

**2<sup>nd</sup> Progress Report on the provision of technical assistance to farmers  
towards implementation of sustainable farming practices in the  
Maracas/ St. Joseph and Caura/ Tacarigua Valleys**

**TIME PERIOD: SEPTEMBER - OCTOBER 2011**

**Submitted by**

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**Tuesday, October 11, 2011**

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## **2<sup>nd</sup> Progress Report on the provision of technical assistance to farmers towards implementation of sustainable farming practices in the Maracas/ St. Joseph and Caura/ Tacarigua Valleys**

### **TIME PERIOD SEPTEMBER 2011**

#### **1.0 INTRODUCTION**

##### 1.1 Background

An assessment of Trinidad's Northern Range completed in 2005 and published as the 2004 National State of the Environment Report for Trinidad and Tobago<sup>1</sup>, concluded, among other things, that unregulated and unauthorized small-scale farming practices are becoming more evident throughout several of the watersheds of the Range. Such practices are driven by a number of socio-economic factors including land use policy and practices, and accelerated development of housing, which often work in combination.

While small-scale farming is a means of livelihood for several farmers (especially in rural areas) and it also plays a key role in local food production, it is becoming increasingly evident that unsustainable agricultural farming practices are part of the cause for downstream environmental impacts being experienced throughout Trinidad. The main impacts include an increase in the incidence and severity of flooding at the foothills of the Northern Range, especially in densely populated areas such as the capital city Port of Spain and in several towns along the East-West Corridor; and a disruption in potable water production by the watersheds of the Range. With the Northern Range is known to produce a large proportion of Trinidad's water supply, reductions in both the quality and quantity of potable water are beginning to have a national-level impact which is only expected to worsen in the foreseeable future.

In order to address the problem of unsustainable agricultural practices in the Northern Range and provide a model for reconciling socio-economic needs of hillside farming communities with environmental conservation, the Inter-American Development Bank (IDB) and The Cropper Foundation have designed and embarked on a project entitled **'Implementation of Sustainable Farming Practices in Trinidad's Northern Range Communities'**. The goal of this project is to pilot alternative farming practices in two watershed of the Northern Range - the Caura and Maracas/ St. Joseph watersheds - that can assist in improving the returns and sustainability of agriculture for small farmers while mitigating negative impacts on the environment and affected downstream communities. Specifically, this project seeks to: examine how to sustain livelihoods based on hillside agriculture within the Northern Range while protecting the resources of the ecosystem and alleviating downstream impacts; support the social and economic development of selected communities; collect valuable baseline information to facilitate present and future participatory applied research and analysis; and understand how to replicate the approach and disseminate learnt lessons stemming from the project.

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<sup>1</sup> Northern Range Assessment 2005. Report of an Assessment of the Northern Range, Trinidad and Tobago: People and the Northern Range. State of the Environment Report 2004. Environmental Management Authority of Trinidad and Tobago. 184pp.

The project's concern centers on five (5) main sources of impact, namely:

- a) Agricultural production (food)
- b) Community Governance and empowerment
- c) Landscape management (Biological impact)
- d) Demographic changes (settlement, tenure)
- e) Watershed Maintenance

## 2.0 SUMMARY OF ACTIVITIES OCTOBER 2011

During this time period the technical team visited the subject areas Maracas St /Joseph and the Caura Valleys, and engaged in the following activities

- I. Briefed the farmers on this phase of the project titled “Implementation”
- II. Shared High Nature Valley (HNV) Index scores with farmers who participated in that exercise
- III. Shared information in one-page bulletins in eight areas on ecologically friendly farming practices
- IV. Shared farm plans (sustainable farming practices with farmers) on soil quality, land preparation, crop management and environmental integrity as an ongoing exercise
- V. A set of inputs that would be made available to participating farmers as part of the project.

Table 1 captures the information shared between the technical team and farmers in the two subject areas.

**Table 1 – Nine areas of focused discussion between the technical team and farmers during the months of July – August 2011 – Caura and maracas St Joseph areas**

|    |   |
|----|---|
| 1. | <b>HNVI Score for Farmers (June 2011)</b>   |
| 2. | <b>Current status of Farmers in terms of Farming Activities, August 2011</b>        |
| 3. | <b>Views on Ecologically Friendly Farming Practices by Active Farmers</b>           |
| 4. | <b>Use of on-farm generated ecologically friendly inputs by Active Farmers</b>      |
| 5. | <b>Use of off-farm ecologically friendly farm inputs by Active Farmers</b>          |
| 6. | <b>The knowledge of farm soil pH and liming</b>                                     |
| 7. | <b>The use of inorganic ecologically non-friendly farm inputs by Active Farmers</b> |
| 8. | <b>Current pest and disease challenges experienced by Active Farmers in Caura</b>   |
| 9. | <b>Challenges and Plans of farmers in Caura</b>                                     |

Source: First Report on the provision of technical assistance to farmers towards implementation of sustainable farming practices in the Maracas/ St. Joseph and Caura/ Tacarigua Valleys

### **3.0 ACTIVITIES SCHEDULED FOR SEPTEMBER 2011**

The technical team's program for the month of September 2011 was planned to entail:

1. Distribution of organic inputs and a few small equipment items to **the twenty (20) participating farmers in the program**. These inputs include:
  - a. Off-farm produced compost
  - b. Limestone
  - c. Organic certified foliar fertilizers
  - d. Granular and liquid organic certified fertilizers
  - e. Organic based and certified plant growth enhancers
  - f. Organic certified pesticides
  - g. Hoes, Shovels, machetes etc.
2. Continuing to share information on ecologically friendly farm practices and monitor if these discussions are being put into practice.
3. Assisting in the areas of other challenges identified by the farmers in the two areas, particularly by interacting with the respective extension officers assigned to the Caura Valley and the Maracas/ St Joseph area.

#### **3.1 Recommendations**

A set of recommendations were devised for moving farms toward environmental and economic sustainability using the information gathered from the continued and ongoing field visits to farmers and the results of the HNV indexing exercise. These recommendations were discussed with farmers towards developing farming plans during the month of September 2011.

