Kulkarni, Assistant Chief Technical Officer. This programme was coordinated by Smt. Sunetra Talaulikar, Subject Matter Specialist (Home Science) and documented by Shri Vishwajeet Prajapati, Technical Officer

Vigilance Awareness Week celebration at the Institute

The Vigilance Awareness Week was celebrated at the Institute from 31-10-2022 to 6-11-2022. The theme of Vigilance Awareness Week was "Corruption-free India for a Developed Nation"; “भ्रष्टाचार मुक्त भारत - विकसित भारत ।” An online integrity pledge was administered to all the staff members and banners were displayed at various places in the premises on 'Vigilance Awareness Week' on 31-10-2022. Distribution of pamphlets on vigilance awareness and campaign about corruption-free India for a Developed Nation was carried. A vendors' meet was held at Institute on 01-11-2022. An essay writing competition relating to anti-corruption for all the staff and drawing competition for Children were held on 02-11-2022. An awareness program against corruption was conducted at Karmali Village, Goa on 02-11-2022 and lectures on awareness against corruption was held in Goa College of Agriculture, Old Goa and Old Goa Panchayat on 3rd and 4th November.

Five days training program for IAS Probationer

ICAR-CCARI conducted five days training program from 31.10.2022 to 04.11.2022 for Ms. Mahima Madan, IAS (AGMUT, 2021), Assistant Collector, North Goa (on probation) with respect to research programs of ICAR with special emphasis on the economics of Goa agriculture. Dr. Parveen Kumar, Director, ICAR-CCARI, Goa welcomed the probationer and briefed her about the genesis and research highlights of the Institute followed by visits to various sections and KVK of the Institute. As part of the training program, the probationer has been exposed to the predominant farming practices of Goa at the farmer's fields. During the field visits, the probationer interacted with the farmers and learned about Kulaghar, intercropping in cashew, coconut, and mango gardens, cropping in salt-affected soils, estuarine fish culture, and agro-ecotourism. The training program was coordinated by Dr. R. Solomon Rajkumar, Senior Scientist and Dr. Shripad Bhat, Senior Scientist with the technical assistance of Shri. Rahul Kulkarni, Assistant Chief Technical Officer.



International Training Program on Diversification of Coastal Agroecosystems for Climate Resilience and Livelihood Security

The Institute in collaboration with Center for International Forestry Research (CIFOR) and World Agroforestry (ICRAF) organized an International Training Program on "Diversification of Coastal Agroecosystems for Climate Resilience and Livelihood Security" during 07 to 11 November 2022. Dr Suresh Kumar Chaudhari, Deputy Director General (Natural Resource Management), ICAR, New Delhi was the Chief Guest of the inaugural function. Dr Parveen Kumar, Director, ICAR-CCARI welcomed all the dignitaries and delegates of the training programme. Dr Javed Rizvi, Director, CIFOR-ICRAF, Asia, Dr Chandrashekhar Biradar, Country Director, CIFOR-ICRAF, India Dr Shiv Kumar Dhyani, Country Coordinator, CIFOR-ICRAF and Dr A. Arunachalam, Director, ICAR-Central Agroforestry Research Institute, Jhansi, Uttar Pradesh were the Guest of Honours. On the occasion, Coastal Agricultural Information System (CAIS) developed by ICAR-CCARI was also launched by DDG (NRM). Dr. Aqeel Rizvi, CIFOR- ICRAF, New Delhi, Co-Course Director of the training programme proposed the vote of thanks and Dr Uthappa A. R., Scientist (Agroforestry) and Co-Course Director of the training programme compered the programme. The training was attended by 8 foreign and 6 national participants physically from India, Bangladesh, Sri Lanka, Indonesia, Maldives and Vietnam. Shri Mahesh Patil, Goa State Pollution Control Board, Govt of Goa was the Chief Guest of the valedictory function. Dr. Parveen Kumar, Director ICAR-CCARI, Goa in his welcome address stressed upon the importance of diversification in agricultural systems to fight climate change and to attain sustainable income. Dr. Shiv Kumar Dhyani, Country Coordinator, CIFOR-ICRAF, New Delhi gave a brief summary of the five days training program to the gathering.

