

# **KANUKU MOUNTAINS PROTECTED AREA PROCESS COMMUNITY RESOURCE EVALUATION**



## **MARURANAU VILLAGE REPORT**

**May 8 - 19, 2002**

# COMMUNITY RESOURCE EVALUATION

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## Acknowledgement

### "Thank you"

This report is the result of work done between the members of the Conservation International team and the villagers of Maruranaú village, who represented their community during the CRE workshop.

All of the work in this report is the result of the dedication and hard work of these persons who gave their time and shared their knowledge.

We would therefore like to thank each of the participants for taking time out from their lives to be part of the workshop.

The workshop would not have been possible without the help and support of Touchau Patrick Gomes, the other members of the village council and the Community Coordinator Mr. Noel David, all of whom worked together to make the CRE a success!

Thank you to the Head Master in charge, Mr. Roy O'Connell for the use of the school building.

We would also like to thank Shirlíne, Sister Ursula and Leopold for working tirelessly to provide the workshop with meals.

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## **LIST OF ABBREVIATIONS**

CI -	Conservation International
CIG -	Conservation International Guyana
CRE -	Community Resource Evaluation
EPA -	Environmental Protection Agency
GCF -	Global Conservation Fund
GoG -	Government of Guyana
GPS -	Global Positioning System
ISV -	Initial Site Visits
KMPA -	Kanuku Mountains Protected Area
NAG -	National Advisory Group
NGOs -	Non-Governmental Organizations
NPAS -	National Protected Areas System
PA -	Protected Areas
PRA -	Participatory Rural Appraisal
RAG -	Regional Advisory Group
USAID -	United States Agency for International Development

## INTRODUCTION

The Kanuku Mountains are considered to be one of the most biologically diverse areas in Guyana. In addition to the numerous eco-systems and unique flora and fauna found there, the Kanukus also support the livelihood, culture, and history of eighteen villages peopled by two of Guyana's Indigenous tribes, the Macushi and the Wapishana. As a result, the Government of Guyana has identified the Kanuku Mountain Region as an important area for conservation.

This report is the result of a Community Resource Evaluation (CRE) exercise that was conducted from May to December 2002 in eighteen communities that directly use the resources of the Kanuku Mountains. The purpose of the CRE was to determine the resource use patterns of these villages. For a period of eight months a group of ten CI researchers collaborated with members of each community to determine resource use in the area through workshops, discussions, fieldwork, and surveys.

This Village Report documents the quality and intensity of the resource use of the community in its interaction with the Kanuku Mountains, and also explores the community's perceived threats to that use. The Community Resource Evaluation (CRE) focused on the resource use categories of farming, hunting, fishing, and gathering.

The CRE report provides the resource use information set required for developing a proposal for a Protected Area in the Kanuku Mountains (KMPA). It is a tool to enable the community to record and communicate its resource use information to key government decision makers and other stakeholders in the process of proposing a protected area.

The information presented in this report was collected during a ten-day workshop in which a Conservation International research team collaborated with community participants to create tools to gather information on the resource use of the village. The CI team included members from the subject communities, who served as advisors, interpreters, and facilitators in the planning and implementation of the workshops.

The results of the CRE workshop are presented in three sections. The first records the research tools created by the participants: the resource list, the seasonal calendar, and resource use sketch maps. The second section presents the results of the data shared by the participants and collected during field observation in the mountains and in the village. In the final section, the results of the tool creation and the field observation are assessed to provide a profile of the way the community uses the resources of the Kanuku Mountains.

The CIG field team members included:

Andrew Demetro	Indigenous Knowledge Advisor
Richard Wilson	Indigenous Knowledge Advisor
Nial Joseph	Global Information Systems Technician
Vitus Antone	Forest Resource Advisor
Margaret Gomes	Wapishana Interpreter
Natalie Victoriano	Macushi Interpreter
Lloyd Ramdin	Agricultural Advisor
Sebastian Tancredo	Field Team Leader
Esther McIntosh	Facilitator
Susan Stone	Project Manager/Facilitator

The entire series of CRE workshops was implemented from CIG's Lethem office with the support and assistance of:

George Franklin	Regional Coordinator
Patricia Fredericks	Education and Awareness Officer
Julie Kanhai	Database Coordinator
Wendy Leandro	Education and Awareness Assistant
Margaret Kahn	Accounting
Vibert James/Stewart Charles	Transportation
Annie Charles	Meals

This study was initiated by the Government of Guyana (GoG) under the auspices of the Environmental Protection Agency's National Protected Areas Secretariat.

## WORDS AND PLACE NAMES

In the writing of this report we have made every attempt to use the names of places and resources most commonly known in the region. Both Macushi and Wapishana are oral languages in their original form. Projects are now underway to create a written form of both languages. During such a transitional period, it can be difficult to find agreed upon for word usage and spellings.

The resource lists and seasonal calendars are reproduced largely as the participants recorded them. When the same resource item was spelled in different ways, the most commonly known spelling was used. This was assisted by the feedback from the participants during the Results Feedback Workshops held in each community, and by the Macushi and Wapishana members of the CRE team.

The spelling of place names was standardized in the text of the Village Reports, again using the most commonly recognized spelling, as best it could be determined. In the list of the geo-referenced resource use sites, the place names are shown as the team members recorded them.

In addition to the community and CRE team members, we have relied on the “Scholars Dictionary and Grammar of the Wapishana Language-Tominpainao Ati’o Wapichan Paradan Parada-karu na’iki Paradauzo-kara kaduzu”, as compiled by the Wapishana Language project in cooperation with Wapichan Wadauniinao Ati’o. The Wapishana language Project, Rupununi, Guyana (August 2000) and “Makusipe Komanto Iseru: Sustaining Makushi Way of Life, edited by Janet Forte, commissioned by the Iwokrama Rainforest Program, copyright by North Rupununi District Development Board, 1996. These works provided valuable guidance in common names, word usage and spellings.

## **CONSERVATION INTERNATIONAL**

Conservation International (CI) is a global leader in conservation – working to preserve threatened ecosystems in more than thirty countries on four continents.

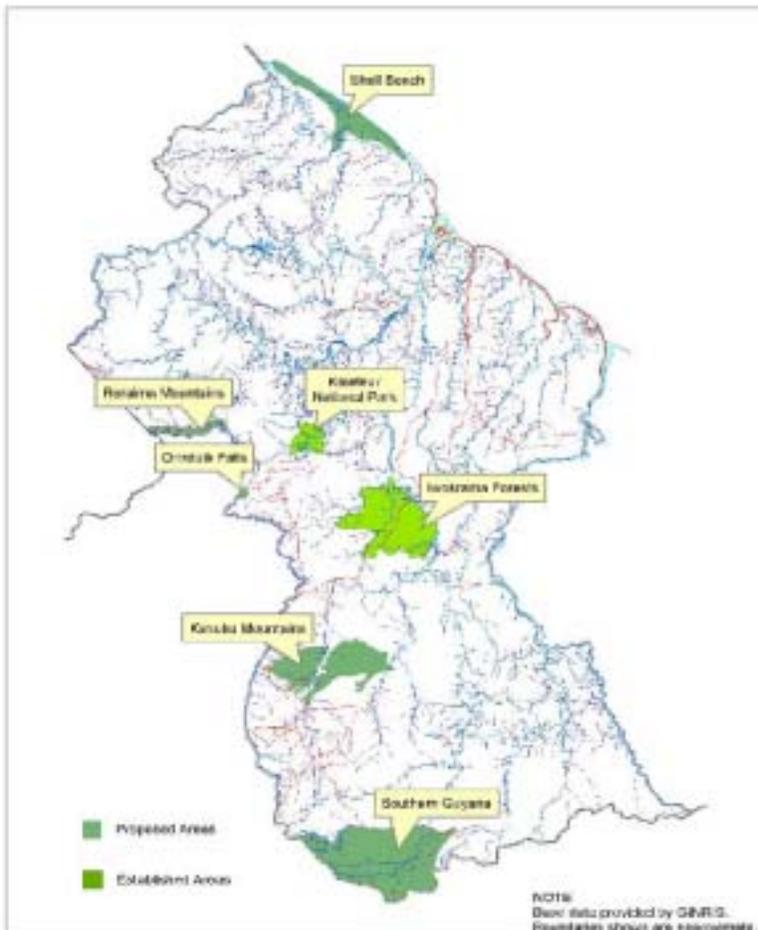
CI has been active in Guyana since 1990 and has led research expeditions, media events and educational activities. The strategic plan of CI Guyana (CIG) is to promote the conservation of biodiversity and the protection of critical ecosystems, through a process comprising scientific research based on priority setting, collaboration with partner NGOs and state agencies, and consultation with communities and other stakeholders.

In 2000, the Government of Guyana, through the Environmental Protection Agency, invited CI Guyana to perform the role of lead agency in the process of establishing a protected area in the Kanuku Mountains, one of the five priority sites identified for conservation. CI Guyana is committed to a process that involves and seeks participation of all stakeholders at the national, regional, and community levels.

## PROJECT LOCATION

The Kanuku Mountains are located in the Rupununi Savannas of Region Nine of southwestern Guyana. The mountains are approximately 100 km east-to-west and 50km north-to-south and are divided by the Rupununi River into eastern and western ranges with peaks up to 1,000 meters.

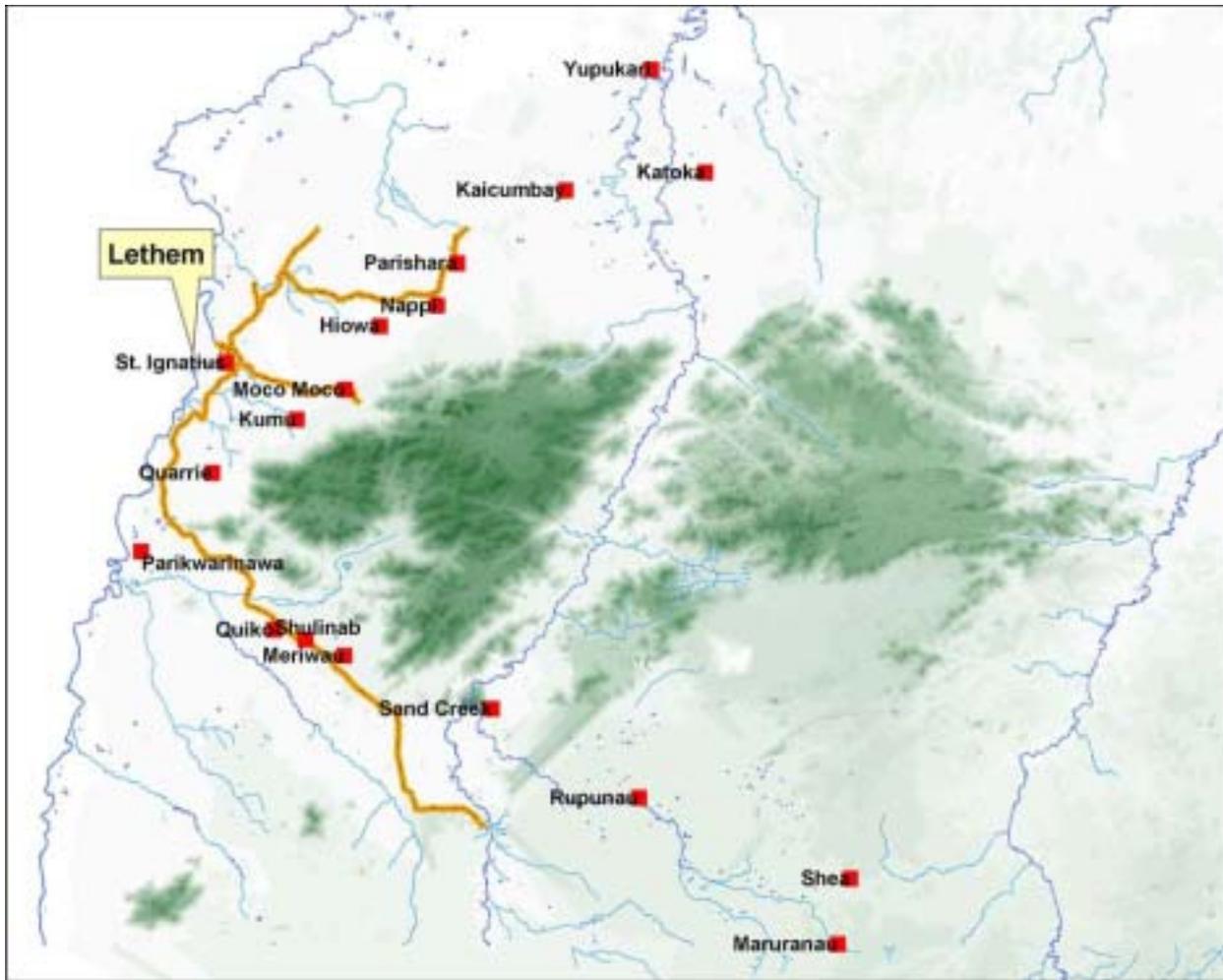
The Kanuku Mountains Proposed Protected Area (KMPA) is one of five areas in Guyana that have been identified by the Environmental Protection Agency (EPA) for conservation efforts. These areas are selected because of their beauty, landscape or richness in biodiversity.