## 4.0 MARACAS/ ST JOSEPH FARMERS

### 4.1 General

Interactions with the farmers in Maracas/ St Joseph during the month of September 2011 were continued on the basis of:

- I. Distribution of information bulletins
- II. Observations and discussions on ongoing projects and future projections
- III. Capturing footage on progress
- IV. Developing possible HNV initiatives
- V. Collecting request (pro forma invoices) for supported inputs
- VI. Scheduling farm visits where these are still outstanding

Field visits by the technical team have observed farms were in varying stages of development ranging from virtual abandonment to near full production. The fact that 80% of the farmers in the Maracas/ St. Joseph Valley do not depend on farming as their major livelihood activity may be a significant determinant of the lack of urgency regarding the development of their farms. Despite this farmers continued to indicate a keen interest in wanting to develop their holdings.

### 4.2 Soil Quality

**Table 2 –Notes on Maracas/ St Joseph Farmers’ practices aimed at building and maintaining soil quality**

|   | Last Name | First Name     | Activities  |
|---|-----------|----------------|---|
| 1 | Farrier   | Holasco        | <b><u>THUMBS UP!!</u></b><br>Continues to use compost in addition to on-farm generated cured manure from his livestock operation. Has requested a soil test   |
| 2 | Reyes     | Andrea         | <b><u>THUMBS UP!!</u></b><br>Continues to make and utilize compost, in addition to recycling crop residues as green manure and applies ash to the soil  |
| 3 | Audain    | Terrence       | <b><u>THUMBS UP!!</u></b><br>Continues to use compost, and has requested a soil test on his farm  |
| 4 | Sinanan   | Cathryn        | <b><u>THUMBS UP!!</u></b><br>Continues to make and utilize compost, in addition to recycling crop residues as green manure and applies ash to the soil  |
| 5 | Herbert   | Yusuff / Bruce | <b><u>THUMBS UP!!</u></b><br>Continues to Use compost and recycles crop residues as green manure / mulch and is in the process of building terraces, improving of on-farm drainage and enhancing accessibility on the hillside.<br><br><b><u>THUMBS DOWN!!</u></b><br>The farmer has utilized some herbicide (glyphosate) for |

|    |            |       |   |
|----|------------|-------|---|
|    |            |       | weed management during the preparation phase of the terraces but intends to follow a more eco-friendly approach hereon.   |
| 6  | Thompson   | Leon  | <b><u>THUMBS UP!!</u></b><br>Continues to use compost, recycles crop residues as green manure in his grow box system. On his hillside production plot he normally has a ten (10) year fallow period.<br><br><b><u>THUMBS DOWN!!</u></b><br>Continues to use environmentally harmful herbicides in his agronomic program |
| 7  | Applewhite | Wayne | <b><u>THUMBS UP!!</u></b><br>Mr. Wayne Applewhite has crops at different stages as such he continues to build his soil quality by recycling crop waste as green manure and utilizing compost. Mr Applewhite has requested a soil test.  |
| 8  | Padillia   | Ryan  | <b><u>THUMBS DOWN!!</u></b><br>Still continues in the <b>non use</b> of on-farm generated eco friendly farm inputs  |
| 9  | Williams   | Chad  | <b><u>THUMBS UP!!</u></b><br>Continues to produce and manage a compost heap and has requested a soil test   |
| 10 | Bernard    | Nigel | <b><u>THUMBS UP!!</u></b><br>Recycles crop residues as green manure but would be encouraged to use compost and cured manure   |
| 11 | Applewhite | Kurn  | <b><u>THUMBS UP!!</u></b><br>Continues to manage compost heap to apply to his farm.   |
| 12 | Walter     | Dave  | <b><u>THUMBS UP!!</u></b><br>Continues to use compost and recycles crop residues as green manure and applies ash and has requested a soil test  |

Source: Technical Team visits in September 2011

### 4.3 Land Preparation

**Table 3 –Notes on Maracas/ St Joseph Farmers’ Land Preparation practices**

|   | Last Name | First Name | Activities   |
|---|-----------|------------|--|
| 1 | Farrier   | Holasco    | <b><u>THUMBS UP!!</u></b><br>Uses compost in addition to on-farm generated cured manure from his livestock operation in the establishment of fruit trees and Columbian cedar Farmer has requested training in the use of the “A frame” |
| 2 | Reyes     | Andrea     | <b><u>THUMBS DOWN!!</u></b><br>Strives to use organically certified products but still uses inorganic pesticides and herbicides in her crop management program.  |



|    |            |                |   |
|----|------------|----------------|---|
| 3  | Audain     | Terrence       | <p><b><u>THUMBS UP!!</u></b><br/>Farmer is interested in the use of the A-Frame for the purpose of terracing for hillside conservation. He is preparing to intercrop hot peppers in his plantain field.</p>   |
| 4  | Sinanan    | Cathryn        | <p><b><u>THUMBS DOWN!!</u></b><br/>Strives to use organically certified products but still uses inorganic pesticides and herbicides in her crop management program</p> <p><b><u>THUMBS UP!!</u></b><br/>We will continue to share information with this farmer particularly on the use of the “A-Frame” which she requested.</p>  |
| 5  | Herbert    | Yusuff / Bruce | <p><b><u>THUMBS UP!!</u></b><br/>Management of unwanted vegetation (weeding-keeping a low vegetative cover but not removing totally) between fruit trees<br/>Preparation of terraces for cash crop program<br/>Clearing and preparation of land for expanding plantain production</p>   |
| 6  | Thompson   | Leon           | <p><b><u>THUMBS UP!!</u></b><br/>On the hillside this farmer is preparing a parcel of land that has not been utilized for the past ten years (Proper fallow period).</p> <p><b><u>THUMBS DOWN!!</u></b><br/>Although he is aware of the negative impact of the use of conventional inputs he utilizes a full range of such products (herbicides, insecticides, fungicides, miticides) in his tomato production. He is a full time farmer and is not prepared to take the risk of crop loss.</p> |
| 7  | Applewhite | Wayne          | <p><b><u>THUMBS UP!!</u></b><br/>Mr. Applewhite continued to create bench terraces check dams, drip irrigation systems as some soil conservation techniques since most of his farm is sloping.</p>  |
| 8  | Padillia   | Ryan           | <p><b><u>THUMBS UP!!</u></b><br/>Intends to establish approximately 1,500 pimento plants.<br/>Farmer is interested in the use of the A-Frame for the purpose of terracing for hillside conservation</p>   |
| 9  | Williams   | Chad           | <p><b><u>THUMBS UP!!</u></b><br/>Requested training in the use of the “A Frame” for planting tomatoes and Ochros</p>  |
| 10 | Bernard    | Nigel          | <p>This farmer is presently in the process of clearing for production. The rate of activity is still relatively low.</p> <p><b><u>THUMBS UP!!</u></b><br/>Has requested training in the use of the “A frame” to plant on the contour. Has indicated that he would like to bench terrace a part of the land.</p>   |

