

PROJECT UPDATE

“Implementation of Sustainable Farming Practices in Trinidad’s Northern Range Communities”

May 2011

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There are several Secondary (indirect) beneficiaries of the TFSP within the Maracas Valley. These beneficiaries include:

- Families of the direct beneficiaries. With an average size of farming households of 4 persons, it is expected that approximately 72 persons will benefit from higher and more sustainable economic returns accruing to the selected farmers.
- The community of Maracas Valley will benefit in a number of ways from the TFSP through (i) reduced threats to health resulting from decreased use of inorganic fertilizers and pesticides, (ii) increased water quality resulting from decreased use of inorganic fertilizers and pesticides and soil erosion regulation, and (iii) reduced incidences of flooding resulting from soil erosion regulation.
- Individuals and institutions involved in research on soil science, agriculture, ecosystem services and sustainable land-use management are expected to benefit from the information generated by the project.

Support For Sustainable Farming Practices in the Maracas Valley

The Cropper Foundation is pleased to update you on the progress of the Inter-American Development Bank-funded project for ‘Implementation of Sustainable Agricultural Practices in Trinidad’s Northern Range Communities (EcoAgriCulture)’.

The Food and Agricultural Organization (FAO) has approved funds from the **TeleFood Special Fund (TSFP)** in support of Sustainable Farming Practices in the Maracas Valley. EcoAgriCulture project partners have identified members of the Maracas Valley Farmers Association (MVFA) as the direct beneficiaries of the TFSP. At present, there are 30 farmers (14 men, 11 women and 5 youth) registered with the MVFA. Of this larger group, 18 farmers (13 men and 5 women) have formally agreed to be involved in the EcoAgriCulture project.

These beneficiaries engage in small-scale commercial farming of mainly peppers, tomatoes, and pigeon peas, and the majority of farms range between one and three acres.

- The national community also stands to benefit from interventions that will prevent soil erosion, reduce down-stream flooding and improve water quality, especially in light of the fact that the Northern Range is the largest producer of freshwater for Trinidad, supplying about 80% of the surface water used and 65% of the groundwater used.
- The information generated from this project will also be available for use by the Government of the Republic of Trinidad and Tobago (GRoTT) and its agencies in the development of policies, plans, strategies and programmes that support sustainable agricultural practices in general and sustainable hillside development in particular.

A similar project proposal is being considered for farmers in the Caura Valley.

Farming in a High Nature Value Environment

Why Perceptions of Nature are so important

The Northern Range of Trinidad represents an “Eco-agriculture Landscape”. It comprises a mosaic of natural features (forests, ravines, wildlife habitat) accompanied by human land uses, primarily for agriculture, but also inclusive of mining, and social organization such as communities and villages. How valuable do we consider this environment? In a fundamental way that answer depends on our perceptions of “Nature”.

Essentially our perceptions of Nature play a major role in determining:

- How we **Value** things in Nature
- How we **Intervene** in the natural environment
- What are our **Expectations** of an eco-system’s response

The prevalent use of pesticides and artificial fertilisers has not only directly influenced our concepts of what comprises a viable farming system but may be indirectly changing our perceptions of how Nature responds to the introduction of these chemicals. Does it simply absorb them, neutralize them or eventually wash them away?

Here are three significant perceptions about nature that are of concern to our Project:

1. **Nature is Omniscient:** This anchors a belief system that the natural environment continues to harbor the solution to all of our present and future problems. It would also mean that the seed and seedling have within them all the “intelligence” needed for them to perform their duty of growing, maturing, producing fruit and dying. This has implications for our concept of a farming system. Our objective therefore is not to feed nutrients directly to the crop, but rather to create an enabling environment so that the crop can do best, what it is already pre-designed to do. Such that our farming practices should look more like actions aimed at intervening in the “science of plant life” in a sustainable manner.
2. **Nature is Adaptive:** The natural environment is a complex, self-organizing structure that successfully adapts to changes introduced by humans in a manner that is sustainable for nature. It may not always be sustainable for life as we know it, as we continue to find evidence of species living under what we consider to be extreme conditions.

Our best example of an approach built around this perception is the **Crop Wild Relative Specialist Group** (CWRSRG) of the IUCN Species Survival Commission (SSC) www.cwrsg.org.

This group acts on the belief that the primary reasons for conserving wild species is because the adaptive capacity of the natural environment make these species potential gene donors for crop improvement and future food security. When we combine this perception with the first one, it provides us with some hope of overcoming challenges in our agricultural-farming systems.

3. **Nature is Ordered Space:** Too often when our minds are unable to handle a complexity, we tend to label it as “Chaotic” or a more friendly term “Un-ordered Space”. We are gaining more knowledge about farming from viewing Nature as Ordered Space (ecosystems) rather than chaotic. The whole Nitrogen Cycle, which we learnt from observing nature, validates our use of compost and other recycled farm waste, etc. We also try to mimic the resilience from Diversity in Nature through techniques of multiple cropping, intercropping and crop rotation.

Forest systems are well ordered space. Besides producing high quality goods and services, nature also replenishes the quality of the soil, filters the water and accommodates a rich biodiversity. Soil and its fertility together constitute the centre of this natural ecosystem. Trees and other plants take up nutrients from the soil and incorporate them in their biomass (leaves, branches etc.). The nutrients go back to the soil when leaves fall or plants die. Forests also host a high diversity of plant varieties of different size, root systems and requirements. Animals are also part of the system. Pests and diseases do occur in natural ecosystems, but they rarely cause major damage; diversity keeps their populations regulated.