**Map Showing Five Priority Sites in Guyana**

The Kanuku Mountain Range was identified because it is one of the most biologically diverse areas in Guyana. Approximately 350 species of birds, or about half of all the bird species so far identified in Guyana can be found in the Kanuku Mountains. Eighteen of these species are unique to the lowland forests of the Guianas. The Kanuku Mountains are also home to two of Guyana's nine Amerindian tribes: the Wapishana and the Macushi.

The eighteen villages that were studied use the resources of both the western (13) and eastern (5) ranges of the Kanukus. The riverain communities of Sand Creek, Katoka, and Yupukari access resources on both sides of the Rupununi River, their activities taking them into both ranges of the Kanukus.



**Map showing 18 Communities that directly use the Kanuku Mountains**

## PROJECT OVERVIEW

Conservation International has a long-standing presence in Region 9, which began in 1991 with the filming of the Harpy Eagle for National Geographic. In 2000 Conservation International Guyana was asked by the Government of Guyana (GoG), through the EPA to be the Lead Agency in guiding the process leading up to the declaration of a Protected Area in the vicinity of the Kanuku Mountains.

In pursuing this mandate CI's work has been divided into two main areas: gathering information and engaging stakeholders.

The participation of stakeholders has been identified as being critical to the process. Therefore between April 2000 and April 2001, consultations were held with Regional and National stakeholders. Advisory committees were formed at both levels, the Regional Advisory Group (RAG) and National Advisory Group (NAG).

The RAG includes representation from local government institutions, Village Captains (Touchaus) and members of their Councils, the Touchaus Council, Women and Youth Groups, Indigenous Advocacy Groups and other interest groups functioning in Region 9.

Significant contributions of the RAG include:

- The identification of the eighteen (18) communities to be directly involved in the consultation process;
- The identification of two (2) Indigenous Knowledge Advisers to the consultation teams to ensure that culturally appropriate processes were followed, through which community members were able to express their views;
- The identification of two (2) interpreters - one (1) Macushi and one (1) Wapishana, to accompany the consultation teams;
- The endorsement of the principle of one (1) person from each of the communities functioning as a Community Coordinator. The appointment of the Community Coordinator was made by the communities and his/her role was to:
  - a. Provide a continuous presence in the villages after the consultation teams had left;
  - b. Explain during the period that the consultation teams were away from the villages, those concepts that might not have been clear to them during the meetings or for which additional information was needed; and
  - c. Function as a liaison between their community and CIG.
- The endorsement of the programme of consultations, and also the representation of the regional stakeholders on the National Advisory Group.

The RAG also made recommendations for:

- a. Improvement in the proposed programme of consultations, education and awareness engagements and training; and
- b. The scheduling of consultations.

The National Advisory Group was comprised of representatives of the natural resources sectors, other relevant agencies of GOG, the Human Rights Association, all Indigenous Advocacy Groups, other environmental NGOs, opinion leaders and Parliamentary Opposition Political Parties, among others.

Significant contributions of the NAG include the:

- Recommendations to improve the proposed programme of consultations, education and awareness engagements and training;
- Endorsement of the final programme for consultations;
- Identification of the natural resources sectors which were to be more directly involved in the consultations;
- Recommendation of the datasets to be made available for the design of the protected area; and
- Provision of a forum for the concerns of the representatives from the RAG to articulate the views and concerns of the stakeholder groups that they represented.

Initial Site Visits (ISVs) were conducted in all of the eighteen communities to provide information on Conservation International, the protected area process, and the proposed Community Resource Evaluation. Recognizing the need for an informed stakeholder group, workshops were held for community leadership (Touchau, Village Council, Teachers and Community Coordinators). The CRE activity represents a continuation in efforts to engage a wide stakeholder group.

In the area of information gathering several complementary studies were carried out. These included, digital over flights, scientific research for biological data (CI Rapid Assessment Program in 1993, 2001) and a CI commissioned Socio-Economic Survey (Gordon Forte, 2001). The Government of Guyana's 1992 *Country Study of Biological Diversity* informed these later activities. The information obtained from the CRE represents the final set of data that is required to inform the management objectives leading to the proposal of the appropriate type of protected area in the vicinity of the Kanuku Mountains.

## **CRE OVERVIEW**

The overall purpose of the Community Resource Evaluation (CRE) is to work together with the community to understand the extent and intensity of resource use by the eighteen villages that directly use the resources of the Kanuku Mountains. By involving the community in the research the CRE also provides an avenue for the community to communicate its resource use to key decision makers and stakeholders in the process of establishing a protected area

The CRE is an informal data collection exercise to gather information on resource use patterns in the Kanuku Mountains. The study seeks to record what resources are used, the extent of use (where the communities hunt, fish, farm and gather) and local perceptions of resource availability and threats.

Some of the methods that were used in the CRE have been adapted from the Participatory Rural Appraisal (PRA) research methodology used to gather information in rural areas. It stresses a participatory approach to development and learning from the local people.

One of the main strengths of the CRE is that the community, by selecting twenty-five to thirty villagers to participate in the research, has been engaged directly. The participants took part in the exercise, received training, shared knowledge, and were able to successfully contribute to the data collection.

## METHODOLOGY

The tools used in the CRE were designed to be simple and to allow for maximum participation. To ensure effective communication and understanding, sessions and discussions were conducted in the local language whenever necessary. The Community Coordinator served as part of the CI team, assisting in interpretation, logistics, and leading bush or village teams. The approach is a learning process; to this end all the participants and the CI team members are simultaneously learners and teachers.

Through discussion, spatial data exercises and field observation, a common frame of reference is created to enable the community to effectively communicate its patterns of resource use to the government and non-government agencies involved with them in the protected areas process.

At the beginning of each CRE a public meeting is held to inform the community about the exercise and to provide information. Twenty-five persons are selected by the community to represent them in the CRE. The selections are made independently, with the criteria that all community groups are represented, (including women, youths, and a range of age groups) and that persons with knowledge of the forests and trails are included.

## DESCRIPTION OF TOOLS

The following tools form the basis of the CRE:

- 1. Focus Groups**
- 2. Resource List**
- 3. Seasonal Calendar**
- 4. Resource Sketch Maps**
- 5. Field Observation**
- 6. Surveys**
- 7. Mini lectures**

### **1. Focus Groups**

The twenty-five participants work with the CRE team throughout the evaluation exercise both in large and small group discussions. During the first day's activities, this group self-selects into three focus groups of eight-nine persons to work in the resource categories of a.) Farming; b.) Hunting & fishing; c.) Gathering. Their decision is based on their knowledge of the focus group topic. The large group serves as a unit to discuss the results of the focus group sessions, and to provide feedback and broader consensus on the information recorded.

### **2. Resource List – “The What”**

The resource list is created first, and forms the basis for the other tools. Participants list all of the resources in the category that are actively used by their community. The names of resources are listed in English and, where possible, in the local language.

### **3. Seasonal Calendar – “The When”**

The seasonal calendar is a participatory tool used to explore seasonal changes and the activities of the village during the year in each resource use category. The creation of the seasonal calendar begins with the listing of the twelve months of the calendar year. This forms the basis for a group discussion among the entire participant group. The participants list the main seasons, wet and dry, as they occur throughout the year. The intermittent showers and dry spells are also included. Because the seasons are closely linked to the movement of the stars and other natural events, these milestones are also included. Once the seasonal comparison is completed, the large group then breaks into the three focus groups and individually lists the activities in the resource category that are done throughout the year. The groups then reconvene in the large group and present their work for validation and correction.

#### **4. Sketch Mapping**

The core of the methodology is the use of informal sketch mapping. This tool is used to create a visual, spatial representation of village resource use areas. This traditional Participatory Rural Appraisal technique is modified to exclude the use of boundaries in the mapping exercise. The goal is to have the community create a spatial record of resource use, without regard to boundaries, whether actual or perceived, and without regard to land ownership. The focus is the area of actual use wherever it occurs. This approach allows the community to focus their feedback on the primary goal of the CRE exercise - communicating and understanding where and how resources are used – with emphasis on the extent and intensity of use into the Kanuku Mountains.

In order to create a spatial frame of reference for the recording and discussion of use, participants are asked to sketch out a skeleton or base map of the significant features of the community – village center, roads, trails, waterways, that are essential to accessing and using resources. Participants draw the skeleton map on a large chalkboard from each resource group. The entire participant group must come to consensus that the base map created adequately represents the village. The skeleton map is then copied by all the groups onto separate cardboard sheets, which are used, by each focus group to record the specific resources used in the areas identified during their discussions. The maps are then presented to the larger group for input as to content and accuracy. These maps are also taken into the field so that the information can be verified through observation, and the furthest points of use as indicated can be visited, observed and geo-referenced.

When all of the individual Resource-Use Sketch Maps have been created, the resource information is combined and recorded on the chalkboard skeleton map resulting in a complete visual and spatial profile of the type and location of resource use in the community. The entire group must again come to agreement that the combined representation accurately depicts the resource use of the village. The information is then transferred from the chalkboard onto plywood board using paints in a variety of colors to create a permanent community resource use record.

All the maps are digitally photographed to preserve the data for analysis. The originals of the Resource-Use Sketch Maps and the Master Resource-Use Map remain in the community as their record of the Community Resource Evaluation exercise. A copy of the master resource map is drawn for the records of the CRE team.

## 5. Field Observation

After the basic tools are completed, the participants are divided into two groups: the “bush team” of approximately fifteen persons, focusing on field observation, and the “village team” of ten persons, focusing on the village survey interviews and student interactions.