|    |            |      |  |
|----|------------|------|--|
| 11 | Applewhite | Kurn | <b><u>THUMBS UP!!</u></b><br>Patchoi Plants are to be established on raised beds in planting holes with no further tillage, in order to minimize disturbance to the soil on his slope. In addition, plants will be established in a mixture of compost and rabbit manure |
| 12 | Walter     | Dave | <b><u>THUMBS UP!!</u></b><br>No short term plans for new plantings but has requested training in the use of the ‘A Frame’ plans  |

Source: Technical Team visits in September 2011

#### 4.4 Crop Management

**Table 4 –Notes on Maracas/ St Joseph Farmers’ Crop Management practices**

|   | Last Name | First Name | Activities   |
|---|-----------|------------|--|
| 1 | Farrier   | Holasco    | <b><u>THUMBS UP!!</u></b><br>Management and further establishment of fruit trees in an eco friendly way<br>Management, establishment and the commercial harvest of timber in an eco friendly way<br>Management of livestock where the manure is used in the tree crop production system  |
| 2 | Reyes     | Andrea     | <b><u>THUMBS UP!!</u></b><br>Continues to maintain her mixed crop farm system with a range of short term and long term crops: Food crop production - string beans, plantains, bananas, tannia, cassava and eddoes; Fruit trees - coconuts. This farmer has a strong program of building and maintaining soil quality<br><br><b><u>THUMBS DOWN!!</u></b><br>Has some challenges in crop management in terms of still using harmful non environmentally friendly fertilizers and pesticides  |
| 3 | Audain    | Terrence   | <b><u>THUMBS UP!!</u></b><br><b>Cocoa rehabilitation:</b> brush-cutting and pruning existing trees, clearing all vines and old branches are being removed, replanting with new high yielding cultivars and intercropping with bananas, and maintaining his small existing coffee field. <i>Mr. Audain has indicated that there is a problem to get labor.</i><br><b>Management of plantains:</b> Mr. Audain has adopted a totally organic approach in which he will use only chicken manure as fertilizer for his plantain plants.<br><br>He has requested a soil test, as he has observed that plantains established on ‘rested’ lands are doing quite well relative to those established on previously cropped land. |

|    |            |         |   |
|----|------------|---------|---|
|    |            |         | <b><u>THUMBS DOWN!!</u></b><br>The only treatment is monthly applications of black disinfectant.  |
| 4  | Sinanan    | Cathryn | <b><u>THUMBS UP!!</u></b><br>Continues to maintain her mixed crop farm system with a range of short term and long term crops: Food crop production of string beans, plantains, bananas, tannia, cassava and eddoes; and Fruit trees - coconuts. This farmer has a strong program of building and maintaining soil quality<br><br><b><u>THUMBS DOWN!!</u></b><br>Has some challenges in crop management with respect to the application of environmentally harmful pesticides in her program |
| 5  | Herbert    | Yusuff  | <b><u>THUMBS UP!!</u></b><br>HNV compatible products are to be utilized as the first option in a short term farming program, and the farmer has requested a soil test.  |
| 6  | Thompson   | Leon    | <b><u>THUMBS UP!!</u></b><br>Intended to compare farmer method and HNV approach in production of celery in grow boxes.<br><br><b><u>THUMBS DOWN!!</u></b><br>Has some challenges in crop management with respect to the application of environmentally harmful pesticides in his program  |
| 7  | Applewhite | Wayne   | <b><u>THUMBS UP!!</u></b><br>Continues to maintain her mixed crop farm system with a range of short term and long term crops for food crop production.<br><br><b><u>THUMBS DOWN!!</u></b><br>Faces some challenges in crop management in terms of still using harmful non environmentally friendly fertilizers and pesticides.  |
| 8  | Padillia   | Ryan    | This farmer is relatively inactive.<br><b><u>THUMBS UP!!</u></b><br>The farmer indicated that the only activities he will engage in is clearing and pruning his fruit orchard and brush cutting the shrubbery in between trees  |
| 9  | Williams   | Chad    | <b><u>THUMBS UP!!</u></b><br>Uses marigold plants and is willing to try some eco friendly products in the management of ochros and sweet peppers.<br><br><b><u>THUMBS DOWN</u></b><br>This farmer indicated that pesticide usage is at a minimum. Copper fungicides are sprayed but insecticidal sprays are based on ecosystem analysis.  |
| 10 | Bernard    | Nigel   | <b><u>THUMBS UP!!</u></b><br>Mr. Bernard intends to adopt a strictly eco-friendly approach. He requested a soil test, and a range of eco-friendly products for the management of bachac ants.   |

|    |            |      |  |
|----|------------|------|--|
|    |            |      | <b><u>THUMBS DOWN!!</u></b> The farmer is currently using a mixture of diesel and cooking salt to control his bachac problem. He intends to compare garlic tea and soya bean oil with his current environmentally harmful measure or method.   |
| 11 | Applewhite | Kurn | Continued maintenance of mangoes, oranges and barbadene (currently being harvested),<br><br><b><u>THUMBS DOWN!!</u></b><br>Intends to use a pre-plant application of the <i>glycophosphate</i> (Systemic herbicide) Viking. All further weed management will be manual.<br><br>Pest management program: Only insecticides will be applied; diazanon prior to planting and post plant applications of fastac based on observation of crop.<br>Intends to use the very environmentally harmful fertilizer urea to his crops<br><br><b><u>THUMBS UP!!</u></b><br>Of interest also is that the compost heap was drenched with garlic tea periodically during its production. |
| 12 | Walter     | Dave | <b><u>THUMBS UP!!</u></b><br>Crop management consist primarily of brush cutting to maintain his short and long term crops and the incorporation of the Marigold plants   |

