Nius

Newsletter of the PNG National Agricultural Research Institute
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28 years of Dedicated Agricultural Research for Sustainable Development.

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Welcome to the 6th edition of NARI Nius for 2025. If you have any comments or contributions please drop us a line at: ***naripng@nari.gov.pg*** *for an e-copy.*

Christmas Message from the office of the Director General



Dr Nelson Simbiken

It gives me great joy during this time of the year when families, friends and colleagues gather to celebrate and reflect on what had transpired in over the last 12 months. The NARI Senior Management and Staff wish to extend our best wishes to all our stakeholders within the private and public sector. More importantly to farmers, who have tirelessly supported us as an institute within the agriculture sector.

As we proceed into the festive season, we would like to share some notable highlights;

- Workshop for regional centres who were challenged to deliver with a minimal budget and create an impact in their respective regions.
- End of Project Review Workshop for Climate Smart Agriculture project involving NARI, ACIAR, Australian National University, University of Goroka, Sustineo, FPDA, PNG National Weather Service and external reviewers.
- An external assessment and meeting to review the NARI Act and how its core business is aligned to the government directive policies in the agriculture and economy sector.
- Creating study opportunity for female researchers through an arrangement with APEP (Australia-PNG Economic Partnership).
- Launching of NARI Corporate for contract staff after 23 years which aims to bring motivation and change of perspective for NARI.
- Agreement signing between NARI and Design Scope Architects to design and architectural plans for the National Information Centre which will be named after the late Morobe Governor and called Luther Akisawa Wenge Haus.
- Successful hosting of International Centre for Insect Physiology and Ecology visit to NARI to progress work on using Black Soldier Fly as a potential source of protein for livestock feed and useful fertilizer in crop farming in Papua New Guinea.

We would also like to acknowledge key stakeholders and development partners for their continuous support and contribution;

- The National Government
- Department of Agriculture and Livestock
- PNG University of Technology
- University of Goroka
- International Cooperation for Development Fund
- University of National Resources and Environment
- Australian Centre for International Agricultural Research
- Australian Volunteers Overseas
- Food and Agriculture Organisation
- Grow PNG
- PNG Women in Agriculture Development Foundation
- International Treaty for Plant Genetic Resources for Food and Agriculture

We wish you and your wonderful families a Wonderful and Joyous Festive Season and may the New Year bring us more blessing and good health!

PNG Women in Agriculture vote in new executives



NARI Director General Dr Nelson Simbiken and the newly elected executives of PNGWiADF.

Joy Sahumlal has been voted in as the new President for the PNG Women in Agriculture Development Foundation. Joy was voted in unanimously during the inaugural Annual General Meeting on November 25 and 26, at the NARI, Morobe Province. A journalist by profession, Ms Sahumlal has an
extensive background in community engagement projects in agriculture and education, impacting women and youths.
She has retired from active duty at the University of Technology, however the passion to see women excel in agriculture has seen her accept this new role. Ms Sahumlal was among the driving forces behind the establishment of PNG Women in Agriculture through the Women's Voices in Food Chain – a 2003 AusAID-funded project facilitated by NARI and DAL, that highlighted the need to support women in Agriculture. In her inaugural speech, Sahumlal acknowledged late founder and President
Mrs Maria Linibi for her resilience in upholding the organisation despite many challenges. She further acknowledged NARI and donor partners Pacific Islands Farmers Organisation Network for recognising the important role PNGWiaDF plays in uplifting women in agriculture throughout the country. The other executives voted in unopposed are; Vice President: Jacinta Bera, Secretary: Ruby Artango, and Treasurer: Lisa Linibi. The first order of business for the new executives include, furnishing financial reports, getting the house in order, before calling for new farmer group registration. NARI facilitated the voting process, with representatives from the DAL- Momase Region and the Royal PNG Constabulary. Director General for NARI Dr. Nelson Simbiken whilst congratulating the newly elected President and her executives, committed NARI's support in auditing their books and managing their account until they strengthen their evaluation and monitoring system. NARI has been providing technical and logistical support to PNGWiADF since 2007.

