



President Konrote Launches Backyard Gardening Initiative



His Excellency the President Major-General (Ret'd) Jioji Konusi Konrote planting tomatoes during the launching of the Backyard Gardening initiative in Tavua

The recently introduced Backyard Gardening initiative which was launched in Tavua by His Excellency the President Major-General (Ret'd) Jioji Konusi Konrote on 25 April, 2019 has been hailed as timely and would benefit a majority of Fijians.

President Konrote emphasised the importance of backyard gardening as it was arguably, one of many common ways of interacting with nature and an equally enjoyable popular pastime in many countries.

"There is also an increasing awareness among researchers and health practitioners of the health benefits derived from backyard gardening activities. I believe that these benefits, is one of the many reasons the Ministry wishes to initiate such a programme here in our beloved Fiji."

As Chief Advocate/Champion for the fight against the prevalence of Non-Communicable Diseases, he said this initiative would further alleviate the

problem of NCDs, which were the leading cause of deaths globally, killing more people each year in comparison to all other causes.

"Considering the benefits and ensuring that no one is left behind, the Ministry is piloting this programme to target urban and peri-urban areas along the Ba, Tavua corridor. I believe that Bangladesh Settlement in Tavua is the best location where we can witness the programme first hand, the urgent need for this initiative and how it will positively impact the lives of people who reside in the area."

Five successful applicants received a Backyard Gardening package worth \$65 which included a guide for gardeners, potting bags, bags of garden soil and seeds of four crops and fruit trees. Each recipient will be required to fill a "Gardener Profile Form" to allow the Ministry of Agriculture staff to monitor the gardener's activities and evaluate the impact of the programme.

President Konrote further stated that much more attention was being given to backyard farming as a

strategy to enhance household food and nutrition security as it provided multiple environmental and ecological benefits, highlighting countries like Japan which encouraged the development of more open spaces within the urban suburbia for cultivation of home-grown vegetables and fruits.

"Recognising the value and potential of home gardens to enhance food security and livelihoods, numerous initiatives have been launched by governmental, non-governmental, and international organisations in many developing countries that are providing support and enhance local capacity to scale-up and enhance the productivity of backyard farming activities. Subsequently, new and innovative backyard gardening technologies will be introduced to sustain costs, increase returns and renew the interests of those involved."

The President encouraged those who did not have a large yard for gardening to grow many of their favourite vegetables and even sell the surplus to generate extra income for their families with innovative and smart Backyard Gardening techniques.

"These programmes will introduce very simple techniques such as horizontal and vertical container methods to optimize space for planting. It will ensure that the underprivileged Fijian families have improved access to wholesome fresh produce which should have a significant reduction in food costs."

He said traces of harmful chemicals and pesticides are regrettably found in our food chain hence backyard gardening programme ensured people cultivated food using safe practices such as organic farming systems.

"Establishing this programme provides an opportunity to focus more attention towards backyard farming as a strategy to enhance household food and nutrition security."

The Backyard Gardening Initiative is one of the five initiatives recently introduced by the Ministry of Agriculture to further improve Agriculture development and the overall output of the sector.

MINISTRY LAUNCHES FIRST FRUIT TREE ORCHARDS



DSAD (left) with Taiwan Technical Mission (TTM) Mr. Dominick during the planting of the Guava Orchard

The inaugural fruit tree orchard in the country was launched on 18 April, 2019 at Volivoli Village in Sigatoka by the Ministry of Agriculture in collaboration with the Taiwan Technical Mission (TTM).

The launch of the first fruit tree orchard was part of the recently announced Establishment of Fruit Tree Orchard initiative of the Ministry of Agriculture.

While officiating at the launch of the fruit tree orchard, Deputy Secretary for Agriculture Development Jone Sovalawa said the program was one of the five new initiatives the Ministry would undertake to further enhance the development of

the sector. "The non-sugar agricultural sector in Fiji continues to grow over the years and with it comes demands to further develop the sector. "New strategies need to be implemented that will ensure increased production to meet market demands and among other things, reduce our dependency on imported products," he said. The

need to develop Fiji's fruit industry was also emphasized to farmers, as the inclusion of locally grown fruits in daily diets was important for food and nutrition. "Most fruits are only available in season and in limited number because it is not farmed but rather wildy grown, it is in this regard that there is a need for the establishment of fruit orchards in a systematic and proper manner in demarcated areas," he said.