भाकृअनुप - केन्द्रीय तटीय कृषि अनुसंधान संस्थान में राष्ट्रीयस्तर पर हिन्दी कार्यशाला का आयोजन

भाकृअनुप - केन्द्रीय तटीय कृषि अनुसंधान संस्थान में दिनांक 15.11.2022 को हिन्दी कार्यशाला का आयोजन ऑनलाइन माध्यम द्वारा किया गया था, इस कार्यशाला का विषय "कार्यालय संचालन में राजभाषा का योगदान" और इस विषय के मार्गदर्शक वक्ता थे , श्री राजीव रंजन, मुख्य जनसम्पर्क अधिकारी – हरियाणा पावर यूटिलिटीस हरियाणा सरकार । इस संस्थान की राजभाषा अधिकारी श्रीमति मतला जूलिएट गुप्ता ने कार्यशाला में उपस्थित सभी का स्वागत किया । माननीय निदेशक महोदय डॉ. प्रवीण कुमार ने इस कार्यशाला के मुख्य वक्ता का परिचय उपस्थित मान्यवरों को कराया। श्री. राजीव रंजन ने अपने संबोधन में कहा की हिन्दी हमारी राजभाषा ही नहीं बल्कि मातृभाषा भी है। हिन्दी भाषा को माता का दर्जा देते हुए उन्होने एक महत्वपूर्ण बात पर ज़ोर दिया की वैज्ञानिक संस्थानो में जो भी कार्य एवं तकनीकी आविष्कार होते है उसके मुख्य लाभार्थी किसान भाई-बहन है, अगर तकनीकी जानकारी हिन्दी जैसी सरल भाषा में हो तो वे नयी तकनीकी को सहजता से अपना सकेंगे। अंत में उन्होने राजभाषा के महत्व पर सरलता एवं सहजता से प्रकाश डाला। श्रीमति सीमा चोपड़ा - पूर्व निदेशक महोदया, राजभाषा विभाग नई दिल्ली से इस कार्यशाला में ऑनलाइन माध्यम से जुड़ी। इस कार्यशाला में हमारे संस्थान के 80 अधिकारियों/कर्मचारियों एवं देश के अन्य आईसीएआर संस्थानों से 40 अधिकारियों/कर्मचारियों ने भाग लिया था। कार्यशाला के अंत में संस्थान के माननीय निदेशक महोदय ने सभी को धन्यवाद दिया।

Hon'ble Governor of Goa launched 'Rejuvenation of khazan lands' implemented by ICAR-CCARI, Goa

A program was organized by the agriculture and food processing committee of Goa Chamber of Commerce and Industry (GCCI) on 19th November 2022 for the launch of research project for Rejuvenation of Khazan lands (coastal saline soils) of Goa being implemented by ICAR-CCARI, Goa. Shri P.S. Sreedharan Pillai, Hon'ble Governor of Goa was the chief guest of the program. He congratulated the ICAR-CCARI team for initiating the project and NABARD for funding the project. After the launch of the project, Dr. Parveen Kumar, Director briefed the chief guest about the project benefits to Goan farmers and Goan agriculture and landscape. On this occasion Hon'ble Governor also released a book "The Khazans of Goa" authored by Shri. Sandeep T. Nadkarni, Ex-Chief Engineer, Water Resource Department, Goa. Mr. Ralph de Souza, President, GCCI delivered the welcome address. Mr. Orlando Rodrigues, Chairman, Agriculture and food processing committee, GCCI in his address mentioned that out of 19000 ha Khazan area in Goa, less than 2000 ha is under cultivation and therefore this traditional farming practice of Goa needs to be restored and protected with suitable interventions like Integrated Framing System based on the scientific studies. The program was attended by the project team of ICAR-CCARI Scientists, officials of different line departments, farmers, stakeholders etc. The vote of thanks was proposed by Mr. Sanjay Amonkar, Director General, GCCI, Goa.