PNG Women in Agriculture hosts AGM to chart a new way forward



PNGWiADF AGM participants

The PNG Women in Agriculture (WiA) Development Foundation is hosted its Annual General Meeting (AGM) at the NARI in Morobe Province on November 24 and 25. The meeting is supported by the NARI and the Pacific Islands Farmers Organisation Network.
The AGM follows the untimely passing of late President and Founder, Mrs Maria Linibi in June this year.
Among the agendas for the two days meeting includes the election of the new executives and reviewing the organisations Constitution. The AGM was opened today by Director General of NARI Dr. Nelson Simbiken who encouraged the participants to elevate the organisation and align its goals with the National Agriculture Sector Plan, advancing from subsistence farming to commercialisation. "With its network of women in the rural areas, PNG Women in Agriculture is in a strategic position to empower women right at the primary school level into adulthood.
"Empowering women, allows advancement in all sectors of social and economic development, directly impacting a community. "NARI has supported Women In Agriculture since its inception in 2007 and will continue with this support, especially providing an office space in all NARI Centres throughout the country," Dr. Simbiken said.
Australian High Commission representative Rubie Yamuna encouraged the participants to embrace partnerships and work together. She said PNGWiA must take advantage of NARI's support through the regional centres and prepare to partner with donor agencies. Participants at the AGM are registered members of PNG Women In Agriculture from across the country. Vice President of PNGWiA, Jacinta Berra acknowledged NARI for facilitating the AGM and called on the participants to embrace this opportunity for change and advancement. The AGM also paid respect to the late founding President Mrs Linibi who played a major role in bridging many women and youth farmer groups to external assistance.

Pacific Island countries attend training in China



NARI was represented in the 6th China (Guangdong)–Pacific Island Countries Agricultural Technology Training Course, held from 20th October to 2nd November 2025 at the South China Agricultural University (SCAU) in Guangdong Province, China.

The training was guided by the Foreign Affairs Office of the People's Government of Guangdong Province, hosted by the Department of Agriculture and Rural Affairs of Guangdong Province, and organised by the International Agricultural Economy and Farmer Cooperation Center of Guangdong Province, in collaboration with SCAU.

The program brought together 18 participants from six Pacific Island countries — Papua New Guinea, Fiji, Solomon Islands, Kiribati, Samoa, and Nauru — with the shared goal of strengthening agricultural technology exchange, promoting sustainable agricultural development, and enhancing bilateral cooperation between China and the Pacific region. For Papua New Guinea, the invitation was extended through the Department of Agriculture and Livestock (DAL) as part of ongoing efforts to promote agricultural innovation and technology transfer.

The Department nominated NARI and the National Fisheries Authority (NFA) as the key statutory institutions to represent PNG. NARI was represented by Mr. Jeremiah Ahizo, Livestock Scientist and Research Team Leader at the Momase Regional Research Centre, and Mr. Mauro Okrupa, Agronomist at the Tambul Highlands High Altitude Research Centre, while the NFA delegation included Ms. Laureen Wauru and Ms. Youtee Annson.

Mr. Okrupa described the two-week intensive training as a unique opportunity to experience China's agricultural technologies, research innovations, and sustainable farming models firsthand.

The course comprised seven thematic lectures and tutorials, complemented by ten field and institutional visits to leading agricultural enterprises, research centres, and demonstration farms across Guangdong Province.

"We have learned a great deal about the agricultural industry in Guangdong Province and across China.

"The lessons shared by experts at SCAU, along with our field visits, have been both insightful and inspiring," shared Mr Okrupa.

Participants gained valuable insights into China's long-standing agricultural and fisheries traditions, modernised production systems, and the integration of smart technologies into production systems and ecological management.

Reflecting on the training, Mr. Okrupa highlighted several key lessons, including China's transition from conventional yield-focused production systems to ecological and smart agriculture, which demonstrates its commitment to productivity and sustainability.

He observed that universities in China work closely with agribusiness enterprises to drive continuous research, innovation, and commercialization, while the enterprises themselves operate complete value chain systems encompassing production, processing, packaging, transportation, and waste recycling.

