



MANAGING PEST & DISEASES POST TC YASA A PRIORITY



Ministry of Agriculture Research team during the survey in Vanua Levu

Limiting the risk of an outbreak of pests and diseases on major agricultural commodities post Severe Tropical Cyclone Yasa is a major priority for the Ministry of Agriculture.

Four personnel from the Ministry's Plant Protection Unit of the Research Division are currently in the affected areas of Vanua Levu, conducting survey of the three provinces of Cakaudrove, Bua and Macuata as part of its initial assessment of pest and disease outbreak.

Chances of an outbreak or the new interception of pests, and diseases that occur following a natural disaster such as STC Yasa remain high and can have adverse effects on agricultural commodities.

The Plant Protection Section is assigned to provide support and advisory services on management of insect pest, plant diseases and weeds and invasive plants to people of Fiji and conduct research of potential export commodities that are hosts to fruit flies.

"It also provides support services in registration and monitoring of pesticides imported into Fiji," said the Permanent Secretary for Agriculture Mr. Ritesh Dass.

Mr. Dass said; "The findings from this survey will reveal the current status of the pest occurrence in the affected areas which will be vital for early pest management strategies to prevent further spread or establishment of pests in new areas and affecting the agricultural commodities".

The experts from the Entomology, Plant Pathology and Weed Science sections have carried out pest assessment survey in Nabouwalu area and Cakaudrove province last week covering the farms and nurseries with main commodities such as coconut, dalo, cassava, kumala, yaqona, assorted vegetables and fruits.

The team will continue to cover Macuata and the remainder of Bua province this week.

ADOPTION OF SUSTAINABLE LAND MANAGEMENT TO MAINTAIN ECOSYSTEM SERVICES



Sustainable Land Management practice on a local farm.

Both subsistence and commercial farmers provide the basis for lives' daily requirements, such as food, spices, animal feed, fuelwood and cash crops. The export of sugar and increasingly other crops such as ginger, yaqona, dalo, fresh fruits and assorted vegetables, is crucial to the national economy.

However, unsustainable cultivation practices that have been applied in response to the pressure for increased agricultural production have accelerated the rate of land degradation, severe erosion and the loss of fertile soil. The ever increasing intensity of agricultural production has been achieved at the expense of the environment and the taxpayers.

As farms can only extend to marginal slope lands where it is highly susceptible to erosion particularly when its forest cover are cleared through inappropriate technology.

Mono-cropping and clear felling practices are the common one in the traditional agriculture practices and complete removal of vegetation cover through the use of heavy machinery.

This has actually caused the washing away of thousands of tonnes of fertile soil into our major rivers annually. The subsequent siltation of rivers not only cost the country millions

of dollars each year in dredging, but also through damage from flooding of towns, villages, roads and farms.

The adoption of sustainable agriculture which allows equal production levels without causing a depletion of natural resources, is the only solution to sustain Fiji's agriculture in the future.

Sustainable Land Management attempts to address the two main problems of Fiji's agriculture: loss of soil fertility and erosion. With the deliberate collaboration efforts with other key stakeholders including NGO's, Regional Organizations and private partners, the Ministry will always strive to create a more enabling environment to achieve strategic priorities and continue to achieve international commitments and play a part in ensuring that we live in peace and harmony with undisturbed ecosystem services.

What is Sustainable Land Management?

Sustainable Land Management (SLM) is the use of land resources such as soils, water, animals and plants for the production of goods to meet the changing human needs, while at the same time protecting the long term productive potential of these resources and the maintenance of their

environmental functions.

- This approach provides adequate strategies, approaches and practices for sustainable use and management of land resources for improved livelihoods, local development, national economic growth and social stability.
- It is also a preventative, mitigating and/or eradicating response to land degradation and climate change. It combines technical, as well as policy, institutional and governance measures.
- Land Degradation means any form of deterioration of the natural potential of land that affects the ecosystem integrity in terms of reducing its sustainable ecological productivity or in terms of its natural biological richness and maintenance of its resilience.
- The deterioration results from sustainable land use or from a process or combination of processes, including processes arising from human activities and habitation patterns, such as:
 - Soil erosion caused by wind and/or water
 - Deterioration of the physical, chemical and biological or economic properties of soil and

- Long-term loss of natural vegetation.

to provide food and shelter.

Crop diversification

Crop diversification is the addition of more crops to the existing cropping system. It can also include the diversification of value added products.

Intercropping

Intercropping is a multiple cropping practice involving growing two or more crops in close proximity. The most common goal of intercropping is to produce a greater and more diverse yield on a given piece of land by making use of resources such as certain minerals or shade that would otherwise not be utilized by a single crop.

Mulching

Mulching protects plants from high heat or when it gets too cold by shredding organic waste such as dead leaves and grass. This acts as a control for weeds, enriches and adds moisture to the soil and retains heat in soil.

Controlled grazing

Controlled grazing refers to the degree of control or level of management applied to grazing animals. The goal is to provide the amount and quality of the forage required by the particular class of grazing animal, while maintaining or improving the vigour of the plants being grazed.

Reforestation/Afforestation

Reforestation is the replanting of trees on recently cleared forests. Afforestation is the re-establishment of trees on land that has not been forested for a very long time such as the talasiga grassland.

Sustainable Land Management is not to preserve nature in a pristine state, but to co-exist with nature in a sustainable manner so that the productive, physiological, cultural and ecological functions of natural resources are maintained for the benefit of society. SLM tries to harmonize the complementary but often conflicting goals of production and environmental protection.

Growing crops in a changing climate *Growing crops on slopes*

More intense rainfall events are predicted for the future. This means that soil is more likely to be washed away. Soil on slopes are the most vulnerable. When growing crops on slopes, removing as little vegetation as possible will reduce soil erosion. The roots of trees and plants help hold the soil in place. The canopies of trees also reduce the intensity of rainfall. The raindrops land on leaves and branches of trees, reducing the force of the rain when it hits the ground.

Growing vetiver grass across slopes in between crops can help prevent soil erosion. Vetiver grass has very deep and very strong roots which bond to the soil, preventing it from washing away. Reducing soil erosion helps keep rivers free of sediments.

Agroforestry farming systems

Agroforestry is a farming system where trees, shrubs and food crops grow together. An agroforestry farm has many kinds of plants and animals compared to a normal garden that only has a few types of crops. Animals can also be kept, such as cattle grazing under coconut trees and fruit trees.

Changing weather conditions will affect crops differently. Some crops will be able to survive dry conditions and others can withstand strong winds. Growing different crops (e.g. taro, cassava, pineapple) with fruit trees (e.g. bananas, oranges, pawpaws) and tree crops (e.g. breadfruit, and coconut trees) can provide you with many different types of food during different seasons.

Planting crops and trees together keeps the soil healthy, prevents soil erosion and crops are sheltered against strong winds, hot sun and heavy rain. Firewood and other wood products can be harvested from an agroforestry farm instead of clearing forests.

An agroforestry system supports different types of birds and animals because there are more plants and trees