"The new program will ensure establishment of organized orchards of selected fruits in strategic locations to make fruits readily available to locals as well as well as to our ever-growing tourism

industry," he added. Guava trees were planted during the launch as guavas had been identified as a 'Super Fruit' due to its high nutrient content and its ability to address non-communicable diseases.

"Having a Guava Orchard will not only boost the income of the farmer in improving their livelihood but will ensure that we curb the impacts of NCD's in our local communities," said Mr. Sovalawa.

Under the new Fruit Tree Orchard initiative, the Ministry of Agriculture will be establishing fruit orchards for Guava, Passionfruit, Chestnut and Mangoes. "This year we have a target to establish 5 farms each for Guava, Dragonfruit, Avocado and Breadfruit and farmers who are interested to be a part of this initiative can register their interest with Agriculture Offices in various districts," he said.

The five initiatives of the Ministry includes the Establishment of Fruit Tree Orchards, the Upscaling of Pulses Seed Production, Backyard Gardening, Optimizing the use of Juncao Grass to enhance Livestock Production and Young Farmers Business Incubation Scheme, all of which are part of the long term vision of the Minister for Agriculture, Rural and Maritime Development, Waterways and Environment Hon. Dr. Mahendra Reddy.

FIJI AND CHINA SIGN MOU ON AGRICULTURAL COOPERATION



His Excellency Minister for Agriculture and Rural Affairs, Han Changfu (left) and the Minister for Agriculture, Rural and Maritime

Agricultural cooperation between the Republic of Fiji and the People's Republic of China will now be strengthened following the signing of a Memorandum of Understanding (MoU) between the two countries.

The MOU on Strengthening Agricultural Cooperation between the Ministry of Agriculture and Rural Affairs of the People's Republic of China and the Ministry of Agriculture of the Republic of Fiji was signed by His Excellency Minister for Agriculture

and Rural Affairs, Han Changfu and Minister for Agriculture, Rural and Maritime Development, Waterways and Environment Hon. Dr. Mahendra Reddy in Nadi on 29 March, 2019.

Hon. Reddy shared Fiji and China's successful history of cooperation in the agriculture sector and highlighted the MoU would enhance connection to the Chinese market.

"Fiji has now decided to let market demand drive production, but before that, we need to develop the infrastructure; support industries so that we can modernize agriculture and get the supply side ready to respond to demand signals," said Hon. Dr Reddy. "Here we need your support to assist us build this foundation for the production and supply side. While we are lagging behind in the introduction of machinery and infrastructure support, we are also challenged by forces of natural disasters

and the outbreak of pests and diseases for both the crop and livestock sectors. Hon. Reddy said these issues needed to be addressed before market signals were sent to derive production and supply.

"It's then, that opening up of your market for us and assisting us in reaching it will really boost our agriculture sector growth and development," he said. The joint agreement is earmarked to strengthen agricultural cooperation between the two countries and enhance agricultural cooperation between Fiji and China on the basis of equality and mutual benefit.

The MOU allows for enhanced exchanges in research information and agricultural policies and active promotion of the cooperation and exchanges between research institutes and personnel from both countries, encouraging exchange visits of sci-tech personnel and joint researchers. Areas of bilateral cooperation in agricultural trade and investment cooperation and other agricultural cooperation between the two Governments will also be promoted as part of the MoU.

NADI DECLARATION ON AGRICULTURAL DEVELOPMENT ADOPTED BY CHINA AND PACIFIC ISLAND STATES



Pacific Island Agriculture Ministers with His Excellency Minister for Agriculture and Rural Affairs, Han Changfu during the meeting

The inaugural Roundtable China - Pacific Islands Agriculture Ministers meeting co-hosted by Fiji and China has been hailed a success following the adoption of the 'Nadi Declaration of China and Pacific Island States on Agricultural Development' in Nadi on 29 March, 2019.

Agriculture Ministers from eight Pacific Island countries namely Fiji, Papua New Guinea, Cook Islands, the Federated States of Micronesia, Niue, the Independent State of Samoa, the Kingdom of Tonga, and the Republic of Vanuatu and the People's Republic of China adopted the Declaration to boost agriculture development in the Pacific. The Declaration

agricultural cooperation between China and Pacific Island States" Minister for Agriculture, Rural and Maritime Development, Waterways and Environment Hon. Dr. Mahendra Reddy said Fiji and Pacific island countries anticipated support from China to boost production and supply, and to open up their markets to assist Pacific suppliers access lucrative Chinese markets after the adoption of the Declaration.