Source: Technical Team visits in September 2011

#### 4.5 Environmental Integrity

**Table 5 – Maracas/ St Joseph Farmers’ views on maintaining environmental integrity and a summary of their progress in adopting eco friendly farming practices**

|   | Last Name | First Name | Activities   |
|---|-----------|------------|--|
| 1 | Farrier   | Holasco    | <b><u>THUMBS UP!!</u></b><br>Mr. Farrier practices contribute to building a strong program of soil quality which is very beneficial to ensuring environmental integrity.   |
| 2 | Reyes     | Andrea     | <b><u>THUMBS UP!!</u></b><br>Has requested training in the use of the A Frame to encourage contour planting which minimizes soil erosion and will contribute towards maintaining environmental integrity.  |
| 3 | Audain    | Terrence   | <b><u>THUMBS UP!!</u></b><br>Mr. Audain has indicated that he has adopted a totally organic approach and training in the use of the “A Frame” which augers well for soil conservation and building soil quality in terms of crop management Mr. Audain is taking steps in the right direction. All these actions will make strong contributions towards maintaining environmental integrity. |

|   |            |                |   |
|---|------------|----------------|---|
| 4 | Sinanan    | Cathryn        | <p><b><u>THUMBS UP!!</u></b><br/>Requested training in the use of the A Frame to encourage contour planting which minimizes soil erosion. These actions will make strong contributions towards maintaining environmental integrity.</p>   |
| 5 | Herbert    | Yusuff / Bruce | <p><b><u>THUMBS UP!!</u></b><br/>Mr. Herbert continues to build the quality of his soil by using compost, recycles crop residues as green manure / mulch in addition to building bench terracing in addition he has requested a soil test. In terms of crop management he continues to use HNV compatible products as a first . All these actions will make strong contributions towards maintaining environmental integrity.</p>   |
| 6 | Thompson   | Leon           | <p><b><u>THUMBS UP!!</u></b><br/>Uses compost, recycles crop residues as green manure in terms of building soil quality and on the hills has a 10 year fallow period. These actions will make strong contributions towards maintaining environmental integrity.</p> <p><b><u>THUMBS DOWN!!</u></b><br/>Mr. Thompson’s continued usage of very environmentally harmful pesticides would eventually lead to soil degradation acidification and the killing off of flora and fauna creating un balanced eco systems.</p> <p><b><u>THUMBS UP!!</u></b><br/>A good start is his willingness to try a strict HNV compatible products in his grow box system</p> |
| 7 | Applewhite | Wayne          | <p><b><u>THUMBS UP!!</u></b><br/>Uses compost, recycles crop residues as green manure and builds check dams and bench terraces. These actions will make strong contributions towards maintaining environmental integrity.</p> <p><b><u>THUMBS DOWN!!</u></b><br/>Discourage the use of environmentally harmful pesticides which would cause serious harm to our eco systems.</p> <p><b><u>THUMBS UP!!</u></b><br/>A good start is his willingness to try strict HNV compatible products on part of his farm.</p>  |
| 8 | Padilla    | Ryan           | <p><b><u>THUMBS DOWN!!</u></b><br/>.These negative practices not only would they damage the integrity of the environment but would lead to a farm environment that as depleted of any fertile elements.</p>   |
| 9 | Williams   | Chad           | <p><b><u>THUMBS UP!!</u></b><br/>These practices such as requesting training in the use of the “A Frame” in order to plant on the contours of the hillside, the continued and ongoing use compost, the practice of recycling crop residues as green manure and the application of ash and the integration of</p>  |

|    |            |       |  |
|----|------------|-------|--|
|    |            |       | marigold plants in his farming system all make strong contributions towards maintaining environmental integrity  |
| 10 | Bernard    | Nigel | <b><u>THUMBS UP!!</u></b><br>Mr. Bernard adopted practices in addition to his choice of requested telefund inputs is demonstrating that he is interested in building soil quality. In addition this farmer intends to adopt a strictly eco-friendly approach. is making a strong statement that this farmer is firm believer in maintaining environmental integrity. |
| 11 | Applewhite | Kurn  | <b><u>THUMBS UP!!</u></b><br>This farmer has some reservations about fully adopting or embracing a environmentally friendly farming practices therefore his willingness to establish a plot fully devoted to these alternative practices is a move in the right direction. This represents a step towards contributing to maintaining environmental integrity.       |
| 12 | Walter     | Dave  | <b><u>THUMBS UP!!</u></b><br>His practices in terms of building soil quality and the integration of marigold plants in his farming system all make strong contributions towards maintaining environmental integrity  |