The “bush team” meets as a group to study the sketch maps and to decide on the routes to be taken to observe important resource use areas, and to reach the furthest points of use. The group then divides into three groups, each assigned to a different route. The community participants lead the team, with a CI team member facilitating the work. The purpose of the fieldwork is to work together with the community participants to:

- a. Verify information on location and extent of resource use as discussed and recorded in the focus group and sketch mapping activities, using the Resource Use Sketch Map from each individual category, as the basic reference tool
- b. Record information about each site visited on a field data form.
- c. Locate and geo-reference the sites visited, including the points of furthest use in the furthest areas of use

## 6. Village Surveys

During the four-day period the “bush team” is in the field, the remaining participants on the “village team” conduct informal interviews with the wider community. This is done using a survey with simple questions about resource use in the same categories addressed by the focus groups:

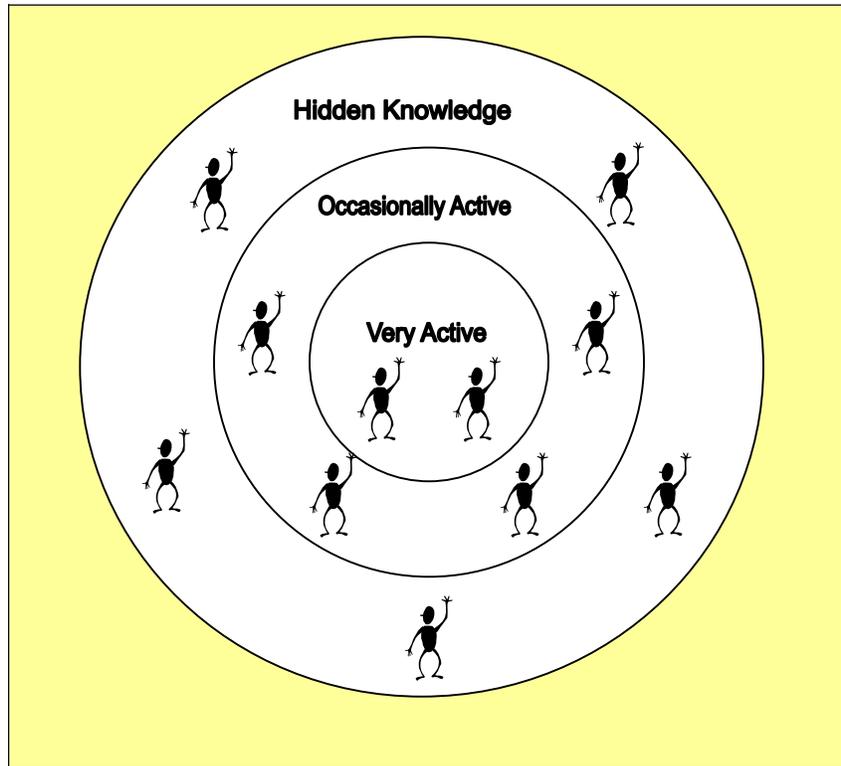
- A mini-lecture is given on information gathering and surveying techniques
- The participants then undergo a mock interview exercise for practice
- The community participants draw an informal sketch map of the village on which all households are placed. The group selects potential interviewees based on representation of village areas and the different social groups within the village.
- The participants go out to the homes of those who have been identified to seek permission for the interview
- The interviews are conducted
- A sample of the results of the survey are compiled and studied

## 7. Mini Lectures

A number of short lectures are used throughout the exercise to build upon the education and awareness aspect of the consultation process. Topics include those which were presented in the Initial Site Visits.

1. Protected Areas
  - The categories of Protected Areas
  - The steps to establishing a Protected Area
2. Conservation International and its role as a lead agency
3. Levels of Community Participation (see diagram below)
4. Where am I on the face of the Earth
  - Informal versus formal mapping
  - Geo-referencing/GPS training – a tool to record resource site location.
5. Survey methods and techniques

## LEVELS OF COMMUNITY PARTICIPATION EXERCISE



**Very Active** participation refers to persons that are always involved in community activities. This group of people is very informed and active in the village. An example of this type of person would be the Touchau, Councillors, Parents Teachers Friends Assn. (PTFA), teachers and community health worker (CHW).

**Occasionally Active** participation refers to persons who are sometimes involved in community activities, because they have an interest in one or more area, for example attendance at the PTFA or church meeting. These persons would only be part of these meetings when the topic affects them.

**Hidden Knowledge** refers to those persons who seldom attend community meetings. Because these persons frequently live far from the village center, they may not attend church services (where most announcements about community events are made) and are not really a part of the activities in the village. These persons often have a broad knowledge about resources and their environment, but as they do not have an opportunity to share what they know, it remains “hidden” from the community.

For the purpose of the CRE everyone is important and has an important role to play in the exercise.

## TYPICAL CRE ACTIVITY TIMELINE

<b>CRE ACTIVITY</b>	<b>Day 1</b>	<b>Day 2</b>	<b>Day 3</b>	<b>Day OFF</b>	<b>Day 5</b>	<b>Day 6</b>	<b>Day 7</b>	<b>Day 8</b>	<b>Day 9</b>	<b>Day 10</b>
Village Council Meeting										
Public Meeting										
Resource List										
Seasonal Calendar										
Resource Maps										
Field work Preparation										
Field Work										
Student Interactions										
Surveys										
Closing Public Meeting										

For a brief activity schedule see Appendix 1.

# Community Resource Evaluation Village Report

Maruranau

## **MARURANAU VILLAGE REPORT**

The Community Resource Evaluation (CRE) was conducted at Maruranau from 8<sup>th</sup> – 19<sup>th</sup> May 2002. The purpose of the CRE, as outlined in the first section of this report, was to work along with the community to understand their resource use patterns in the Kanuku Mountains.

The CRE engaged a wide range of participants including village councillors, women and church group leaders, youths and elders. The group included persons having a vast knowledge of various aspects of their resources from which the activity greatly benefited.

The CRE was able to successfully meet its objectives in collecting information from the community, geo-referencing the furthest points of resource use and reaching out to members of the wider community.

The information contained in this Maruranau Village Report is divided into three main sections. The first section provides information on the village including demographics and a list of the participant group. The introduction is followed by a section, which lists the results of the workshop tools i.e. resource lists, seasonal calendar and sketch maps. The second section also includes the results of the fieldwork done in the mountains and in the village. The third and final section provides a resource-use profile of the village, which is an analysis of the patterns of resource use as observed and documented during the CRE.

Throughout the report some of the “Conservation Stories” (see Section) that were during the village fieldwork exercise are also featured.

## VILLAGE DESCRIPTION

Maruranau is mainly a Wapishana speaking community, situated on a savannah hilltop the Deep South savannah. The Wapishana interpret the name Maruranau as “Giant Armadillo Hill”. It is one of the largest villages in the Deep South.

The village is well established with a school (primary and nursery) church and health center. The center of the community lies at 2.75136° N and 59.25891° W.

The main activity is farming and to a lesser extent cattle rearing by a few villagers.

Maruranau is considered to be the furthest community to the southeast to interact directly with the Kanukus.

The vast expanse of forested area toward the Kwitaro River is most used by Maruranau for resource use. To meet the Kanukus one must travel along a bush trail, almost 30 miles due north.

## DEMOGRAPHICS

### Population

The population of Maruranau is estimated 640 with 115 households.

### Administration

The following persons form part of the Village Council:

Patrick Gomes (Touchau)	Cleonis Edward
Michael Simon	Theodore Edward
Daniel Aguilar	Ivan Lanis
Curtis Louis	Ignatius Berchaman
Bernard Bernard	Nita O’Connell
Agnes Edward	Trevor George
Jennifer Perry	Maria Lanis
Desiree Ritchie	

*Source: Regional Democratic Council – Region 9*

## PARTICIPANT GROUP INFORMATION

In total twenty-five participants took part in the CRE exercise in Maruranau. At the initial public meeting (May 4, 2002) the participants were chosen by their fellow villagers. The participant group represented a wide range of persons from all parts of the village. There were seven (7) women and eighteen (18) men who participated.

In total four councillors took part in the CRE, including the Senior Councillor, Edward Cleonis. There was also one ex-councillor. In addition there were representatives of the women’s group, youth group, church and a church leader. The Touchau of the village, Mr. Patrick Gomes was unable to take part in the CRE due to other engagements. The group also consisted of farmers, hunters, fishermen and gatherers who brought a wealth of knowledge to the workshop.

The majority of participants had been involved in a workshop before.

The names of the participant group are as follows:

Bernard Bernard	Cleonis Edward	Ivor Antone	Phillip Berchman
Vibert George	Daniel Joseph	Conrad Campion	Amos Charlie
Dyonisio Marcello	Lisa Marco	Timothy Marco	Beryl O’Connell
Marlyn Paulin	Clement Thomas	Nita O’Connell	Alma O’Connell-
Valentine Pablo	Aidan Paulin	Amy Pablo	Shook
Walter Bernard	Juliet George	Odo Simon	
Benjamin James	Alexis Mandukin	Stanley O’Connell	

**Noel David (Community Coordinator)**

### Participants Age Profile

AGE	15 - 28	29 - 40	41 – 55	Above 55	Not Stated
# of persons	4	5	14	1	1

### CI Team Members

For a profile of the CI team see Appendix 2. The CI team consisted of:

<b>Vitus Antone</b>	(Resource Advisor)
<b>Lloyd Ramdin</b>	(Agriculture Advisor)
<b>Andrew Demetro</b>	(Indigenous Knowledge Advisor)
<b>Esther McIntosh</b>	(CRE Facilitator)
<b>Margaret Gomes</b>	(Wapishana Interpreter)
<b>Susan Stone</b>	(Project Manager)
<b>Nial Joseph</b>	(IT/GIS Technician)
<b>Natalie Victoriano</b>	(Macushi Interpreter)

**Julie Kanhai** (Database Coordinator)  
**Richard Wilson** (Indigenous Knowledge Advisor)



CI team members

# CRE WORKSHOP RESULTS

## CREATION OF THE TOOLS

The creation of the tools for the workshop took approximately three days. The participants divided themselves into three focus groups to produce the tools in the different resource use areas; farming, hunting/fishing and gathering. After each tool was complete, the group reported on the work. This allowed contributions and agreement from the whole group for each resource area. Each group created a resource list and sketch map. The seasonal calendar was done with the help of the whole group.



**Ivor Antone presenting the Resources Lists**



**Participants viewing the sketch maps created**

Participants created three tools to help communicate Maruratau's resource use:

- Resource list – “what” resources the community uses
- A Seasonal Calendar – “when” the resources are used
- Sketch Maps – “where” the resources are found

In this section the results of each of the resource focus groups will be examined individually. The

information is presented in the following order:  
farming, hunting, fishing, and gathering.



**Stanley O'Connell explaining the Seasonal Calendar**

## THE RESOURCE LISTS

### “The What”

The resource lists were created in three focus groups: farming, hunting and fishing and gathering. Each individual group focused on a particular resource category. The groups contained about eight persons with a CI team member facilitating the exercise. The focus groups consisted of persons who were knowledgeable about their resources and who actively hunt, fish, gather, or farm.

In total one hundred and sixty two different resources were listed.

Farming group creating their resource list	Resource Lists Created		
	Gathering	Hunting & Fishing	Farming
			

## FARMING

The farming group created one of the most extensive lists reflecting a diverse range of crops, including peppers and vegetables. Because of the cooler climate that is found in Maruranau, ground provisions are easily grown there. The resource lists contains a number of these with a variety of local names: Anteater Yams, Turtle Heel Eddoes, Bush Hog Balls Eddoes and Marudi Yams.

In total fifty (50) crops were listed by the participants. The community actively farms all of the crops listed below, including cassava, the domestic staple, and cash crops such as peanuts.