With the Nadi Declaration focusing on Development and Cooperation as the main agenda, China and Pacific Agriculture leaders have mutually agreed to conduct cooperation in personnel exchange and capacity building in agriculture, and facilitate

was signed after successful deliberations between China and Pacific Island States Agriculture Minister's on Agriculture Cooperation, aligning with the theme "Seizing the opportunity of jointly contributing to the Belt and Road Initiative, advancing the practical

people-to-people exchange at various levels to strengthen cooperation in agricultural technology. The Declaration also focused on the encouragement and support of agricultural research institutes in enhancing exchanges, building joint laboratories, jointly applying for funds from international organizations and the Chinese Government, and carrying out collaborative research, with a view to serving the agricultural development of China and Pacific island states. Pacific Agricultural Ministers also agreed to strengthen South-South Cooperation (SSC) with the Food and Agriculture Organization of the United Nations (FAO) where Agricultural experts and technicians would be selected and dispatched to Pacific island states for technology demonstration and training with financial support from the SSC Trust Fund contributed by the Chinese Government.

From 2020 to 2022, the Ministry of Agriculture and Rural Affairs of the People's Republic of China (MARA) will offer agricultural technology training to 120 people from the Pacific island states through two training courses each year. The first training course for agricultural officials is to be launched in late April 2019.

The Second Agriculture Ministers Meeting of China and Pacific Island States will be held in the People's Republic of China in 2022.

FRAMEWORK FOR AGRICULTURE EXPANSION CRITICAL FOR SECTOR



Minister for Agriculture, Hon. Dr. Mahendra Reddy with the senior management and respective commodity officers

Commodity officers of the Ministry of Agriculture who specialize in each agricultural commodity have been told to ensure their technical knowledge impacts the framework for agriculture expansion and further development of the sector.

This was reiterated by the Minister for

production of respective commodities in the country to meet supply and demand.

"I want you to take ownership of the specific agricultural commodity, be it livestock and crop production, because this is your area of expertise and you're responsible for impacting it to ensure

Agriculture, Rural and Maritime Development, Waterways and Environment Hon. Dr. Mahendra Reddy while meeting with technical staff from the three technical divisions within the Ministry of Agriculture at its Legalega Research Station in Nadi on 27 March, 2019.

During the two day workshop, commodity officers presented strategies on each crop and livestock to increase

agriculture expansion.

"I want us to move the sector, and in this very limited time span, we need to show visible signs on the ground of what you specialise in," he said.

"You have been chosen to lead these particular commodities. You should clearly indicate how you will take the sector forward, what frameworks will you develop in that particular area to ensure we deliver our services and realize its results, the onus is on you to deliver," added Hon. Reddy.

Teams have been chosen to work on different commodities on Crop Extension, Crop Research, and Animal Health and Production Services whereby they will work collaboratively on their specialised Agriculture commodity.

Presentations on strategies on Beef, Rice, Goat, Sheep, Extension Services and Research Services were delivered by each commodity officer to drive the sector and increase production for local and export markets.

AGGRESSIVE INTERVENTION GEARED TOWARDS COCONUT INDUSTRY



Minister for Agriculture, Rural and Maritime Development, Waterways and Environment Hon. Dr. Mahendra Reddy touring the booths during the Coconut Day celebrations in Taveuni

An aggressive 10-year intervention program will be implemented by the Ministry of Agriculture in its efforts to develop the coconut industry through strategically placed stratagems.

This was highlighted by the Minister for Agriculture, Rural and Maritime Development, Waterways and Environment Hon. Dr. Mahendra Reddy during the National Coconut Day celebrations in Wairiki, Taveuni on 21 March, 2019. With continued commitment shown by the Fijian Government on the coconut industry through increased budgetary allocations, Hon. Reddy advised farmers,

stakeholders and members of the public of Government's intent to realize the industry's full potential. "The Ministry over the years has provided support through infrastructure development and the provision of technical advisory services to stakeholders," he said. "Government, through the Ministry of Agriculture, will focus to provide aggressive intervention in the coming 10 years through strategies," he added.