Source: Technical Team visits in September 2011

## 4.6 Inputs Requested

**Table 6 – Requested inputs by Maracas St Joseph farmers under the FAO Telefund**

|   | Last Name | First Name | INPUTS REQUESTED   |
|---|-----------|------------|--|
| 1 | Farrier   | Holasco    | <b>Soil Quality:</b> limestone<br><b>Crop Management (Fertilizing):</b> Liquid sea weed, bio energy liquid, take up<br><b>General farm Practices:</b> Farmer also requested fruit trees  |
| 2 | Reyes     | Andrea     | <b>Crop Management (Fertilizing)::</b> Liquid sea weed, bio energy liquid, liquid manure<br><b>Crop Management (Pest/disease suppression)::</b> Neem oil, nemex, phyton 27<br><b>General farm Practices:</b> Small tools: machete, fork, hoe, matock   |
| 3 | Audain    | Terrence   | <b>Soil Quality:</b> limestone, liquid chicken manure, compost<br><b>Crop Management (Fertilizing):</b> Liquid sea weed, bio energy liquid, take up, stimulate<br><b>Crop Management (Pest/disease suppression):</b> Neem oil, golden pest spray oil, phyton 27<br><b>General farm Practices:</b> Small tools: Machete, hoe, fork, swipper |
| 4 | Sinanan   | Cathryn    | <b>Crop Management (Fertilizing)::</b> Liquid sea weed, bio energy liquid, liquid manure   |

|    |            |                |  |
|----|------------|----------------|--|
|    |            |                | <p><b>Crop Management (Pest/disease suppression)::</b><br/>Neem oil, nemex, phyton 27</p> <p><b>General farm Practices:</b> Small tools: machete, fork, hoe, matock</p>  |
| 5  | Herbert    | Yusuff / Bruce | <p><b>Soil Quality:</b> Compost, limestone, liquid chicken manure</p> <p><b>Crop Management (Fertilizing)::</b> Mike all purpose, liquid sea weed, bio energy liquid, stimulate take up</p> <p><b>Crop Management (Pest/disease suppression)::</b><br/>Neemex, golden pest spray oil, phyton 27, neem oil</p> <p><b>General farm Practices:</b> Buckets, machete, rake, fork, swiper</p> |
| 6  | Thompson   | Leon           | <p><b>Soil Quality:</b> Compost, limestone, liquid chicken manure</p> <p><b>Crop Management (Fertilizing)::</b> Mike all purpose, liquid sea weed, bio energy liquid, stimulate take up</p> <p><b>Crop Management (Pest/disease suppression)::</b><br/>Neemex, golden pest spray oil, phyton 27, neem oil</p>  |
| 7  | Applewhite | Wayne          | <p><b>Soil Quality:</b> Limestone</p> <p><b>Crop Management (Fertilizing):</b> Liquid seaweed, Take up, Mike, Liquid chicken manure</p> <p><b>Crop Management (Pest disease suppression)::</b><br/>Golden pest spray</p>   |
| 8  | Padillia   | Ryan           | <p><b>Crop Management (Fertilizing):</b> Liquid manure, mike all-purpose, bio-energy liquid, liquid sea weed, stimulate</p> <p><b>Crop Management (Pest disease suppression)::</b><br/>Golden pest spray oil, nemex, phyton 27</p> <p><b>General farm Practices :</b>Small tools: Fork, spade, lchette</p>   |
| 9  | Williams   | Chad           | <p><b>Soil Quality:</b> Compost, limestone, liquid manure</p> <p><b>Crop Management (Fertilizing):</b> Liquid sea weed, bio energy liquid, stimulate, mikes all purpose</p> <p><b>Crop Management (Pest disease suppression)::</b><br/>Nemex, phyton 27, golden pest spray oil</p> <p><b>General farm Practices :</b>swipper, hoe, mattock</p>   |
| 10 | Bernard    | Nigel          | <p><b>Soil Quality:</b> limestone, liquid chicken manure</p> <p><b>Crop Management (Fertilizing):</b> liquid sea weed, bio energy liquid, takeup, stimulate</p> <p><b>Crop Management (Pest disease suppression):::</b><br/>Golden pest spray oil, Phyton 27, neem oil</p> <p><b>General farm Practices :</b> grubbing hoe, fork, hoe, machete, swiper</p>                               |
| 11 | Applewhite | Kurn           | <p><b>Soil Quality:</b> limestone, liquid chicken manure</p> <p><b>Crop Management (Fertilizing):</b> Mike all purpose, liquid sea weed, bio energy liquid, x-cycle</p> <p><b>Crop Management (Pest disease suppression):</b><br/>Golden seal spray oil, neem oil, phyton 27</p>   |

|    |         |      |   |
|----|---------|------|---|
|    |         |      | <b>General farm Practices:</b> Small tools: Hoe, machete, swipper, fork   |
| 12 | Walters | Dave | <b>Soil Quality::</b> limestone<br><b>Crop Management (Fertilizing):</b> Mike all purpose, liquid sea weed, bio energy liquid<br><b>General farm Practices</b> Small tools: Machete, swipper, fork, mattock hoe |

Source: Technical Team visits in September 2011

Table 7 captures the specific request made by farmers for the testing of their soils which has never been done and would provide a good basis to assist in building their soil quality. The other request for training in the use of the “A frame is a positive step towards find and planting on the contour which will minimize soil erosion. These two interventions represent steps in the right direction

**Table 7 – Specific request made by Maracas St Joseph Farmers**

| <i>Intervention requested</i>                           | <i>Number of farmers</i> | <i>Total Number of Farmers</i> | <i>% of Total</i> |
|---|--------------------------|--------------------------------|-------------------|
| <i>Soil test</i>  | 12                       | 12                             | 100%              |
| <i>Training in the use of the “A Frame”<sup>2</sup></i> | 7                        | 12                             | 58.3%             |

Source: Technical Team Visits September 2011

<sup>2</sup> The “A Frame” is used to find contours along slopes to minimize soil erosion by planting along these contours



## **5 SUMMARY OF MARACAS ST JOSEPH FARMERS**

Despite the limited timeframe afforded to the implementation phase of this project, the technical team is making some progress given the challenges of this area in terms of its accessibility due to the areas steep terrain. The interventions requested by the Maracas St Joseph farmers captured in Table 8 can be described as steps in the right direction towards achieving cultural change. The provision of information through bulletins is useful but its impact is uncertain considering the attitude of some farmers to rest down documents for future reference. The proposed soil testing project is commendable as farmers can at least be aware of with the conditions of their soil, and soil treatments could then be based on quantitative information.