<b>Crops</b>			
1.	Peanuts	25.	Eel Yams
2.	Squash	26.	Pumpkin
3.	Pigeon peas	27.	Okra
4.	Bora	28.	Potatoes
5.	Black-eye	29.	Anteater Yams
6.	Beans	30.	Camoudi Yams
7.	Plantains	31.	Marudi Yams
8.	Knowledge Benas	32.	Bell Yams
9.	Fish Benas	33.	Turtle Heel Eddoes
10.	Animals Benas	34.	Bush Hog Balls Eddoes
11.	People Charm Benas	35.	Peppers
12.	Weaving Benas	36.	Water Eddoes
13.	Music Benas	37.	Shoulder Blade Bell Eddoes
14.	Baby Delivery Benas	38.	Haimara Eddoes
15.	Bananas	39.	Bitter Cassava
16.	Paw Paw	40.	Sweet Cassava
17.	Water Melon	41.	Melon seed
18.	Sugar Cane	42.	Barley
19.	Pine apples	43.	Cucumber
20.	Tomato	44.	Hill Paddy
21.	Crawa	45.	Sorrel
22.	Jack Beans	46.	Arrow Plant
23.	Cotton	47.	Donkey Cane
24.	Tobacco	48.	Fish Poison
49.	Ginger	50.	Tania

## HUNTING & FISHING

The hunting list reflects both animals and birds that are actively used by the community. In total twenty-two (22) different types of game were listed. The fishing group listed thirty-six (36) species of fish. Of the thirty-six species, eight types of fish, tiger fish, lukunani, alligator's egg, arapaima, sunfish, basha, arawana and swordfish, are considered to be scarce.

Maruranau, loosely translates as "Armadillo Hill" and there was a time when armadillos were abundant in the savannah close to the village but now none are found and villagers must go further to find armadillos.

Hunting		Fishing			
1.	Bush & Savannah Deer	1.	Hiamara	20.	Cassie
2.	Bush Hogs	2.	Tiger Fish	21.	Banana
3.	Bush Cow	3.	Lukanani	22.	Kulit
4.	Labba	4.	Biara	23.	Dog Fish
5.	Armadillo	5.	Patwa	24.	Piaba
6.	Powis	6.	Mangi	25.	Electric eel
7.	Land Turtle	7.	Kuti	26.	Dari
8.	Monkey	8.	Perai	27.	Pencil fish
9.	Acouri	9.	Hassar	28.	Lou Lou
10.	Marudi	10.	Alligator Eggs	29.	Dawalau
11.	Capibara	11.	Yarrow	30.	Water Turtle Eggs
12.	Maam	12.	Arapaima	31.	Sting Ray Fish
13.	Pigeons	13.	Sword Fish	32.	Flounder
14.	Toucan	14.	Yakutu	33.	Imiri
15.	Macaw	15.	Basha	34.	Crab
16.	Iguana Egg	16.	Arawana	35.	Shrimps
17.	Duck	17.	Houri	36.	Snail
18.	Quail	18.	Sun Fish		
19.	Adouri	19.	Logo Logo/Cutlass Fish		
20.	Trumpet bird/Waracabra				
21.	Anaqua				
22.	Salipenter				

## GATHERING

The gathering group listed in total forty-six (46) materials that are actively gathered by their community. These materials include lumber, clay, wild fruits, precious and semi precious minerals, and house materials.

<b>Materials</b>			
1.	Fire woods	23.	Amethyst
2.	Honey & wax	24.	Minerals: gold
3.	Beads	25.	Bush rope
4.	Crab Oil Seeds	26.	Wild banana leaves: Dalibana
5.	Etai	27.	Round wood for housing materials
6.	Tibisiri	28.	Artifacts
7.	Nibi	29.	Bamboo
8.	Karamani	30.	Liana (local nails)
9.	Brazilian nuts	31.	Trapping; birds, monkeys, turtles
10.	Turo	32.	Wild cherry
11.	Clay/Pottery/ Bricks	33.	Owawash
12.	Muckru	34.	Macaw Head
13.	Lou	35.	Paw wau
14.	Rails (bullet wood)	36.	Jeany pap
15.	Aruwa	37.	Witchibai
16.	Balata & other trees milk	38.	Wamuck
17.	Cocorite	39.	Drute
18.	Kaziman Graters	40.	Kumarle
19.	Canoe wood	41.	Medicinal herbs
20.	Bow material (leopard wood)	42.	Barks
21.	Logs for Hogs (cedar, silverballi, etc)	43.	Oil palm
22.	Wild fruits: plum, awara, manicole, etc	44.	Incense
45.	Greater rock	46.	Cocrite worm/palm larva

# THE SEASONAL CALENDAR

## “The When”

The seasonal calendar was created using the entire participant group. The group’s first task was to outline the main seasons of the year, as they know them.

The group identified two main seasons, the dry and the wet season. These seasons were then written down in the month(s) of the year in which they occur. As can be seen in the table the group identified a number of shorter intermittent spells of wet or dry that occurs within a larger season such as “First Rains” between April and May.

Constellations and activities of nature, which serve as milestones for the seasons were also identified. These are; *Wham wuu nun* or Beatle rains, *Wham kn moon* or Beatle Suns and *Wii nau tip tan*, which is when the “7 stars” go down.

Once the local seasons were established and agreed to by the entire group the participants proceeded to look at each resource category (farming, hunting & fishing, and gathering) and to list the activities that occur in those seasons. The information that follows is a description of the results of the completed seasonal calendar.

## FARMING

The activities of the farming group were separated into two categories: high and low bush.

### Low bush:

Most of the planting is done after the first rains which occur around the end of March. The main crops that are planted are: cassava, corn and peanuts. Harvesting is done between September and October. Peanuts are harvested between August and October. Land preparation i.e., the clearing of the area is done in the long dry season. However between September and October some land preparation is already occurring in some farms for cassava. The planting of cassava follows the drying, burning and the clearing of the land. Throughout the year the community is engaged in the harvesting and replanting of cassava. The low bush is cut when fast farms are needed.

### High Bush:

January is the month when trees are allowed to dry after they have been cut down. The burning of the land in preparation for planting follows this. Clearing and planting is after a brief one-day period of spot planting. The clearing of the under bush area and any clearing of trees is done between August and October. The high bush is not cut during each season since this bush takes longer to burn however the yield is better. Hence cutting of farms in different bush areas depends on the farmers’ preference.

All farming activities depend on the weather e.g. planting of corn is dependent on the first heavy rains so that the ground gets soaked.

## **HUNTING & FISHING**

Hunting and fishing is done throughout the year. The different seasons influence the methods that are used and where fishing is done. In the long dry season (January to March) turtle eggs and powis are caught. There is less fishing activity during the period of heavy rains and flood (June – July) but hunting continues for game such as deer, parrots, macaws and toucans. August – September is piab season and for the rest of the year (October – November) fishing is done in large rivers and in small creeks. August is also the period when there crabs march upriver. December is a time of increased activity as the community has hunting and fishing parties for Christmas. Easter fishing is dependent on the first rains.

## **GATHERING**

Gathering is activity that engages the village throughout the year. The gathering of materials is determined by need. In the long dry season house materials including; wood and leaves are gathered. It is also the time when prospecting for minerals are undertaken. The trapping of young parrots is done between April and May. It is followed by balata bleeding in June through to August. November through to December is a time when house materials are once again collected. Some craft materials such as arrow cane are collected throughout the year.

## Revised Seasonal Calendar for Maruranau

January	February	March	April	May	June	July	August	September	October	November	December	
Long Dry		1 <sup>st</sup> Beetle Season	1 <sup>st</sup> Rains	Short Dry	2 <sup>nd</sup> Beetle Season	Big Rainy/Floods		Dry/Wet Storms	Short Dry		Last Rains	Long Dry
<div style="display: flex; justify-content: space-between; align-items: center;"> <span>←</span> <span><b>Low Bush Farming for main crops: <i>Cassava. Peanuts. Corn</i></b></span> <span>→</span> </div>												
Cutting and Planting			<i>Plant Corn</i>	<i>Plant Peanuts and Corn. Also, reap corn</i>			UB & cutting down of Cassava Farms		Harvest Peanuts		Clearing & Planting of Cassavas	
							Drying & Burning of Cassava Farms & Clearing & Planting of Cassavas					
<div style="display: flex; justify-content: space-between; align-items: center;"> <span>←</span> <span><b>Harvesting &amp; Replanting of Cassavas</b></span> <span>→</span> </div>												
<div style="display: flex; justify-content: space-between; align-items: center;"> <span>←</span> <span><b>High Bush Farming For Main Crops: Cassava, Peanuts &amp; Corn</b></span> <span>→</span> </div>												
Drying of trees	Burning of Land	Spot Planting (1 day)	Clearing & Planting				Under Bushing (UB) & Cutting Down of Trees			Drying of Trees		
<div style="display: flex; justify-content: space-between; align-items: center;"> <span>←</span> <span><i>Harvesting of Cassavas (1 year later)</i></span> <span>→</span> </div>						<div style="display: flex; justify-content: space-between; align-items: center;"> <span>←</span> <span><i>Growing of Cassavas</i></span> <span>→</span> </div>						

SEASO

FARMING

**Revised Seasonal Calendar for Maruranau Continued**

January	February	March	April	May	June	July	August	September	October	November	December	
Turtle Eggs		Easter Fishing		Fish March	NO FISHING DUE TO FLOODS, Bush Island Hunting: deer, wild meats, parrots, macaws & toucans		Crab March, Toucans	Alligator, Savannah IOMANA			Christmas Hunt/Fishing, RUSH IOMANA	HUNTING/FISHING
Powis							Piab Season	Seine in Big Rivers, poisoning small creeks. Powis hunting.				
← Bush Hogs →												
House Woods, leaves, Karamana, Nibi and prospecting for minerals		Wild Fruits							House Woods, leaves, Karamana, Nibi and prospecting for minerals.			GATHERING
	Clay		Trapping young Parrots		Balata Bleeding, Trapping young Parrots							
		Brazilian Nuts										
← Craft Materials, Arrow Cane →												

**Comments**

- All farming activities depend on the weather e.g. planting of corn is dependent on the first heavy rains so that the ground gets soaked.
- Spot planting is a traditional custom for this village and is known as ‘Kadropan.’ Here farmers first crops are planted and followed by a second set of crops. The first crops are reaped and must be used to make Parakari which is offered to fellow villagers and some are used to soak the lands. By sprinkling Parakari in the farm, the roots of the other crops will give bigger and better yields. If there is no Kadropan, then deer will destroy farms and result in bad yields.
- Easter fishing is dependent on the first rains.
- The Acoushi ants queen fly when there is the first floods and the first corns are planted then.
- At present (March 2003) fires are affecting farms and there is no water to control the burning or runaway fires. Most people have to carry water to their farms and are digging their wells deeper. Farmers are also waiting for the first rains to soak.

- There is a long dry season this year (2003) and creeks are drying up as such the seasons have changed. A similar experience occurred in 1976 and the first rains came on May 26<sup>th</sup>.
- The high bush is not cut during each season since this bush takes longer to burn however the yield is better. The low bush is cut when fast farms are needed. Hence cutting of farms in different bush areas depends on the farmers preference.
- It was mentioned that torches and poisoning was also methods used for hunting/fishing.