The course also helped participants understand the shared agricultural research needs of China, Southeast Asia, and the Pacific Island nations.

Additionally, China's strong reward and incentive systems, ranging from funding opportunities for entrepreneurs to recognition programs for scientists and innovators, were identified as key enablers of progress in agricultural research and development. Mr. Okrupa expressed appreciation for China's commitment to international agricultural cooperation and knowledge sharing.

"We recognise the important role the Chinese Government continues to play in global agriculture and commend its vision in sharing knowledge and expertise to advance agricultural development in our respective countries. We hope to build on these foundations to strengthen research collaboration and agricultural innovation between NARI and our Chinese partners," he said. The training concluded with a renewed commitment among Pacific Island participants to promote agricultural innovation, strengthen institutional partnerships, and apply the lessons learned to improve food security and sustainability within their home countries.

NARI acknowledges the Foreign Affairs Office of the People's Government of Guangdong Province, the Department of Agriculture and Rural Affairs of Guangdong Province, the International Agricultural Economy and Farmer Cooperation Center of Guangdong Province, and South China Agricultural University for their leadership, collaboration, and support in organizing this impactful training program.

Data base system for plant health

The agriculture sector is working towards developing its own plant health data base system to better manage diseases and pests that are affecting food crops and plants in general.

A series of training workshops to that effect is currently being rolled out in the country to up skill nominated officers to diagnose diseases in all kinds of plants including food crops and flowers for that matter.

The training series is funded by an international non-profit organisation Centre for Agriculture and Bioscience International (CABI).



A plant health clinic conducted at the Lae Main Market.

According to the chief facilitator Dr.Lastus Kuniata, CABI has conducted eight training workshops so far, in Port Moresby, Kokopo, Goroka and Lae and they hope to cover other provinces next year.

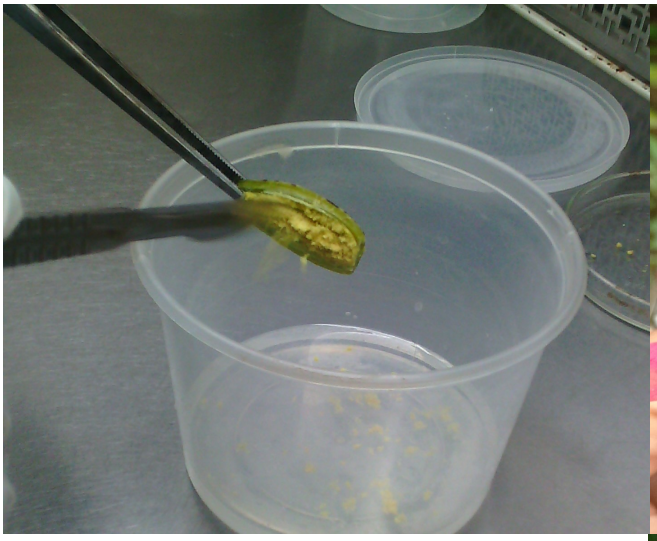
The second CABI Plant Clinic training was held at the Momase Regional Training Centre in early November 2025 where selected Plant Pathologists and Agronomists from National Agricultural Research Institute (NARI), Coffee Industry Corporation (CIC), Pacific Adventist University (PAU), University of Technology (UNITECH), University of Natural Resources & Environment (UNRE), Department of Agriculture and Livestock (DAL) and National Agriculture Quarantine Inspection Authority (NAQIA). As part of the week-long training, a CABI Plant Health Clinic was held at the Lae City Market where farmers and interested individuals met with the plant doctors to discuss issues affecting their plants and food crops.

Finance team undergo software training



A two-day in-house training was conducted from December 2-3 for the finance team in using the Xerox, a cloud-base accounting software that will help in providing real time information and efficiency to carry out financial reporting and related work in a timely manner for the finance and accounting team NARI Head Office and its regional centres.

Tissue cultured orchid seedlings, a success!







A laboratory method to germinate immature orchid seeds and rapidly develop seedlings for local orchid nursery growers has been successful at National Agricultural Research Institute's Regional Centre in Aiyura, Eastern Highlands.