Interaction Meeting with ADG (IP&TM)

Dr K. Srinivas, Assistant Director General (Intellectual Property & Technology Management) visited ICAR-Central Coastal Agricultural Research Institute, Goa and interacted with the scientists about IPR and ABI related issues including ICAR branding. He emphasized on advertising about institute technologies in social media platforms like Instagram and LinkedIn. He has also discussed about how to increase the revenue generation out of the institute technologies. He has suggested to register the startups incubated under ICAR-CCARI ABI unit in Startup India Portal. Dr. Parveen Kumar, Director, ICAR-CCARI thanked Dr K. Srinivas for his continuous help and support extended to ICAR-CCARI. Dr. Gokuldas P.P., Senior Scientist (Animal Reproduction) presented the progress and activities of Institute Technology Management Unit (ITMU), ICAR-CCARI. Dr. R. Solomon Rajkumar, Senior Scientist (Livestock Products Technology) presented about the progress of Agri-Business Incubation Centre (ABI) of ICAR-CCARI. Smt. Montia Rita D'Silva, Administrative Officer proposed the vote of thanks.

Training Programme on "Improved Production and Processing technology of Cinnamon" for farmers

A Training Programme, on Improved Production and Processing technology of Cinnamon, sponsored by Directorate of Arecanut and Spices Development (DASD), Kozhikode, Kerala under Mission for Integrated Development of Horticulture (MIDH) was organized at ICAR-CCARI, Old Goa on 29th November 2022 for creating awareness about the potential for commercial cultivation of true cinnamon. Dr. Parveen Kumar, Director, ICAR – CCARI, Goa, in his inaugural remarks highlighted the scope for commercial cultivation and the health benefits of true cinnamon and he urged the farmers to foresee and realize the potential future for cinnamon. Dr. V. Arunachalam, Principal Scientist & In-charge, Horticulture Section, welcomed the dignitaries and participants. Forty-five participants comprising of young graduates, spice farmers and the enthusiastic entrepreneurs alike were imparted the training for promoting cultivation of cinnamon for reaping the benefits in the years ahead. The resource person, Dr. Subramanian P., Principal Scientist (Agron.), ICAR-CPCRI, Kasargod, enlightened the participants about all the aspects of improved production technology, especially, the Pentagon High density model for intercropping of cinnamon in coconut gardens for additional returns for sustainability of coconut gardens. The programme included both technical and practical sessions on various aspects like production, propagation, bark extraction and processing of cinnamon leaf and bark was coordinated by Dr. A.R. Desai, with help of Dr. Sachin Tendulkar and Mr. Sanjeev Cuncolienkar, the progressive farmers, who were instrumental in planning the training. The technical information imbibed by the participants of the training programme was evident in the feedback presented by the participants.

World Soil Day celebration

ICAR celebrates 'World Soil Day' on 5th December 2022 at ICAR-CCARI, Goa. The theme of World Soil Day for the year 2022 is 'Soils: Where food begins'. Dr. Parveen Kumar, Director, ICAR-CCARI welcomed all the dignitaries, staff of ICAR and farmers. In his welcome address, he briefed about the history behind celebrating World Soil Day. Shri Shripad Yesso Naik, Ministry of Tourism and Port, Shipping and Waterways, Government of India graced the occasion as Chief Guest. On the occasion, he highlighted the importance of the soil, referred it as our mother, and explained how soil health and human health are intricately related. He urged farmers to take up natural farming techniques for better and sustainable soil health and also highlighted about various government schemes in relation to the well-being of the farmers. Dr Himanshu Pathak, Secretary (DARE) & Director General (ICAR) Guest of Honour joined the programme in virtual mode. Dr Suresh Kumar Chaudhari, Deputy Director General (Natural Resource Management), ICAR, New Delhi and Guest of Honour briefed about the importance of soil in food production. More than 100 farmers joined physically and about 6000 scientists, technical staff of ICAR joined the program virtually across the nation. On this occasion, soil health cards were also distributed to the 100 farmers.