## SKETCH MAPS

### “The Where”

The sketch maps were the last tools that were created. A group of participants most knowledgeable about the community’s resource areas was selected to draw a base or skeleton map on a chalkboard, noting major features such as rivers, creeks, trails and the mountains. After the entire group viewed and agreed to the accuracy of this representation, the base map was copied onto separate cardboards. These were then used by each focus group to record the resource locations. In total three sketch maps were created in the three resource group categories of farming, hunting & fishing, and gathering. The keys of each resource map show the main resources that the participants selected to be included on the map.

The sketch maps were used by each of the field research teams to choose their routes.



**Gathering group drawing their resource use map**

The maps show all the major resources in each resource category as prioritized by the participants.

The main rivers identified are the Rewa, Kwitaro and Rupununi. The village, identified by a red outlined box, is located in the center of the map.



## HUNTING & FISHING RESOURCE USE SKETCH MAP

As represented on the map the areas are very rich in both game and fish resources. The group also identified local landmarks such as ranches, trails, waterfalls, and Shea Rock (the black mark close to the village). The broken green/blue line indicates the bush/mountain areas.

Hunting and fishing occurs along the main rivers and its tributaries. Hunting is done as far north as Two-Head Mountain, which is to the right of the map. Fish Pond, also on the extreme right along the Kwitaro River, is the furthest area of fishing resource use.



**Maruranao Hunting and Fishing Map**

## GATHERING RESOURCE USE SKETCH MAP

The participants identified several gathering materials such as, wild fruits and nuts, wood and leaves for buildings, minerals, craft materials etc. As shown on the map most of the resources gathered are located in the two main areas:

1. Along the Kwitaro and the Rewa River heads and their tributaries (distance away from the mountains)
2. In the Two Head and Bottle Mountain areas in the Eastern Kanuku Mountains.

Included in the map also are main trails, the dotted line separating the savannah from the bush area is in red.





### How the Mountains Got their Names

Shiriri Mountain is a husband and wife. The other mountains are their four sons who left Shiriri looking for wives. Omar (Bottle Mountain) found a wife so he was left there.

Kanar, another son was very lazy, he went to the west and turned into a rock - Loodban Dooban. The laziest brother turned into Kanan near Shiriri.

Shea Rock is the woman they wanted as a wife. She was older so they passed her, looking for a younger woman - Omar.

They passed Wi Wi Tau also because she was older. Omab took one son. Bottle Mountain is another brother passing Taraiporu because Oman was taken. The last brother was left looking back for his brother, Kubarar.

As told by Rex and Muriel Perry

# FIELD OBSERVATION

## INTRODUCTION

The fieldwork in Maruranau was done over a period of four days. Before the fieldwork began the members of the “bush team” received training on:

- How to use a GPS unit
- How to complete data forms

In total there were four teams, with between 3-5 persons on each team. The teams were grouped according to the three resource use categories with each group identifying the main resources of that category i.e. hunting and fishing, farming and gathering. Each team also observed

and geo-referenced areas found along the way that related to other resource use categories.



**Marking their positions at Two Head Mountain**

The farming team was divided into two teams because of the extensive area that had to be covered. A CRE team member led each team but all members of the team actively contributed the selection of the routes and to the information collected.

The reports that follow reflect observations and information gathered from the entire group.

The information is

presented individually, for each team including: who was on the team, the areas that were covered, and general observations.

The furthest areas covered by the teams include Hog Mountain, Powis Mountain and Two-Head Mountain, which are to the north and east of the village.



**Ink bush used as local dye**



**Forest seen from Bush Hog Mountain**

**Team A (1):**  
**Vitus Antone (CI)**  
**Odo Simone**  
**Nita O'Connell**  
**Meryln Pauline**

**AREAS VISITED**



**Farm 'A' team at Tapir Pond**

The furthest point that was visited by the team was **Hog Mountain**, which is a hunting and gathering (for fan materials, nibi and muckru) ground and is approximately 14 miles from the village. The team also visited **Piidauni Wa'o** farming area, **Prashanwao** and **Wurada' mada wao'**

**OBSERVATION**

Farming is intense in the low bush areas closer to the savannah. Within the high bush or virgin lands not many farms exist. The Pidaunii farming area was used during the balata bleeding days over forty years ago. The area was then also used for hunting and there was a heavy demand for the gathering of nibi to make warishis (local baskets that are used as backpacks) to drug the balata.



**Gathering data at one of the farms visited during the bush trip**

When the team visited, the area had been completely retaken by the forest. Due to it's secondary growth state, not much nibi can be found in the area at the present.



**A tapped balata tree**

The Hog Mountain area is mostly virgin land and as such, a very good hunting ground. When the team visited the site several hunting trails were visible. The villagers regularly hunt in the area and some gathering of craft material also occurs. On top of the mountain it was observed that a large, flourishing yam bush exists which hunters had planted. Also along the trail the team observed that the fish poison (kunami) is planted.

**Team A (2):**  
**Natalie Victoriano (CI)**  
**Phillip Berchman**  
**Cleonis Edward**



**Kwitaro River, a major source of fish and other games**

**AREAS VISITED**

The furthest point visited was the **Kwitaro River** where both fishing and hunting is done. Other areas visited on the trip were: James Benet’s hunting camp (**Machiwizi Creek Falls**) and Valentine Pablo’s farm (**Machiwizi Creek**)

**OBSERVATION**

Kwitaro River is the main fishing ground. Several types of fish are caught in this area. Other villages that use the area include Shea and Awarenau.

During the dry season the river is poisoned with bush vines to catch fish. Some hunting grounds were also observed, and the tracks of several games can be seen in the area especially peccaries (wild hogs).

Gathering resources exist abundantly in the area traversed, starting from the bush mouth. The more abundant resources are: bush medicines, touro, muckru, house posts, rafters, manicoles, bullet wood, incense gum and many wild fruits.

Not many farms exist in the area. The farms that were visited had mixed crops and rarely exceed one acre. The main pest in the area is the acoushi ant, which is more prevalent in the bush mouth areas. The main soil type of this area is sand soil and red loam.



**A farm camp located at the Kwitaro River**

Overall it was observed that the area is very rich in resources. There still exists pristine forest along and closer to the Kwitaro River.

**Team B:**

**Nial Joseph (CI)  
Richard Wilson (CI)  
Bernard Bernard  
Amos Charles  
James Benjamin  
Walter Bernard  
Alexis Mandukin**

**AREAS VISITED**

The furthest point that was visited was **Powis Mountain**. Other areas that were visited along the way include: **Shea Village, Bonfim, Bonwau, Gold Creek, Touchau Anton's farm (Katoonarr), Komakawauom, Cocorite Creek, Meriwauou, Haimara Falls, Turtle Mountain (Orada) and Powis Creek**. These areas are bush areas, virgin forests and swamps.



**observing areas**

**OBSERVATION**

The community uses the area of Powis Mountain mainly for hunting and for fishing (small fishes), but because of the distance from the village, it is used about two to four times a year. The resources in the area are plentiful and in excellent condition. It was claimed that Shea villagers use this area more.

At one of the camping areas it was observed that there were a number of old farm grounds (approximately 12 years old) that are currently growing back. Large mango trees serve as an indicator that farming was once done in the area. Villagers, because of threats such as bush hogs abandoned the farms in these areas. In addition the need for children to be closer to the school also caused them to move.

At Turtle Mountain, long muckru was observed in the area. Some villagers use the muckru to make matapees, round baskets, farine sifters and warishe (used in the processing of cassava) for sale because of the long matapees that it produces. Because of the commercial use it is accessed throughout the year. The fishing areas are shared with the villagers of Shea.



**Hunting and fishing team in the Omab Mountain area**

**Team C:**

**Lloyd Ramdin (CI)**  
**Andrew Demetro (CI)**  
**Stanley O’Connell**  
**Dyonisio Marcello**  
**Conrad Campion**  
**Clement Thomas**  
**Aidan Antone**

**AREAS VISITED**

The furthest point reached was **Two Headed Mountain**. Other areas that were visited were **Shea Village** (through which the area was accessed) **Bon Fim**, **Cocorite Island**, **Falls Creek**, **Adouri Creek**, **Powis Creek**, **Krapud (Crabwood) Creek**, and **Maamewao**.

**OBSERVATION**



**Gathering Team that visited the Two Head Mountain**

The resources in the areas that were visited were observed to be in excellent condition. This was evident in the signs of the many passage marks left by various animals. Another indicator was the intact forest cover and the undisturbed forest floor.

The soil type ranges from sandy clay to peggasse in the swamps (colors

ranging from brownish -gray to darkish brown/black). The forest cover is also in tact. On the way

back the team made a dry camp since almost all of the creeks along the way were dry (Adouri Creek). The team showed excellent knowledge of the area.



**Two Head Mountain Camp**

It is evident that people still go to these areas and there is an existing trail. Due to the distance that must be covered to get into these areas, the resources are found in abundance.

The community of Shea also uses the resources of all these areas.

It was mentioned that the area behind the Two Head Mountains was used during the balata days but because of a time factor, the area wasn’t covered during the CRE.

# DATA RESULTS

## INTRODUCTION

Over a four-day period the fieldwork was conducted in the areas that were identified on the Resource Use Sketch Maps. A description of each of these trips was reported under the Field Observation section. The purpose of the exercise in addition to observation was to geo-reference the areas of furthest use. This was done using a Global Positioning System (GPS) unit and a data form, which is described below.

Before the fieldwork began the members of the “bush team” received training on:

- How to use a GPS unit
- How to complete data forms
- 

The information presented in this section is the result of the work that was recorded by the “bush teams”.

The results of the geo-referencing exercise are presented in this section of the report. The information is presented in the forms of bar graphs. The graphs are used to show the main threats to the areas visited, as well as the intensity and quality of use.

Each graph is followed by a description of the information that is shown on the graph. The information is presented for the three resource use categories, farming, hunting and fishing, and gathering.

## DATA SUMMARY

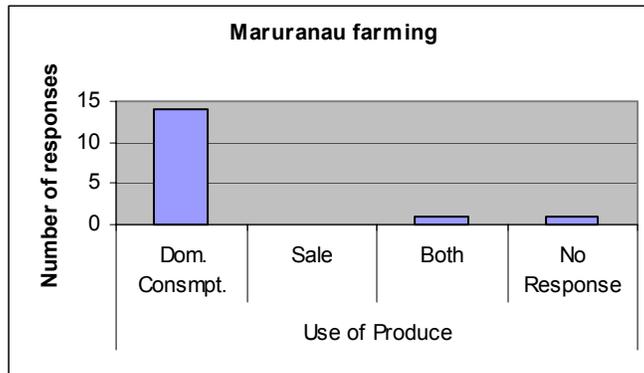
In total one hundred and one (101) waypoints were taken. The following is a summary of all the waypoints in each category

- **Farming**      **16**
- **Hunting**      **36**
- **Fishing**      **24**
- **Gathering**    **25**

# FARMING DATA RESULTS

## QUALITY

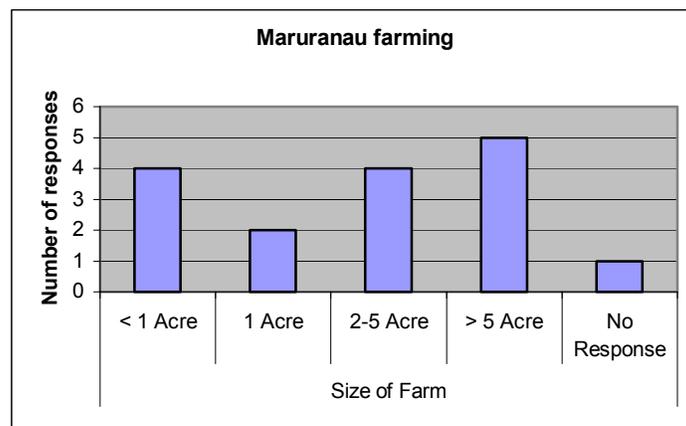
The soil type in these areas was predominantly sandy (11). The crops that these soils supported were cassava (9), mixed crops (2), peanuts (1) and banana (1). The majority of the produce of these farms (at 14 sites) was for domestic consumption. Only one site used their farm for both domestic consumption and sale.