Using a tissue culture technique, researchers achieved 100% germination of immature seeds from *Dendrobium* and *Epidendrum* orchid species on Murashige and Skoog (MS) medium. When the medium was enhanced with gibberellic acid (GA_3) and charcoal powder, the seedlings developed fully in just four months, two months faster than those grown on the standard MS medium alone. Gibberellic acid is used to stimulate plant growth, improve crop yield, quality and overcome environmental stress.

The use of gibberellic acid and charcoal power is known as asymbiotic germination, which bypasses the natural dependency of orchid seeds on fungal conditions for germination. Orchid seeds typically lack their own nutrient source and rarely sprout in the wild without specific fungi. This *in vitro* approach instead provides essential nutrients and controlled growth conditions in a sterile environment, allowing thousands of seeds to grow into uniform seedlings. In vitro refers to growing of plant cells, tissues and organs in an artificial and sterile environment

According to lead researcher Winnie Maso, the method offers a practical and scalable solution for PNG's orchid nurseries, which often struggle to produce consistent planting materials for commercial purposes. "This technique can be applied to any orchid species that produces seeds in pods," Maso said.

The study was conducted at NARI's Aiyura Tissue Culture Facility, where researchers optimized the growth stages from seed inoculation to seedling development under controlled temperature and light conditions.

While the method successfully produced single plantlets ready for nursery transfer, Maso noted that further work is needed to refine *in vitro* cloning techniques to ensure continuous supply and mass propagation of specific orchid varieties.

This technique presents a step forward for PNG's floriculture industry, opening the door for small-scale growers to access faster and more reliable orchid propagation methods.

Laboratory Services offered by NARI

The Professor John Kola Chemistry Laboratory offers a wide range of analytical and diagnostic testing services. We are a national chemical testing laboratory and have been operating for over 30 years.

Our laboratory is accredited to ISO/IEC 17025 which is a general requirement set by the International Organisation for Standardization (ISO) and International Electrotechnical Commision (IEC) for the competence in testing laboratories.

It certifies a laboratory as an Accredited Chemical Testing Laboratory under the ISO/IEC 17025:2005 Guidelines.

The laboratory can perform chemical testing and all methods used are recommended by American Public Health Association (water), Australasia Soil and Plant Analysis Council (soil and plant), Association of Official Analytical Chemist (food and natural products).

Prof John Kola Chemistry Laboratory Kilakila

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Aquatek Analyser for measuring Ammonium in water

What we test for in the laboratory in pictures



Quality Control Chemist, carrying out food testing on the Fat extraction equipment



Test to determine mineral elements such as Calcium, Magnesium, Potassium, etc and mainly used for water and environmental samples.



A high throughput & inexpensive analytical technique used to primarily test for major elements such as Calcium, Magnesium etc in food, beverage, water, plant and soils.



Extraction technique to extract from crushed, dried or ground samples with the aid of heating & refluxing to determine fats in dried nuts, grains, etc



Unit used to determine nitrogen (crude protein) content in soil, plants, food and natural products.



This is a purification system which eliminates bacteria using ultra violet radiation and provides chemical reactive water for the laboratory's daily use.