Visit of Board of Trustees for CIFOR-ICRAF to the Institute FLD trial

On the 3rd December, 2022, Board of Trustees (BoT) for CIFOR- ICRAF visited the Front Line Demonstration (FLD) trial of released varieties and promising superior lines of cashew established by ICAR-CCARI, Goa, at Ziltawadi, Canacona, Goa. The field trial have been established in a participatory model with scheduled tribe farmers of the Ziltawadi Farmer Self Help Group under the Scheduled Tribe Component funded by the Government of India. The BoT members interacted with the tribal farmers and appreciated the work done by the ICAR-CCARI, team in promoting plantation-based agroforestry systems, viz., cashew-based agroforestry systems and coconut-arecanut-based agroforestry systems, for the upliftment of small and marginal farmers in coastal regions of India. The members acquainted themselves about generating various technical interventions imparted by the ICAR-CCARI, Goa for generating sustainable livelihood from above mentioned agroforestry systems. Trustees were also happy to see the gender equality participatory model of agroforestry system management. The field visit was coordinated by Dr. A.R. Desai, Principal Scientist (Horticulture), Dr. R. Solomon Rajkumar, Senior Scientist (Livestock Products Technology), and Dr. Uthappa, A. R., Scientist (Agroforestry), ICAR-CCARI, Goa with the technical assistance of Shri Sidharth Marathe Senior Technical Officer and Shri Vishwajeet P Technical Officer (Computer).

Interaction meeting with CEO, Agrinnovate India

Dr. Praveen Malik, Chief Executive Officer (Agrinnovate India Ltd.) visited the Institute on 09-12-2022 and interacted with the scientists about commercialization of technologies for public benefit. He advised the scientists to keep the end-users in mind while developing technologies and to increase Technology Readiness Level for faster commercialization. Dr. Parveen Kumar, Director, ICAR-CCARI, Goa, welcomed Dr. Praveen Malik and informed that the Institute has been working in close collaboration with Agrinnovate India Ltd, New Delhi.

Dr. Shripad Bhat, Senior Scientist (Agril. Economics) presented the progress and activities of Institute Technology Management Unit (ITMU) of the Institute. Dr. Mathala Juliet Gupta, Senior Scientist (Agri. Structures and Process Engineering) proposed the vote of thanks. This meeting was coordinated by the ITMU of the

PMFME sponsored seed capital SHG beneficiaries training

A one day Seed Capital SHG Training was conducted on December 16, for 24 SHG beneficiaries from Bardez taluka, North Goa. The beneficiaries were given classes on various aspects like the overview of the PMFME, understanding supply chain in food processing industries etc., a brief mention of other government of India Schemes supporting food processing enterprises, procurement of machinery & raw material, storage, transportation, recruitment & staff, food domains under PMFME scheme, value addition, raw material, choosing right tools/ equipment/machineries as per capacity by Dr. Mathala Gupta, Senior Scientist, ICAR-CCARI, Mr. Pravin Sabnis from Unlearning Unlimited organization Panaji gave lectures on motivation, inventory management: record keeping of daily transactions, how to maintain purchase register, sales register, working capital management line working capital decisions, cash in hand for emergency etc. Basics and benefits of FSSAI Registration & Licensing, Schedule IV – FSSAI (GMP, GHP, GLP practices including requirement for testing of food products) Udyam registration, GST & PAN, packaging with different packaging methods & machines was covered by Er. Vinod Atkari, Assistant Professor (Agri. Engg). Goa College of Agriculture. This was followed by hands on training at post-harvest lab and Virgin Coconut Oil Unit, by Dr. Mathala Juliet Gupta & Mrs. Sunetra Talaulikar.