Hon. Reddy further elaborated the three strategies as being; Strategy

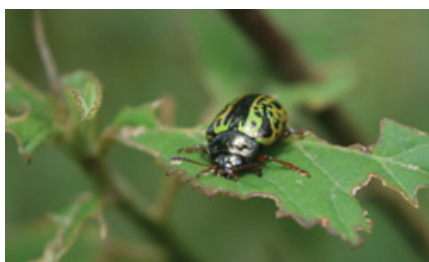
- 1: Increased Coconut Production, Farm Productivity, and Farmers Income, Strategy
- 2: Promote Value-Added Product Processing and Marketing and Strategy
- 3: Promote Capacity Building and Provide Institutional Support to Ensure Sustainability of Development Intervention.

Strategy 1 would involve a strengthened and coordinated aggressive replanting campaign (1.5 million trees in the next 10 years with 150,000 trees planted per year), in order to address 50% of the current 40% senile trees. Continued emphasis placed more on Breeding/Research for superior

varieties through the revival of the Gene bank at Mua Research Station, with hybridization starting this year at Mua Research Station. Also as part of this strategy, improving farm productivity per unit area through promoting Coconut Base Farming System (Dalo, Yaqona, Livestock under Coconut) would be extensively promoted, with more efforts placed on Pest & Disease Control/Management with the aim to reduce the current 30% infestation to a more manageable level below the economic threshold. Whereas strategy 2 would focus on the continuous provision of skills-training on Virgin Coconut Oil (VCO) and other high-value by-products to Farmers/Entrepreneurs/Small Micro-Enterprises (SME's)

The third strategy would involve the strengthening of extension work on Coconuts through the recruitment of Commodity officers, which has seen the appointment of 1 officer already, strengthened awareness campaigns on Coconut, providing a conducive policy environment to encourage joint ventures, promote local and foreign investment and public-private partnership and the formation of the Coconut Industry Strategic Plan and Roadmap.

BIOLOGICAL CONTROL A SUCCESS



An Adult *Calligrapha pantherina* sitting on damaged Broom weed leaf

Weed control through biological control methods has proven useful across the Pacific region. Biological weed control is a long-term, self-sustaining and feasible option for managing weeds particularly in areas where the use of herbicides and other methods of weed control may be expensive or impossible. Fiji continues to play a leading role in the region by remaining active in weed bio-control through the release of 30 agents against 11 weed species as recently published in research and review articles.

An example of a biological control agent is *Calligrapha pantherina*, a leaf feeding beetle which was introduced into Fiji from Papua New Guinea in 1997 to control the malvaceous weed *Sida acuta Burman f.* (also known as Broom weed) which is a small, erect shrub native to Mexico and Central America but has spread throughout

the tropics and subtropics. Broom weed has been found to affect both crop and livestock production in Fiji.

The rearing of *C. pantherina* started in 1997 at the Plant Protection Section laboratory in Koronivia Research Station. *Calligrapha pantherina* was released on Viti Levu, Taveuni, Kadavu, Gau, Koro, Beqa, Ovalau and parts of Vanua Levu between 1997 and 2008. Field observations revealed that *C. pantherina* has established and spread in these released sites as reported by staff undertaking field work on these islands. Both *C. pantherina* larvae and adults consume the leaves and flower of the plant.

To determine the population of *C. pantherina* that can be produced in a given time frame for release purposes, it was essential to understand the life cycle of the biological control agent. The life cycle of *C. pantherina* was studied on potted host plant *S. acuta* in the laboratory. The egg to larvae stage was 2-7 days (percentage survival 81%), larvae to pupa stage was 11-20 days with 46% survival rate and pupa to adult stage was 3-11 days with 72% survival over a period of one year under laboratory conditions. The sex ratios of emerged *C. pantherina* under laboratory conditions were estimated to be 5:4 (male and female) with males

being found to have shorter life spans than females. The finding of this study was presented during the poster session of the 9th International Workshop on Biological Control and Management of Eupatorieae and other Invasive Weeds which was held from 19-22 March, 2019 at the Everly Putrajaya, Kuala Lumpur in Malaysia.

The poster titled "Prevalence and life-table studies of *Calligrapha pantherina*, biological control agent for *Sida acuta*" was amongst other posters that was displayed and presented by Research Officer, Ms. Aradhana Deesh. An oral presentation titled "Determination of the status of the agent *Puccinia spegazzinii* for the control of *Mikania micrantha* in three climatic zones in Viti Levu, Fiji" was presented revealing that bio control agent was still prevalent and had effectively spread after its initial release decades ago.

Further research on weeds that affect agricultural production systems in Fiji and their management continues to be conducted by the Ministry of Agriculture's Research Division through its programs which are undertaken by the Tropical Weed Research Unit (TWRU) of the Plant Protection Section.

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