## 6.0 CAURA VALLEY FARMERS

### 6.1.1 General

The Caura Valley has its unique characteristics as it is also a major recreational spot for local tourists. Farming in Caura is practiced by two types of farmers' resident and non resident farmers. This means that these two groups of farmers would have different needs and expectations. Nevertheless common ground can be found in challenges such as land tenure, labor, drainage, irrigation access to credit etc. The average farm size is approximately five (5) acres and the terrain can be described as flat and rolling with few farms occupying steep terrain. The majority of farmers on Caura Royal Road, Capigical Road and Concordia Road have access to irrigation as such year round production is possible whereas the majority of farmers located on Tumbasson road do not have irrigation and are part time farmers. The major crops cultivated in the Caura area golden apple, hot and pimento pepper, eggplant, corn , watermelon, pumpkin, citrus, papaya, tomato, cassava with some barbadene, coconuts, mangoes, carambola etc

Given these conditions, field visits by the technical team have observed farms were in varying stages of development ranging from virtual abandonment to near full production. The fact that some of the farmers do not depend on farming as their major livelihood activity may be a significant determinant in the state of development of these farms. Despite this farmers continued to indicate a keen interest in wanting to develop their holdings.

## 6.2 Soil Quality

**Table 8 –Notes on Caura Farmers' practices aimed at building and maintaining soil quality**

|   | Last Name | First Name | Activities  |
|---|-----------|------------|---|
| 1 | Heera     | Krishna    | <b><u>THUMBS DOWN!!</u></b><br>Mr. Heera continues to utilize inorganic fertilizers. Currently his farm is enjoying good productivity mainly due to the characteristics of the sandy loam his farm occupies. His approach to building and maintaining soil quality is fundamentally flawed an eventually his soil would not be habitable to beneficial organisms resulting in a breakdown of soil structure and the build up of soil acidification.<br><b><u>THUMBS UP!!</u></b><br>He uses cured manure and has requested a soil test. |
| 2 | Tannis    | Clement    | <b><u>THUMBS UP!!</u></b><br>He recycling crop residues as green manure and applies ash to the soil. He has requested a soil test and will start to create bench terraces   |
| 3 | Howard    | Vivian     | <b><u>THUMBS UP!!</u></b><br>Has requested a soil test on his farm continues to recycling crop residues as green manure and applies ash to the soil   |
| 4 | Balgobin  | Kevin      | <b><u>THUMBS UP!!</u></b><br>Continues to make and utilize compost, in addition to recycling crop residues as green manure. Has requested a soil test<br><b><u>THUMBS DOWN!!</u></b><br>He still uses inorganic products such non HNV compatible herbicides   |
| 5 | Ramcharan | Naresh     | <b><u>THUMBS UP!!</u></b>   |

|   |           |          |  |
|---|-----------|----------|--|
|   |           |          | Continues to recycle crop residues as green manure / mulch and has requested a soil test and is very knowledgeable on environmentally sound ecological farming practices<br><b><u>THUMBS DOWN!!</u></b><br>The farmer continues to use environmentally harmful pesticides on his farm operational plans such as herbicides and its negative effect on building soil quality                              |
| 6 | Ramcharan | Rajendra | <b><u>THUMBS UP!!</u></b><br>Continues to recycle crop residues as green manure / mulch and has requested a soil test and is very knowledgeable on environmentally sound ecological farming practices<br><b><u>THUMBS DOWN!!</u></b><br>The farmer continues to use environmentally harmful pesticides on his farm operational plans such as herbicides and its negative effect on building soil quality |
| 7 | Haywood   | Terrance | <b><u>THUMBS UP!!</u></b><br>Continues to recycle crop residues as green manure / mulch and has requested a soil test and is very knowledgeable on environmentally sound ecological farming practices<br><b><u>THUMBS DOWN!!</u></b><br>Mr Haywood sometimes uses environmentally harmful herbicides   |
| 8 | Mohammed  | Quddus   | <b><u>THUMBS UP!!</u></b><br>Continues to recycle crop residues as green manure / mulch and incorporate compost which is continuing to build his soil quality, has requested a soil test and is very knowledgeable on environmentally sound ecological farming practices   |

Source: Technical Team visits in September 2011

### 6.3 Land Preparation

**Table 9 –Notes on Caura Farmers’ Land Preparation practices**

|   | Last Name | First Name | Activities   |
|---|-----------|------------|--|
| 1 | Heera     | Krishna    | <b><u>THUMBS DOWN!!</u></b><br>Mr. Heera predominantly is focused on maintaining a three year papaya field; he has no current plants to bring any other commodities into production. His approach to farming is totally inorganic and very harmful to the environment  |
| 2 | Tannis    | Clement    | <b><u>THUMBS UP!!</u></b><br>Presently he is in the process of setting up terraces using stones and wood so as to limit the effects of soil erosion on the slopes.<br>Mr. Tannis requested some assistance where the layout of his land is concerned. (Landscaping)<br>Mr. Tannis is about to transplant some starch mango plants. |
| 3 | Howard    | Vivian     | <b><u>THUMBS UP!!</u></b><br>He has a variety of plants at different life stages. He is also in the process of transplanting some barbadene has discontinued the use of inorganic products and has requested further information of ecologically friendly practices  |
| 4 | Balgobin  | Kevin      | Mr. Balgobin indicated to that because of circumstances beyond   |

|   |           |          |   |
|---|-----------|----------|---|
|   |           |          | his control he hasn't been able to dedicate the amount of time he would really like to on the farm. As a result some of his plans have been delayed such as replanting  |
| 5 | Ramcharan | Naresh   | <b><u>THUMBS UP!!</u></b><br>Presently Mr. Ramcharan is in the process of preparing an acre on land for Melongene plants and will incorporate cured manure and green manure from recycled green manure<br><b><u>THUMBS DOWN!!</u></b><br>He continues to use non environmentally friendly pesticides which are so harmful to maintaining environmental integrity. |
| 6 | Ramcharan | Rajendra | <b><u>THUMBS UP!!</u></b><br>He displays a lot of knowledge of the advantages in sustainable farming practices.<br><b><u>THUMBS DOWN!!</u></b><br>He continues to use non-environmentally friendly pesticides.<br>Further plans of intervention is being put in place to influence Mr. Ramcharan (Arranging a meeting with Dr. Allan Williams)                    |
| 7 | Haywood   | Terrance | <b><u>THUMBS UP!!</u></b><br>Mr. Haywood uses a variety of products such as recycled crop residues as green manure and cured pen manure which are essential in building soil quality.<br><b><u>THUMBS DOWN!!</u></b><br>He continues to use non environmentally friendly herbicides   |
| 8 | Mohammed  | Quddus   | <b><u>THUMBS UP!!</u></b><br>Continues to maintain his mixed crop farm system with a range of short term and long term crops for food crop production.  |