One-day training program on Ornamental Fish Farming

ICAR-Central Coastal Agricultural Research Institute with Krishi Vigyan Kendra, North Goa, organized a one-day training on 'Ornamental Fish Farming' on 20/12/22. A group of total 27 trainees benefited from this ornamental fish training. Dr. Parveen Kumar, Director highlighted about the potential of ornamental fish culture as a livelihood option and contribution of the sector to the growth of the country during his inaugural address. He also assured full technical support from the institute for fisheries development activities for the State of Goa. Dr. Shirish Narnaware, Section In-Charge, Animal and Fishery Science emphasized the role of local communities'/ self-help groups in promoting the ornamental fish culture as an income source. Shri. Trivesh Mayekar, Scientist (Fish genetics and breeding) highlighted about the scope and status of ornamenatal fish culture and he stated that a series of capacity building and demonstration programmes are to be followed for the benefit of fishermen/enthusiasts. Smt. Sunetra Talaulikar, Senior Scientist and Head Incharge, ICAR – KVK, North Goa gave the welcome address and explained the scope of ornamental fisheries in Goa. There were three invited lectures by Dr. Gajanan Ghode, Associate professor, College of Fisheries, Ratnagiri, Mr. Sahil Thakur, Thakur aquatics and Dr. Hrishikesh Pawar, SMS, KVK South Goa. The training also included hands-on training on tank fabrication, tank setup and maintenance, ornamental fish feed preparation, larval rearing, and the breeding and larval rearing of ornamental fishes. An exposure visit to Institute Aquarium and Aquaculture farm was also arranged. The course coordinator for the training was Dr. Monica Suresh Singh, Subject Matter Specialist (Agricultural Extension), ICAR – KVK, North Goa, and Shri Trivesh Suresh Mayeker, Scientist (Fish Genetics and Breeding), ICAR – CCARI.

PMFME Sponsored Seed Capital SHG Beneficiaries' Training Program

A one day Seed Capital SHG Beneficiary Training was conducted on December 21 2022, in two simultaneous batches. Total number of beneficiaries for Batch I were 22 and Batch II were 21 from Bardez taluka, North Goa. The beneficiaries were trained on various aspects like:

The beneficiaries were trained on various aspects like the overview of the PMFME, understanding supply chain in food processing industries etc., a brief mention of other government of India Schemes supporting food processing enterprises, procurement of machinery & raw material, storage, transportation, recruitment & staff, food domains under PMFME scheme, value addition, raw material, choosing right tools/ equipment/machineries as per capacity by Dr. Mathala Gupta, Senior Scientist, ICAR-CCARI, Mr. Pravin Sabnis from Unlearning Unlimited

Kisan Diwas Celebration

ICAR –Central Coastal Agricultural Research Institute (CCARI) and ICAR – Krishi Vigyan Kendra (KVK), North Goa celebrated 'Kisan Diwas' on 23rd December, 2022 in collaboration with Agriculture Technology Management Agency (ATMA) – North Goa and Zonal Agriculture Office, Pernem. Around 50 farmers and farm women participated in this programme. As this day is marked to recognize the efforts of farmers, five progressive farmers of Goa were felicitated on this occasion. Dr. Parveen Kumar, Director, ICAR – CCARI, Goa expressed his gratitude to the farmers for making India self-sufficient specially in food grains, horticulture, milk and fish production and highlighted the glorious achievements of Indian agriculture of past 75 years. Shri Prakash G. Raut, Zonal Agricultural Officer, Pernem congratulated the farmers on Kisan Diwas and briefed about efforts taken by Directorate of Agriculture, Goa in encouraging and empowering the farmers of Goa. Dr. Manohara K. K., Senior Scientist (Plant Breeding and Genetics) Spoke in detail about intensifying Goan Agriculture by utilizing Khazan lands. He sensitized farmers about 04 paddy varieties released by ICAR – CCARI specifically for Khazan land. Smt. Sunetra Talaulikar, SMS and Head Incharge, ICAR - KVK, North Goa spoke on importance of crop rotation and the need to introduce pulses and oilseed after paddy. She also emphasized about value addition for income augmentation. Dr. Monica Suresh Singh, Subject Matter Specialist (Agricultural Extension) spoke about the importance of celebrating Kisan Diwas and compered the programme. Shri Rahul Kulkarni, Assistant Chief Technical Officer (Soil Science) delivered a lecture on Natural Farming and proposed vote of thanks. Shri Vishwajeet Prajapati, Technical Officer (Computer) provided technical support for the programme and documented it.