## INTENSITY

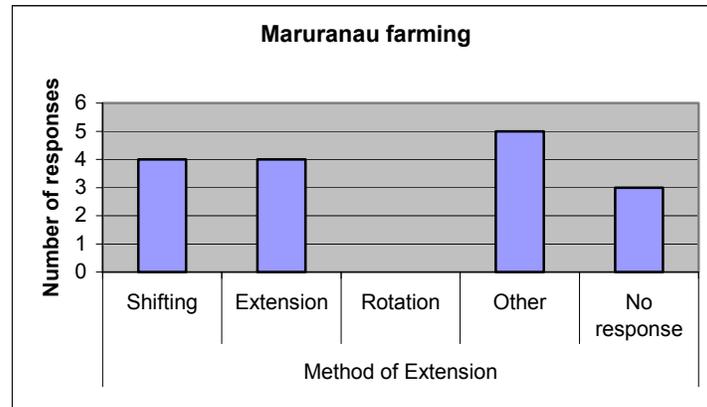
The majority of the farms visited were in the bush (11) and bush mouth (4) areas. The majority of the sites were active (13) and only three of them were fallow.

The majority of the farms were more than five acres (5), with four sites each being entered as less than one acre and between 2-5 acres (See graph)



## THREATS

In all of the sites visited there were few recorded threats. Wildlife was reported in four of the sites as being a threat. Pests and diseases were not entered as a significant threat to the farming resources at the sites visited. Pests recorded include: acoushi ants (8) caterpillar (1) and crickets (1). No other pests or diseases were noted.



It was commented that the following methods of extension were not always done. Different methods were used according to the richness of the soil.

## HUNTING DATA RESULTS

### QUALITY

In total all the sites that were visited are active (36 waypoints). The sites were used for hunting a range of game, primarily bush cow (35), deer (34) and bush hog (34). Powis, bush hog, and turtles were found at few sites, as were labba and acouri.

Of all the areas that were visited the majority were entered as being in “excellent” (19) and “good” (16) condition.

### INTENSITY

The waypoints that were taken were spread out in the savannah (9) bush (7), up the mountain (7) and in swamp areas (6).

Seventeen of the sites were used on a monthly basis. Followed by between 1-2 times per year (8) and 4-6 times per year (6). Daily use was limited to only two of the sites visited. The sites are used to take game at about 10 – 20 in the majority of sites (25). Only at one site was less than three entered.

Two traditional methods, bows and arrows (36) and hunting dogs (35) were entered as the main methods used to hunt for game at the sites. These were closely followed by the use of guns (33) and traps (30).

The majority of the game was used for domestic consumption at thirty-four of the sites.

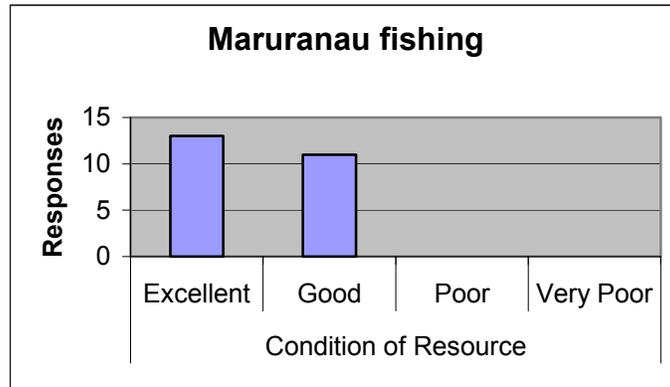
### THREATS

There were no threats listed at any of the sites.

# FISHING DATA RESULTS

## QUALITY

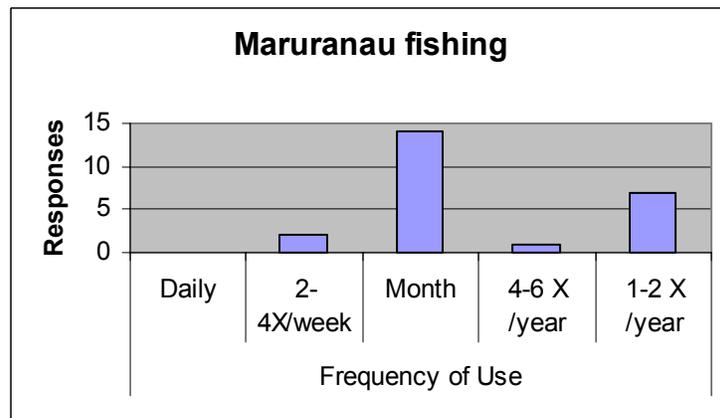
All of the fishing sites that were visited by the teams were active (24). The majority (13) of these sites are considered to be in “excellent” condition – all the other sites are considered to be in “good” condition.



## INTENSITY

The fishing sites that were geo-referenced by the group were in the bush (7), mountain foot (6) and bush mouth (4) areas. At the majority (22) of sites that were visited the catch was used for domestic purposes only and only two were listed as being both for domestic purposes and for sale.

These sites were also used mostly on a monthly basis (14) and 1 – 2 times yearly. None of the sites visited were used on a daily basis. The catch was listed in most places as being more than fifty at a time.

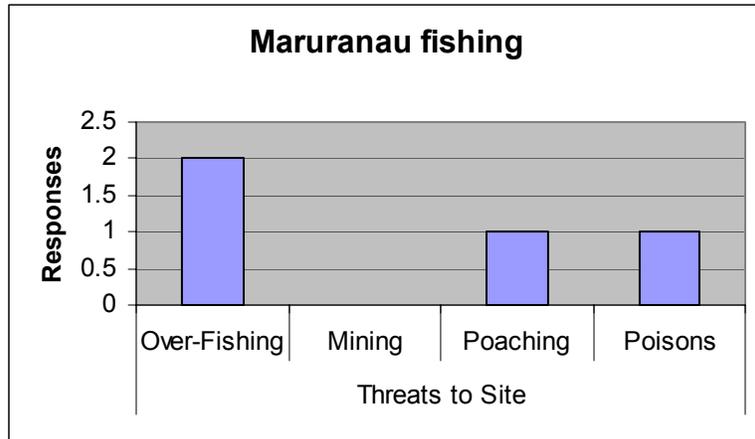


The sites were used to fish for a number of species namely Kassi (14), Houri (16) and Patwa (13). The most commonly used methods of harvesting these fish at the sites were hook and line

(23), bow and arrow (22) and this was followed closely by cast nets (seine) at nineteen of the sites and poisoning (17).

### THREATS

In total four entries were made for threats to fishing resources out of the thirty-seven sites that were visited. The first was over-fishing which was listed at two of the sites followed by poaching (1) and poisoning (1). There appear to be relatively few threats.

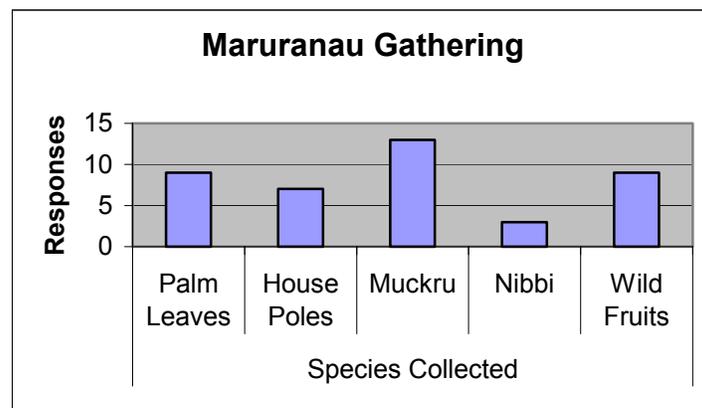


## GATHERING DATA RESULTS

### QUALITY

In total twenty-five waypoints (25) were taken of gathering resources in Maruranau. The community was actively using the majority of the sites (24) geo-referenced – only one (1) area was listed as inactive. The areas that were visited were being used to collect a number of materials.

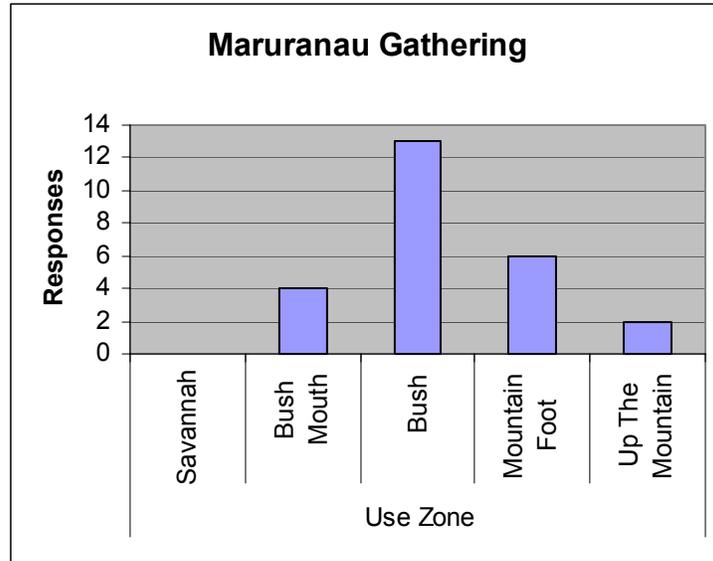
As shown in the chart nineteen of the sites were used to collect muckru, which is followed by palm leaves and wild fruits (9 sites). House poles are collected at seven of the areas visited and nibbi in three (3).



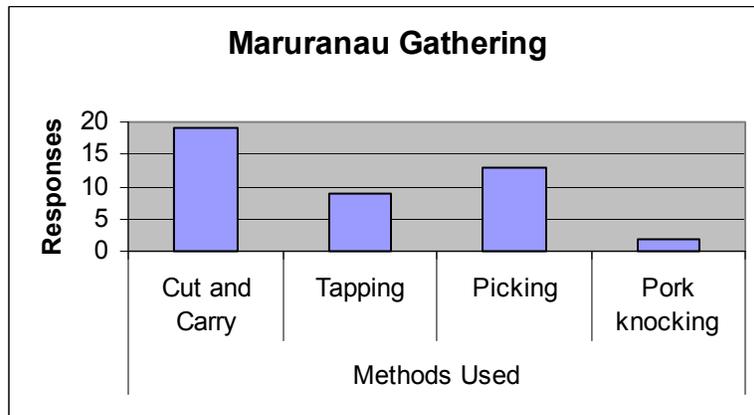
The majority of the areas were considered to be in “excellent” condition (17 areas) and eight were considered to be in “good” condition.

### INTENSITY

Most of the waypoints for gathering were taken in the bush (13) followed by at the mountain foot (6) and bush mouth (4).



The majority of the materials are harvested by “cut and carry” methods i.e. using a cutlass to selectively harvest what is required. In total nineteen (19) points were taken. This is followed by: picking (13) tapping (9) and pork knocking (mining) (2), which were less used.