When you combine these three perceptions you can begin to appreciate our concern about the sensitivity of persons farming in our High Nature Value environments.

Dr. Allan N. Williams, Project Technical Coordinator

Excerpts from an address on “Perceptions of Nature” to the Horticultural Society, Saturday March 26, 2011.

Measuring the Benefit Package from Implementing Sustainable Farming Practices

Confronted with specific problems of slope, flooding, drought, pests, diseases, low soil fertility, etc., farmers in the Northern Range, like small farmers throughout the world, have developed unique crop management systems aimed at overcoming these constraints. These comprise their “Farming Practices” and it is usually a combination of commercial inputs (which they believe would give them certain specific results) and activities which though their experiences have been proven to be beneficial.

Changing established farming practices that may now be considered inappropriate for the environment (or watershed area) means that we need to pursue certain goals both in terms of input substitution as well as more valuable experiences.

1. We need to find out how Eco-Friendly are your Farming Practices:

- Your location in the landscape;
- Your current farming practices;
- The impact of the inputs you use;
- Alternative beneficial farming practices.

2. We need you to suggest how you can improve the Quality of your soil:

- Recognition of beneficial soil characteristics;
- Evidence of Processing and Recycling of Farm residue;
- Observation of Microbial activity in the soil (soil quality);
- Evidence of an impact of improved water retention in sandy soils (plant quality).

3. We need to see an increase in the total area of your farm under continuous cultivation:

- Increased utilization of land;
- Beneficial changes in the Crop Mix (Crop Rotation System);
- % Change in Harvested Yields (Crop revenue);
- % Change in Seasonal Crop Loss.

4. We need to see a reduction in Crop susceptibility to pests and disease (Farmer perspective)

- Disease/Pest Incidence (lower than usual);
- Weed Suppression Technique less costly (Chemical vs Mulching);
- Fertilizing Techniques less costly and still as effective (Non-Chemical Inputs);
- Managing Crop Growth – Lowering Cost with alternative solutions.

How the HNV Index Works

The project is currently testing a new INDEX that we hope would provide us with a gate-way to introducing more sustainable farming practices among the farmers in the Caura and Maracas/St. Joseph Valleys.

The “High Nature Value (HNV) Farming Index” reflects how “Ecologically Friendly” are your farming practices by recording farmers responses to eight (8) sets of questions:

Your HNV Index: 88

Summary of Scoring Points

Section	Context	Score
1	Farmer personal data	100%
2	Farm Location	100%
3	Soil characteristics:	85%
4	Crops Grown (during the year)	100%
5	Local pest and disease pressure	68%
6	Typical agronomic practices used	77%
7	Fertilizing Practices	56%
8	Managing Crop Growth	62%

What does the HNV Index mean?

The first set of four (4) questions simply confirms that your activity is farming. The second set seeks to establish both your inputs and your valued experiences in farming in this environment.

You score higher points if you:

- Combine high species numbers and structural diversity in time and space (both through vertical and horizontal organization of crops).
- Exploit the full range of microenvironments (which differ in soil, water, temperature, altitude, slope, fertility, etc.) within the farm.
- Maintain closed cycles of materials and wastes through effective recycling practices.
- Rely on a complexity of biological interdependencies, resulting in some degree of biological pest and weed suppression.
- Rely on local resources plus human and animal energy, thereby using lower levels of commercial input technology.

Most importantly the Index opens the gateway for us to provide the farmer with information, if s/he desires to improve her/his score in any of the last four categories.

2nd Stakeholders' Workshop to Map out a Support Structure for Project Intervention

The second stakeholders' workshop will be held on **Wednesday 18th May, 2011** at **St. Veronica's Chapel in La Plata Village, Caura** from **10:00 AM – 2:00PM**.

The purpose of the workshop is map out a support structure of materials and information that can assist farmers in implementing more sustainable farming practices.

The specific objectives of the Workshop are to:

- 1) Introduce the concept of "Farming in a high nature value environment" and how the HNV Index works;
- 2) Demonstrate the background information that would support farmers in developing strategies for implementation of sustainable farm practices;
- 3) Provide an opportunity for farmers and other stakeholders to share ideas on strategies for implementation of sustainable farming practices;
- 4) Collectively determine the material support that would be made available to farmers engaged in readjusting their farming practices.

The Workshop is open to all farmers in the Caura and Maracas/St. Joseph valleys. We are also seeking to invite:

- Farmers belonging to MVFA and Caura Valley Farmers Association;
- Ministry of Food Production Land and Marine Resources (MFPLMA) (Extension and Research Departments);
- Members of the Project Steering Committee (FAO, UWI, IICA, CARDI, MFPLMA, Trust for Sustainable Livelihoods);
- Interested persons from the Maracas/ St. Joseph and Caura/ Tacarigua farming communities;
- Agricultural Society of Trinidad and Tobago;
- UWI Food Production Agriculture Department;
- Representatives from the Maracas Valley Village Council;
- Representatives from the Caura Valley Village Council.
- Representatives from the Regional Corporations

For more information on the workshop:

Please contact **MAURICE RAWLINS** at +1 868 626-2628/ 2564 or mrawlins@thecropperfoundation.org

Schedule of Activities

May - June 2011:

- Researching and disseminating critical farm practices information
- Initial farm practices intervention
- Enlisting supportive research action
- Meeting of the project's steering committee
- Workshop for consensus building

June – December 2011:

- Implementation of interventions
- Implementation of research plan

For more information on the EcoAgriCulture Project, The Cropper Foundation or any of the Project Partners, visit www.thecropperfoundation.org or <http://tcf-sustainablefarming.weebly.com/>

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