PMFME Sponsored Seed Capital SHG Beneficiaries' Training Programme

One day Seed Capital SHG Training was conducted on December 27, 2022 for 17 SHG beneficiaries from Bicholim taluka North Goa. The beneficiaries were trained on various aspects like the overview of the PMFME, understanding supply chain in food processing industries etc., a brief mention of other government of India Schemes supporting food processing enterprises, procurement of machinery & raw material, storage, transportation, recruitment & staff, food domains under PMFME scheme, value addition, raw material, choosing right tools/ equipment/machineries as per capacity by Dr. Mathala Gupta, Senior Scientist, ICAR-CCARI, by Mr. Prathamesh Gavande, Training Faculty at Regional Office, Kankavli Coir Board India trained then on motivation, inventory management: record keeping of daily transactions, how to maintain purchase register, sales register, working capital management line working capital decisions, cash in hand for emergency etc. Basics and benefits of FSSAI Registration & Licensing, Schedule IV – FSSAI (GMP, GHP, GLP practices including requirement for testing of food products) Udyam registration, GST & PAN were taught by Ms. Safia Khan, Food Safety Officer, Directorate of Food and Drugs Administration, Bambolim, Goa. A brief review of packaging with different packaging methods & machines was covered by Dr. Mathala Gupta, Senior Scientist, ICAR CCARI. This was followed by hands on training at post-harvest lab and Virgin Coconut Oil Unit, by Dr. Mathala Juliet Gupta & Mrs. Sunetra Talaulikar

Conference/Symposia/Workshop/Training attended

Date	Name of Scientist	Programme	Venue
18-10-2022 to 21-10-2022	Dr. Amiya Ranjan Sahu,	Metagenomic Data Analysi s"	Virtual, ICAR-IASRI, New Delhi
10-12-2022	Dr. Amiya Ranjan Sahu, Dr. Nibedita Nayak, Dr. Susitha Rajkumar, Dr. R. Solomon Rajkumar, Dr. Shirish D. Narnaware, Dr. Gokuldas, P.P	International conclave on Pashu Ayurveda of 9 th World Ayurveda Congress held during 10 December 2022 at.	Kala Academy, Panjim, Goa
11-12-2022	Dr. Amiya Ranjan Sahu, Dr. Nibedita Nayak, Dr. Susitha Rajkumar, Dr. R. Solomon Rajkumar, Dr. Shirish D. Narnaware, Dr. Gokuldas, P.P	International summit IVASUM 2022 on "Food safety & nutritional security through sustainable livelihood: A farmer's prospective" conducted by IVA in collaboration with the Goa Veterinary Association	ICAR-CCARI, Goa.

Lectures delivered

Date	Name of the scientist	Lecture	Venue
27-08-2022	Dr V. Arunachalam	Exploration, collection, conservation and utilization status of tuber crops in West Coast and Lakshadweep Islands at	National webinar on 'Genetic Resources of Underutilized Tuber Crops for Nutritional Security'
09-11-2022	Dr V. Arunachalam	Potential of spices, plantation and fruit crops for achieving livelihood security in coastal ecosystems at	International Training Program on "Diversification of Coastal Agroecosystems for Climate Resilience and Livelihood Security" by ICAR - Central Coastal Agricultural Research Institute, Old Goa, Goa in collaboration with Center for International Forestry Resea rch (CIFOR) and World Agroforestry (ICRAF) from 07 to 11 November 2022
16-12-2022	Dr V. Arunachalam	Technologies in Horticulture for North Goa	One-day 'Orientation Programme for Swayampurna Mitras in Agriculture' from North Goa at ICAR -CCARI
20-12-2022	Dr V. Arunachalam	Technologies in Horticulture for South Goa	One-day 'Orientation Programme for Swayampurna Mitras in Agriculture' from South Goa at ICAR -CCARI
11-08-2022	Dr. Amiya Ranjan Sahu	Practical demonstration on 'Breeds of poultry and their important characteristic features: Selection and mating system for quality chick production' in the Training -cum- Demonstration on "Scientific Breeding in Poultry Husbandry"	Scientific Breeding in Poultry Husbandry" under STC programme of ICAR -CCARI, Goa held on 11 August, 2022.
20-01-2022	Dr. Susitha Rajkumar		
11-08-2022	Dr. Gokuldas PP	Importance of Artificial Insemination in backyard poultry	ICAR -CCARI, Old Goa