The majority of the materials that are collected are harvested for domestic use i.e. what is needed to sustain the family. Twenty of the twenty-five sites were listed as for domestic use. Only two were listed as for sale or both sale and domestic use.

## THREATS

Of all the areas that were visited no threats were listed. This corresponds with the information on the condition of resource use that was listed as excellent and good.

# VILLAGE SURVEYS

## INTRODUCTION



**A demonstration of the Parishara dance by Mrs. O'Connell**

The village fieldwork was done over four days during the same period that the bush teams were doing field observation of resource use sites. The fieldwork focused on two main exercises—collecting surveys and conservation stories. The questions in the surveys were based on three specific areas (1) **threats** (2) **the quality** and (3) **availability of resources** in the village.

The participants were fully involved in every aspect of the village survey. The exercise began with a mini lecture on surveying methods. This was followed by the creation of a village sketch map from which the participants selected households to be interviewed. Each household was informed the day before and given the option to take part in the survey. The exercise ended with the compilation of the results that were gathered in the field.

The conservation stories that were collected were local stories that had a conservation theme. The purpose of these was highlight traditional story telling methods that were used to conserve resources. These stories are used where possible in the report.

For the completion of these exercises the participants worked in teams each of which was headed by a CI staff member or a Community Coordinator.

In addition the village work had several other objectives:

- To provide general information to a **wider** representation of the village.
- To allow villagers to ask questions related to the CRE, Protected Areas or CI and have them answered
- To involve the school in an activity during the CRE
- Why are people being interviewed?
- How will CI help us and in what way?
- What will happen to the sketch maps?
- Younger people use the areas less for they are migrating to Brazil.
- There is still a concern that land is going to be taken away.
- More discussions are needed.

## The Village Team



Susan Stone (CI)  
Margaret Gomes (CI)  
Julie Kanhai (CI)  
Esther McIntosh (CI)  
Noel David (Coordinator)  
Juliet George  
Vibert George

Alma Shook  
Beryl O'Connell  
Timothy Marco  
Daniel Joseph  
Lisa Marco  
Amy Pablo

The Village Team's work benefited from a very well organized and enthusiastic group. The village sketch map was easily created and the houses identified. The participants went out themselves to notify the villagers whom they had selected. The group divided themselves into three teams to carry out the surveys.

The households in Maruranau are spatially, very scattered. Therefore it was a challenge to ensure that persons who live far distances, were visited. During the CRE 15 surveys were completed. In February 2003 Margaret Gomes, Richard Wilson and a team of four persons (Alma Shook, Noel David, Vibert and Juliet

George) conducted a further 21 surveys. In total 36 surveys were collected.

### OBSERVATION

The villagers visited by the teams were very receptive. During the interviews villagers remarked that they were happy to have been visited and to have received the information. One frequent comment was that they were eager to learn more about Protected Areas.

The majority of people interviewed spoke Wapishana. Interpretation was available, which was both necessary and appreciated as it allowed villagers to ask questions and receive information in their own language.



Village team participants with an interviewee

### Questions/comments:

- If the Kanuku Mountains becomes a Protected Area will we still be able to use them?
- What are the benefits of Protected Areas?



Local craft observed at one of the homes visited during the village survey

- Understood the importance of protecting resources against threats.
- The biggest threats presently (2003) are droughts and fire.
- Poison is the biggest threat to fishing resources but it is also a method of fishing used.
- We're gradually learning and seeing things that are coming and there is supposed to be a regulation about poisoning around the village.
- Animals are getting sick because they are drinking from poisoned pools.
- We have to protect our resources for the future generation

this drought and the fires are making us aware of that.

- Fish Pond and other areas should be included on our map.

## VILLAGE SURVEY DATA RESULTS

### PROFILE

#### THE ARTISTS WHO CREATED THE MASTER RESOURCE USE

While the “Village Team” was out doing surveys and collecting stories from the village, Teacher Lloyd created the Master Resource Use Map.

He first used pencils to draw on all the resources, roads and the village and then they painted it with water paints.

This map, like all the others, will remain in the community.



Over a two-day period the fieldwork was conducted for the village survey. The village survey was an informal information gathering exercise. The households that were identified on the village sketch map by the participants were visited and surveyed.

For many people in the community, it was the first time that they had taken part in a Resource Use survey of this type. As a result they were asked to respond to questions and sections with which they felt most

comfortable. In some cases, for example, women did not feel comfortable to answer questions as related to hunting even though they may accompany their husbands and actively hunt. Therefore the number of responses in some sections may vary.

The results of the village survey exercise are presented in this section of the report. The information is presented in the forms of tables. The tables are used to show the main threats, the intensity and quality of the resources.

The information is presented in for the three resource use categories, farming, hunting and fishing and gathering.

### VILLAGE SURVEY DATA SUMMARY

In total 36 surveys were collected. The following is a summary of all the data that was collected in each of the three resource categories:

- **Farming**      **36**
- **Hunting**      **18**
- **Fishing**      **33**
- **Gathering**    **28**

## FARMING DATA RESULTS

### INTERVIEWEES INFORMATION

#### *Age*

15-28	29-40	41-55	Above 55	Not Stated
3	8	14	8	3

#### *Gender*

Male	Female
21	15

### INTENSITY

During the village survey most people said that they farmed in two main areas, the bush mouth (22) and in the deep bush (17). Some of the comments that were made by farmers was that the farming areas had, in the past, shifted because of the presence of schools.

#### *Where is your farm?*

Savannah	Bush	Bush Mouth	Deep Bush	Mountain Foot	Up the Mountains	Other
0	5	22	17	0	0	2

The persons who were interviewed said that they visit their farms regularly. As the table below shows most of the responses when asked were daily (7) and weekly (6). Other responses that were given were three times a week (4), 2 times a week (3), 4 times a week (3), 5 times a week (1) and 2 times a year (1). **See table**

#### *How often do you visit your farm?*

Daily	2 x Week	3 x Week	4 x Week	5 x Week	Weekly	2 x Year
7	3	4	3	1	6	1

The size of most people's farms was between 1-2 acres (16). To a lesser extent the following responses were also given: less than one 1 acre (6), between 2-4 acres (5) and five and more acres (5). **See table** The produce of these farms are mainly used for both sale and domestic purposes as twenty-one (21) persons responded. Three persons said that they use the farms' produce for domestic consumption only and two persons said that the produce is used only for sale. Some people mentioned that some villagers plant peanuts commercially but that one of the problems encountered was the lack of markets.

#### *How big is your farm?*

< 1 Acre	1>2 Acre	2-4 Acre	5 Acre and more	Other
6	16	5	5	4

## THREATS

Wild animals (31) and acoushi ants (26) were the two main threats to farm crops. Other threats that were stated include the weather (7), domestic animals (5), monkeys (2) and caterpillars (1)  
**See table**

*What are the threats to your crops?*

Wild animals	Acoushi ants	Weather	Caterpillar	Fire	Monkey	Domestic animals	Other
31	26	7	1	0	2	5	4

## HUNTING DATA RESULTS

### INTERVIEWEES INFORMATION

#### *Age*

15-28	29-40	41-55	Above 55
1	3	6	8

#### *Gender*

Male	Female
13	5

### QUALITY

In the hunting section sixteen (16) persons said that they felt that they had to go further to hunt that they did in the past. Fifteen (15) persons said that there had been a change in the availability of resource while two (2) said that there hadn't been a change. Some of the comments that were made were that there has been an increase in the population which is affecting the availability of resources and that new methods have been introduced.

#### *Has there been a change in the availability of resources?*

Yes	No	No Response
15	2	1

### INTENSITY

As can be seen in the table below six (6) persons said that they hunt in the deep bush area and to a lesser extent in the bush (2), up the mountain, in the savannah and at the bush mouth (1). **See table**

#### *Where do you hunt?*

Savannah	Bush Mouth	Bush	Mountain Foot	Up The Mountain	Deep Bush	Other
1	1	2	0	1	6	1

Hunting is done in these areas mostly, monthly (5). It is also done weekly (3), daily (2), seasonally (2) and quarterly (1). **See table** The game that is hunted is used for domestic purposes (13). Game is also used for both sale and domestic use (3) and for sale (2) only.

#### *How often do you hunt?*

Daily	2 x Weekly	Weekly	Monthly	Quarterly	Seasonally	Other	No Response
2	0	3	5	1	2	3	2

The methods that people said that they use include: hunting dogs (3), guns (2), poison (1) and bow and arrows (1).

## THREATS

The major threat to the hunting sites was felt to be the increase in the population (8). Other threats that were listed are: over-hunting (4), weather (2), outsiders (1) and other (2).

*What are the threats to your hunting resources?*

Over-Hunting	Poison	Weather	Outsiders	Fire	Population	Other	No Response
4	0	2	1	0	8	2	1

## FISHING DATA RESULTS

### INTERVIEWEES

#### *Age*

15-28	29-40	41-55	Above 55
3	6	13	9

#### *Gender*

Male	Female
20	13

### QUALITY

In the fishing section thirty (30) persons said that they felt that they had to go further to hunt that they did in the past and two persons said that they felt they didn't have to go further. Thirty-two (32) persons said that there has been a change in the availability of resources. Some of the comments that were made, was that fishes are becoming more scarce, that there has been an increase in the population and that new methods have contributed to the decrease in the availability of fish.

#### *Has there been a change is the availability of resources?*

Yes	No
32	1

### INTENSITY

The areas in which hunting is mainly done were said to be in the deep bush (10), in the savannah (8) and in the bush (4). **See table**

#### *Where do you fish?*

Savannah	Bush Mouth	Bush	Mountain Foot	Up The Mountain	Deep Bush	Other	No Response
8	0	4	0	0	10	1	10

The following methods of fishing are mainly used: hook and line (14) and seine (10). Other methods used are poisoning (5), cast nets (5) and bow. In the "other" responses given several people said that "stop-offs" were also a method that was used.

Fishing is done mostly monthly (10) and weekly (6). **See table** The fishing catch is used mainly for domestic use only (25) and for both domestic and sale purposes (8).

#### *How often do you go fishing?*

Daily	2 x Week	Weekly	2 x Month	3 x Month	Monthly	Quarterly	Seasonally	Yearly	Other	No Response
2	1	6	1	1	10	1	3	3	3	3

## THREATS

The major threats to the fishing sites were given as poisoning of fish (15) and the increase in the population (11). Over fishing and new methods being used (5) were also felt to be threats.

*What are the threats to your fishing resources?*

Over fishing	Poison	Population	New Methods	No Response
5	15	11	5	11

## GATHERING DATA RESULTS

### INTERVIEWEES INFORMATION

*Age*

15-28	29-40	41-55	Above 55	Not Stated
2	8	12	5	1

*Gender*

Male	Female
15	13

### QUALITY

Five (5) persons said that they felt that they had to go further than they did in the past while three persons said that they did not have to go further. Twenty-two (22) persons responded that there had been changes in the availability of resources while five (5) said that there had not been a change in the availability. **See table**

*Has there been a change in the availability of resources?*

Yes	No	No Response
22	5	1

### INTENSITY

Gathering is done in the deep bush area (8) and at the bush mouth (2) responses each.

It was stated that gathering is done mainly yearly (5) and monthly (5). Some people also said that they gather “sometimes” and “occasionally”. These responses were noted under “other”. **See table**

*How often do you gather?*

Daily	Weekly	3 x Month	Monthly	Quarterly	Yearly	Every 5 Years	Seasonally	Other
1	1	1	5	3	5	1	1	7

The resources that are gathered are used mainly for domestic purposes (24). Three (3) persons said that they use the resources for sale only.