Source: Technical Team visits in September 2011

## 6.4 Crop Management

**Table 10 –Notes on Caura Farmers' Crop Management practices**

|   | Last Name | First Name | Activities  |
|---|-----------|------------|---|
| 1 | Heera     | Krishna    | <b><u>THUMBS DOWN!!</u></b><br>Mr. Heera predominantly is focused on maintaining a three year papaya field by utilizing very harmful pesticides to the flora and fauna for example, his major pest problem is that of fruit flies and to suppress he applies fastac and pirate for this, both of which are inorganic in nature and very harmful to the environment.<br><b><u>THUMBS UP!!</u></b><br>He has requested information bulletins on the following: Learning from nature, Why we use mulch, Burning plant material, Increase soil organic matter, How to prevent soil erosion, Produce more bio mass, Improve your soil's fertility, |

|   |           |          |  |
|---|-----------|----------|--|
|   |           |          | Synthetic or mineral fertilizer, Crop diversity for nutrient management, Crop rotation Crop rotation, Determining your crop mix  |
| 2 | Tannis    | Clement  | <b><u>THUMBS UP!!</u></b><br>Still has a problem with Bachac attacking his crops is willing to try garlic tea and for the young starch mango plants protect the with PVC piping  |
| 3 | Howard    | Vivian   | <b><u>THUMBS UP!!</u></b><br>Vivian Howard has discontinued the use of non compatible HNV pesticides inorganic fertilizers)  |
| 4 | Balgobin  | Kevin    | <b><u>THUMBS DOWN!!</u></b><br>Still continues to use inorganic fertilizers and environmentally harmful pesticide products   |
| 5 | Ramcharan | Naresh   | <b><u>THUMBS UP!!</u></b><br>He is familiar with a wide range of organic products and utilizes them (e.g. New Fol Cal); fully satisfied with the results.<br><br><b><u>THUMBS DOWN!!</u></b><br>Continues to use environmentally harmful herbicides in his agronomic program                                   |
| 6 | Ramcharan | Rajendra | <b><u>THUMBS UP!!</u></b><br>Mr. Ramcharan has even utilized a few of techniques e.g. use of mulch and organic fertilizers, new fol cal, neemex etc.<br><br><b><u>THUMBS DOWN!!</u></b><br>Continues to use environmentally harmful herbicides in his agronomic program  |
| 7 | Haywood   | Terrance | <b><u>THUMBS UP!!</u></b><br>Mr. Haywood has even utilized a few of techniques e.g. use of mulch and organic fertilizers, new fol cal, neemex etc.<br><br><b><u>THUMBS DOWN!!</u></b><br>Continues to use environmentally harmful herbicides in his agronomic program  |
| 8 | Mohammed  | Quddus   | <b><u>THUMBS UP!!</u></b><br>Mr. Mohammed boasts of zero use of inorganic fertilizers and pesticides and continues to achieve high production levels a testament that aiming to maintain the integrity of the environment by adopting good eco friendly farming practices will not sacrifice farm productivity |

Source: Technical Team visits in September 2011

## 6.5 Environmental Integrity

**Table 11 – Caura Farmer’s views on maintaining environmental integrity and a summary of their progress in adopting eco friendly farming practices**

|   | Last Name | First Name | Activities  |
|---|-----------|------------|---|
| 1 | Heera     | Krishna    | <p><b><u>THUMBS DOWN!!</u></b><br/>Mr. Heera continues to adopt a program of using very harmful pesticides that will significantly damage waterways, soil fertility and kill of beneficial flora and fauna in the medium and long term. Currently he is not experiencing any effects of his current program but a soil test may reveal the beginnings of some of these negative effects. This farmer is working against maintaining environmental integrity.</p> <p><b><u>THUMBS UP!!</u></b><br/>The technical team has scheduled a meeting between the projects technical advisor (Dr. Allan Williams) and Mr. Heera to discuss the pros and cons of Mr. Heera’s approach</p> |
| 2 | Tannis    | Clement    | <p><b><u>THUMBS UP!!</u></b><br/>Mr. Tannis is on the road towards developing and practicing good eco friendly farm practices and by embracing this culture he is on the road to maintaining environmental integrity.</p>   |
| 3 | Howard    | Vivian     | <p><b><u>THUMBS UP!!</u></b><br/>Vivian Howard continues to show keen interest in sustainable farming practices particularly building quality soils and a zero approach on harmful pesticides, this approach can only auger well for maintaining environmental integrity. .</p>   |
| 4 | Balgobin  | Kevin      | <p><b><u>THUMBS UP!! / THUMBS DOWN!!</u></b><br/>Mr. Balgobin is at a cross roads on how his practices contribute towards the maintenance of environmental integrity. He continues to build soil quality but at the same time is counter productive to this activity by using <b>inorganic fertilizers and pesticides</b>. Is willing to tilt towards maintaining environmental integrity, the provision of the telefund inputs<sup>3</sup> along with the provision of information bulletins should contribute.</p>  |
| 5 | Ramcharan | Naresh     | <p><b><u>THUMBS DOWN!!</u></b><br/>Mr. Ramcharan predominantly is focused on maintaining his farm via mainly using very harmful pesticides and inorganic fertilizers to the flora and fauna. His practices work against maintaining environmental integrity and in the medim and long term would prove costly to himself and the environment.</p>   |
| 6 | Ramcharan | Rajendra   | <p><b><u>THUMBS UP!!</u></b><br/>Continues to uses compost, recycles crop residues as green manure. The technical team has scheduled a meeting between the projects technical advisor (Dr. Allan Williams) and Mr. Ramcharan to discuss the pros and cons</p>   |