guesthouse ENQUIRIES

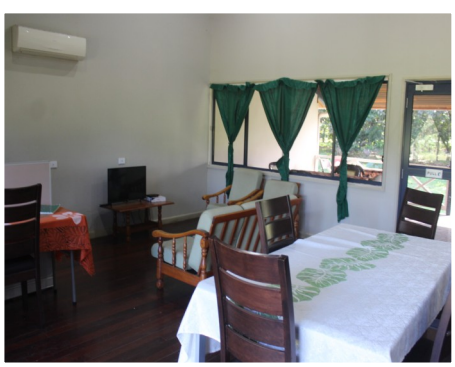


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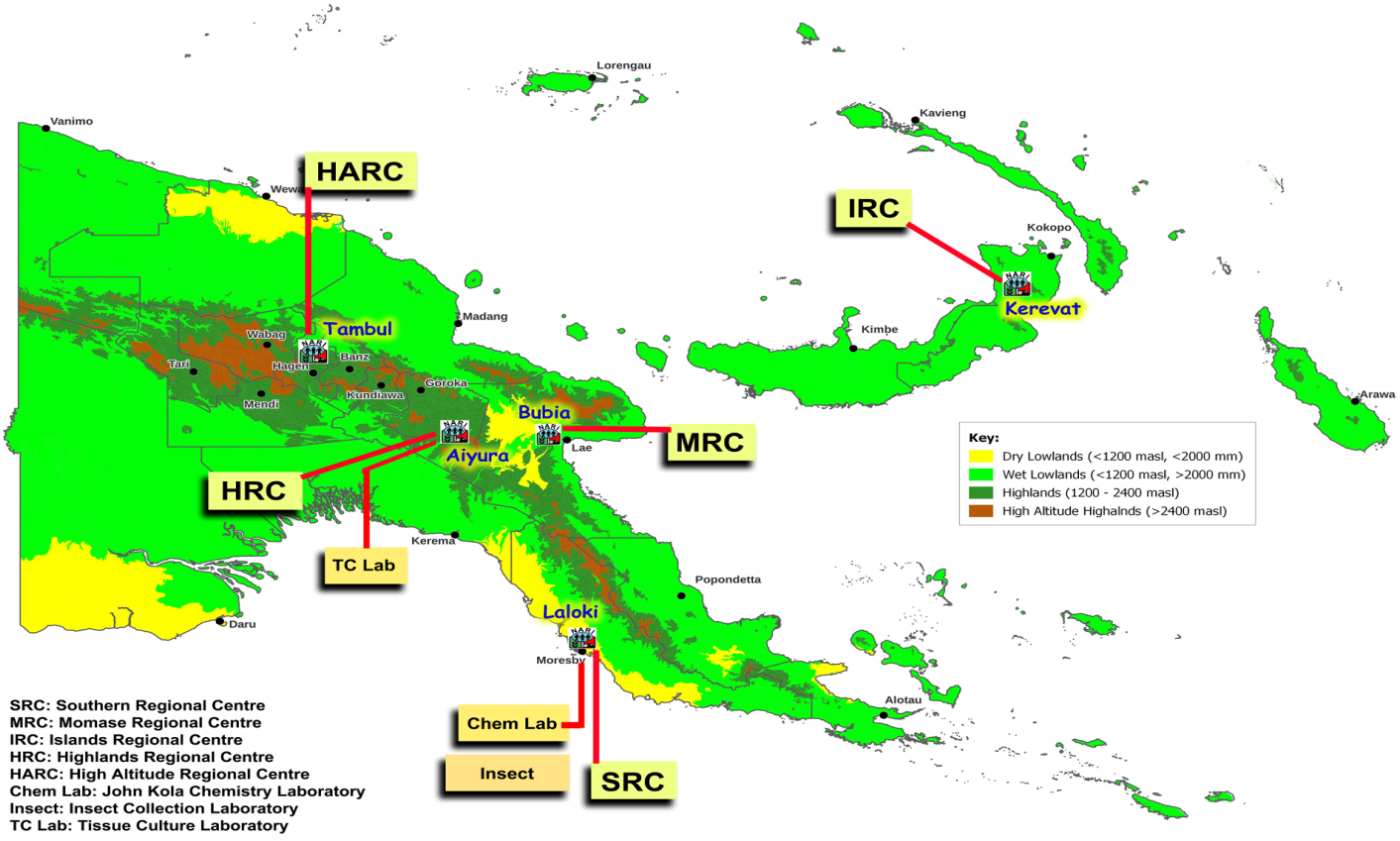
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The National Agricultural Research Institute (NARI) was established by an Act of National Parliament of Papua New Guinea (PNG) in July 1996 as a public funded, statutory research organisation, to conduct and foster applied and adaptive research into:

i) any branch of biological, physical and natural sciences related to agriculture;

ii) cultural and socioeconomic aspects of the agricultural sector, especially of the smallholder agriculture; and

iii) matters relating to rural development. and of relevance to Papua New Guinea.