Awards and Recognition

V Arunachalam

Dr V Arunachalam successfully completed online course Big data computing (Aug-Oct 2022) with Elite grade from IIT Kanpur through NPTEL platform.

Amiya Ranjan Sahu

- IPSA P. K. Pani Award in Poultry Genetics-2019 during IPSACON 2022 (4-6 November 2022) held at DUVASU, Mathura, U.P.
- Ayurvet Research Award-2021 during IPSACON 2022 (4-6 November 2022) held at DUVASU, Mathura, U.P.

Gokuldas P.P

Dr. CM Singh Award for the Best Ph.D Scholar of ICAR-IVRI (2015) conferred during the 10th Convocation held at ICAR-IVRI, Izatnagar, U.P. on 23rd August, 2022.

Administration

Foreign Deputation:

Dr. R.Solomon Rajkumar, Senior Scientist (Livestock Products Technology) to receive International Association for Food Protection (IAFP) International student Award 2022, awarded during his Ph.D programme (in-service) 2018-2021 & to participate in various session of IAFP 2022 at Penosylvania, USA during 31-07-2022 to 03-08-2022

Post-Doctoral Fellowship:

Dr. Sreekanth G.B., Senior Scientist (Fisheries Resource Management) has been study leave for pursuing the Post-Doctoral Fellowship 2022-23 in Aquatic Environment Management (AEM) at Kerala University of Fisheries and Ocean Studies (KUFOS), Kochi for a period of one year w.e.f. 15-10-2022.

Appointments:

Name	Post	Date of Joining
Smt. Anupama N.K.	Finance & Accounts Officer	09 -12 -2022

Promotion:

Sr.No.	Name/designation of the Scientists	Promoted to the higher grade	effective date of placement/promotion
1	Shri Suresh Gomes, Tractor Driver (T -4)	Promoted to the next higher level in T-5 (Technical Officer -Tractor Driver) in Cat -II in pay Level 7	24-01-2022
2	Shri Dilkush Velip, Driver T -2 (KVK)	Promoted to the next higher pay level in T-3 (Technical Assistant -Driver) in Cat -II in pay Level 5	26-03-2022
3	Dr. Shripad Bhat, Scientist (Agri. Economics).	Placed in Level 12 (pre -revised) pay Rs. 15600 -39100 +RPG Rs. 8000 / -) and re -designated as **Sr. Scientist**	15-09-2021
4	Dr. Susitha Rajkumar, Scientist (Veterinary Pathology)	Placed in Level 12 (pre -revised) pay Rs. 15600 -39100 +RPG Rs. 8000 / -) and re -designated as **Sr. Scientist**	02-02-2022
5	Dr. Sreekanth G.B., Scientist (FRM)	Placed in Level 12 (pre -revised) pay Rs. 15600 -39100 +RPG Rs. 8000 / -) and re -designated as **Sr. Scientist**	30-05-2022

Clearance of Probationay Period and Confirmation -

1	Smt. Swati S. Khandeparkar, LDC	29-06-2022	30-06-2022

Transferred from ICAR -CCARI:

Name	Post held	Transfer to	Date of transfer
Dr. Maneesha S.R.	Scientist (Fruit Science)	ICAR - Indian Institute of Spices Research, Kozhikode, Kerala	30-08-2022