<sup>3</sup> The use of the inputs can assist in building confidence on there use as pest and disease suppressant products

|   |          |          |  |
|---|----------|----------|--|
|   |          |          | of Mr. Ramcharan's approach<br><br><b><u>THUMBS DOWN!!</u></b><br>Mr. Ramcharan predominantly is focused on maintaining his farm via mainly using very harmful pesticides and inorganic fertilizers to the flora and fauna. His practices work against maintaining environmental integrity and in the medim and long term would prove costly to himself and the environment.   |
| 7 | Haywood  | Terrance | <b><u>THUMBS UP!! / THUMBS DOWN!!</u></b><br>Mr. Balgobin is at a cross roads on how his practices contribute towards the maintenance of environmental integrity. He continues to build soil quality but at the same time is counter productive to this activity by using <b>inorganic fertilizers and pesticides</b> . Is willing to tilt towards maintaining environmental integrity, the provision of the telefund inputs <sup>4</sup> along with the provision of information bulletins should contribute. |
| 8 | Mohammed | Quddus   | <b><u>THUMBS UP!!</u></b><br>Mr. Mohammed is doing an excellent job in demonstrating that a farmer can be successful whilst maintaining environmental integrity. In recognition of his eco friendly practices and proven results the project has planned a field visit to his farm late in October 2011 so that other farmers may benefit from his knowledge.  |

Source: Technical Team visits in September 2011

## 6.6 Inputs Requested

**Table 12 – Requested inputs by Caura farmers under the FAO Telefund**

|   | Last Name | First Name | INPUTS REQUESTED   |
|---|-----------|------------|--|
| 1 | Heera     | Krishna    | NONE   |
| 2 | Tannis    | Clement    | <b>Soil Quality:</b> Compost, liquid chicken manure<br><b>General farm Practices:</b> Small Tools  |
| 3 | Howard    | Vivian     | <b>Soil Quality:</b> compost, liquid chicken manure<br><b>Crop Management (Fertilizing):</b> mike, xcyte and liquid seaweed  |
| 4 | Balgobin  | Kevin      | <b>Soil Quality:</b> compost<br><b>Crop Management (Fertilizing):</b> mike, stimulate and liquid seaweed   |
| 5 | Ramcharan | Naresh     | <b>Soil Quality:</b> liquid chicken manure<br><b>Crop Management (Pest disease suppression):</b> Mike, xcyte, neemex and phyton 27                                 |
| 6 | Ramcharan | Rajendra   | <b>Soil Quality:</b> new gel, liquid chicken manure<br><b>Crop Management (Fertilizing):</b> mike, stimulate and liquid seaweed                                    |
| 7 | Haywood   | Terrance   | <b>Soil Quality:</b> New Gel<br><b>Crop Management (Fertilizing):</b> xcyte, stimulate and bio energy<br><b>Crop Management (Pest disease suppression):</b> neemex |
| 8 | Mohammed  | Quddus     | <b>Soil Quality:</b> New Gel<br><b>Crop Management (Fertilizing):</b> liquid seaweed, bio energy and xcyte   |

Source: Technical Team visits in September 2011

<sup>4</sup> The use of the inputs can assist in building confidence on there use as pest and disease suppressant products

**Table 12 – Specific request made by Caura Farmers**

| <i>Intervention requested</i> | <i>Number of farmers</i> | <i>Total Number of Farmers</i> | <i>% of Total</i> |
|-------------------------------|--------------------------|--------------------------------|-------------------|
| <b>Soil test</b>              | 8                        | 8                              | 100%              |

Source: Technical Team Visits September 2011



## **7 SUMMARY OF THE CAURA VALLEY FARMERS**

Despite the limited timeframe afforded to the implementation phase of this project, the technical team is making some progress in terms of addressing specific requests such as the control of bachac ants which affects farmers on Tumbasson road. The interventions requested by the Caura farmers captured in Table 12 can be described a step in the right direction towards achieving cultural change. The provision of information bulletins through appears to be is useful because a few farmers have engaged in dialogue on the information in the bulletins. Three (3) out of the eight farmers are set in their green revolution ways and meetings with the projects technical advisor is scheduled for this month October 2011. Again the proposed soil testing project is commendable for farmers can at least be aware of what they are dealing with and soil treatments could then be based on quantitative information.

## 8.0 ACTIVITIES SCHEDULED FOR OCTOBER 2011

The technical team's program for the month of October 2011 is planned to entail:

- I. The distribution of organic inputs and a few small equipment items to **the twenty (20) participating farmers in the program**, some include:
  - a. Off-farm produced compost
  - b. Limestone
  - c. Organic certified foliar fertilizers
  - d. Granular and liquid organic certified fertilizers
  - e. Organic based and certified plant growth enhancers
  - f. Organic certified pesticides
  - g. Hoes, Shovels, machetes etc
- II. The team would continue to share information on ecologically friendly farm practices and monitor if these discussions are being put into practice.
- III. The technical team would try to assist in the areas of other challenges identified by the farmers in the two areas, particularly by interacting with the respective extension officers assigned to the Caura Valley and the Maracas/ St Joseph area.
- IV. Accompany the MFPLMR technical team to administer soil tests for farmers' in the Caura Valley and the Maracas/ St Joseph areas.
- V. Facilitate two field trips to share with the projects' participating farmers the ecological friendly practices adopted by two of the more successful farmers in the group.
- VI. Facilitate a meeting with the project technical coordinator and some of the more reluctant farmers on embracing ecologically friendly farming practices.