### THREATS

The major threats to gathering resources were listed as cutting/logging (6) and the population increase (5). Other threats that were stated are: over-harvesting (4), weather (1) and wastage (1).

*What are the threats to your gathering resources?*

Over-Harvesting	Weather	Population	Cutting/logging	Wastage	Other	No Response
4	1	5	6	1	1	11

## CLOSING ACTIVITIES



**Village team rendering a song at the final public meeting**

The CRE concluded with a series of activities. The first such activity was a presentation that was made by the village team participants to the school children. This presentation was done to explain to the older school children the work that was done during the workshop it included:

- The resource lists
- The seasonal calendar
- The sketch map

- The results of the village survey

It was also an opportunity for the participants to share the knowledge that they had with their students, which included the local names of some resources and stories.



**Stanley sharing his bush trip experience**



**Beryl presenting the resource list**

On the last day of the workshop the bush and village teams met after being apart for four days. At this last meeting the two teams used the time together to tell each other of their experiences during the village survey and field observation exercises.

The workshop was closed with a village public meeting. The public meeting was an opportunity to share with the other

villagers the work that they had done, their experiences and their knowledge of the mountains, of their resources and of the seasons of resource use. This knowledge was often a real learning experience for other members of the community who may not have been aware.

The final meeting was done mainly in the local language and the participants themselves did all of the presentations using photos to communicate their experiences.

The participants were also presented with certificates of participation.

## RESOURCE USE PROFILE

The resource use profile is an outline of how the village uses the resources based on the information that was collected during the CRE in the **resource discussions, data forms, village surveys** and in the **field observation**. The purpose of the resource use profile is to show:

- **The main areas that are used by the community**
- **The factors that affect the use of the resources**

Maruranau is one of the larger Wapishana communities located south of the Eastern Kanukus. It was geo-referenced as 2.75136°N, 59.15891°W. The most common activity is farming, which is the source of daily livelihood. Peanuts are planted as a cash crop. Some amount of cattle rearing is also done to supplement the farms produce. Since the village is located more in the savannah, pasture is available for grazing. Life in the community still includes many traditional practices with interaction with the forest expanding east toward the Kwitaro River and north toward the Kanuku Mountains.

This report takes into consideration, all the areas that were identified by the community and, particularly the areas that were visited by the “Bush Teams”, in a collaborative effort involving the village participant group and members of Conservation International Guyana team. The participant group related their resource use via the tools created during the workshop in the areas of:

- Hunting
- Fishing
- Farming
- Gathering

### RESOURCE USE “ZONES”

All the communities are located in the savannahs with some situated closer to the mountains than others. Use occurs in different areas with specific characteristics from the savannah to the mountains known by the communities as follows:

#### SAVANNAH

The savannah areas are the wide-open grasslands with scattered bushes dominated by the characteristic sand paper tree (*Curatella Americana*). There are low land savannahs and high land savannahs that are found in the mountain valleys.

#### BUSH MOUTH

The community describes this area as where the main savannah land ends and the bush or the forest begins, extending approximately one mile into the bush. The vegetation of this area is typically secondary growth with the majority being fallow lands or old minabs, as the villagers call them. This term ‘bush mouth’ is used commonly when relating to the activities done within this particular area. For example, if a villager has a farm in this area, he would always refer to it as his/her bush mouth farm. So bush mouth areas generally do not have names unless they are close by a creek or some other natural feature. **Cocorite Island and Ishii wao** were geo-referenced in the bush mouth.

## **BUSH**

The term bush relates to the area between the end of the bush mouth and where the mountain foot area begins. The extent of the bush size varies in each community, depending on the amount of forested area between the bush mouth and the mountains. In communities with extensive bush the far areas are referred to as the 'deep bush'. The deep bush is not usually farmed, but is used for hunting, gathering or fishing activities. The vegetation of the bush is mainly primary forest with minimum canopy opening due to minimal human impact. Areas observed and geo-referenced included: **Kwitaro River, Machiwiz Creek, Pidaunii Wao, Waradad mad wao'**.

## **MOUNTAIN FOOT**

This area lies within a mile range before the mountain slopes. The mountain foot areas are very fertile with a cooler climate and very favourable for crops. Communities that are located closer to the mountains prefer to use mainly these areas for farming. From the farms access is gained to the surrounding areas as well as up the mountains for resource use. Access to the mountains requires passage through the mountain foot. **Aruwa and Karapud Creek.**

## **UP THE MOUNTAIN**

This refers to all the areas beyond the mountain foot, up and into the mountains. All mountain areas are very rich for resources such as nibbi, caramanni, balata, medicine and game due to the forest being untouched. Hunting is the primary activity up the mountain due to the abundance of game animals with some amount of gathering carried out at the same time. **Two Head Mountain, and Hog Mountain** are among areas visited by the bush teams.

Main activities are generally carried out in the following areas:

- **Farming – bush mouth, bush, creeks banks**
- **Hunting – main rivers, creek, mountains**
- **Gathering – mountains**
- **Fishing – main rivers, creeks**
- 

Maruranau's resource use is spread out over a wide area that penetrates into the mountains as far north as Two Head Mountain in the Eastern Kanukus. With more use extending away from the mountains as far as Fish Pond northeast on the Rewa River and south to the Kwitaro River.

The furthest farming area is on the **Kwitaro River at Machiwiizii Creek Mouth**. The Kwitaro is also the main fishing area.

The resource use has also been influenced by such factors as the presence of a school, which resulted in a movement closer to the village and away from the mountains. However, the mountains are still currently used, but less so than in the past. According to participants, lime, cashew, mango and Brazil nuts trees can be found over the mountains in the Two Head Mountain areas and along the Kwitaro, as evidence of where their ancestors once were.

## **QUALITY**

The resource use areas were mainly described as being in excellent condition. This is especially in the furthest areas such as **Powis Mountain and Two Head Mountain**. The reason is largely

because these areas are not used as often as they were in the past. It was reported for example at Powis Mountain that the area is used approximately 2 times a year usually for special occasions.

It was generally reported in the village survey that it was felt by villagers that they had to go further for their resources than they did in the past and that they were fewer than in the past. Some of the species that were mentioned as either being depleted or rare were; bitter cedar, nibbi, cedar, bush deer and armadillo.

In the case of fishing it was felt that the fish were fewer and smaller than in the past. The species of fish that were given as either depleted or rare were; lukunani, haimara, water turtles, mangy and tiger fish.

### INTENSITY

The

Use Zone						
Maruranau	Savannah	Bush Mouth	Bush	Mountain Foot	Up The Mountain	Swamp
Farming	0	4	11	0	1	0
Hunting	9	4	7	3	7	6
Fishing	1	4	7	6	2	4
Gathering	0	4	13	6	2	0

**above table shows the areas or “zones” the bush team visited, and the number of geo-referenced points recorded in each one.**

The farmlands of MN lie east of the village in the forested areas extending towards the Kwitaro River. Most of the farms are located at the bush mouth areas of **Ishii Wao Creek** south east of the village toward the Kwitaro. But further in the bush past the Ishii-creek more farms were located, mainly along the **Machiwizi Creek** and its tributaries. These farms are scattered far apart from one another. It was also reported that more and more villagers are moving gradually away from the bush mouth to the deep bush areas to farm because of the increased yields, which the land produces there. It was reported that cassavas grown in these areas are as long as four feet.

The main crop that is planted is cassava. In recent times there has been an increase in the planting of the commercial crop, peanut. This is in some ways a replacement for balata, which in the past was a main source of cash for the community when it was harvested for commercial purposes.

Farming has been influenced by the presence in the village by four chain saws, which according to villagers can more than double the size of their farms. As a result, it was reported that there are family farms that are very large. In the bush team reports the size of the farms were mainly given at between 2-5 acres. The farming in the bush areas close to the savannahs was observed to be intense. However in the deep bush, where there are virgin lands not many farms exist due to the distance from the village.

It was felt that chain saws have had positive impacts in terms of land use. Long ago, in areas where logs were cut for sale, the forest opened from the tree felling was not used and created areas with dry brush more susceptible to fire. Today, the land is cleared for farming after the logs from these lands are cut and sold. As such income is increased and the land isn't wasted.

The Kwitaro River located in the deep bush is used for fishing, gathering and hunting along with a little farming. Villagers from Shea and Awarewanau also use the area. It was observed that there were areas close to and along the Kwitaro that were in pristine condition. Hog Mountain a small mountain in the Kwitaro area has virgin lands that provide the village with good hunting grounds.

## **THREATS**

The main threats to the farms were given as acoushi ants and wild animals. The impact of these threats on the productivity of a farm can be severe. One example given by the participants was that of bush hogs which can completely destroy a two-acre farms in two days. Other threats that to farming were the weather, which can affect crops, and domestic animals.

Other threats that were noted were, over fishing, which is closely linked to the increase in the population, and poisoning. Poisoning can also have other consequences, especially during the dry seasons when domestic animals such as cows and horses drink the water and can become blind or die. Poaching was also noted to a lesser extent.

Over-harvesting was given as a threat to the gathering resources, which is linked to population increase and the use of areas by other villages.

## SITE GEO-REFERENCE POINTS

The table below shows the sites observed and geo-referenced during the CRE Bush Team fieldtrips. The readings were taken with Global Positioning Units (GPS). Heavy clouds or tree cover can make it difficult to get a perfect reading, so all geo-references should be considered approximate, generally within 25 meters. This is part of the information recorded by the participant team members while observing resource use sites. The site names are spelled in the table, as the team recorded them, so there is sometimes more than one spelling for the same site. The following information is listed:

- **Site Type**-this allows what type of resource use happens at this site. Some areas are multiple use, that is, more than one type of resource is used, so this type of site is listed for each resource use checked on the data form
  - **F = Farming**
  - **H = Hunting**
  - **FS= Fishing**
  - **G = Gathering**
- **Village** – location of site.
- **North** – the North or latitudinal reading. This number is shown in “decimal degrees”, or how many degrees North of the Equator (0°) the site is located.
- **West** – the West or longitudinal reading. This number is given in “decimal degrees” showing how many degrees west of the Prime Meridian (0°) the site is located
- **Area Name** – the name of the site as recorded by the teams on the data form. When the site had no specific name this line is left blank.
- **Site Zone** – the “zone” or geographic location of the site. At times one site name applies to several zones, as a creek that may flow from a site “Up the Mountain” all the way out into the savannah.
  - **Savannah**
  - **Bush mouth**
  - **Bush**
  - **Mountain Foot**
  - **Up the Mountain**

Site Type	Village	° North	° West	Area Name	Zone
FS	MN	3.016866	59.12435	Savannah	Savannah
H	MN	3.032466	59.12275	Savannah	Savannah
H	MN	3.0264	59.123883	Savannah	Savannah
H	MN	3.019983	59.125133	Savannah	Savannah
H	MN	3.016867	59.12435	Savannah	Savannah
H	MN	3.0025	59.127467	Savannah	Savannah
H	MN	2.99405	59.13025	Savannah	Savannah
H	MN	2.997933	59.1298	Savannah	Savannah

Site Type	Village	° North	° West	Area Name	Zone
H	MN	2.99055	59.132133	Savannah	Savannah
H	MN	2.9868	59.131817	Savannah	Savannah
FS	MN	2.95025	59.147717	Cocorite Island, Pokoridi Tun	Swamp
FS	MN	2.9805	59.133333	Creek	Swamp
FS	MN	2.962367	59.141033	Creek	Swamp
FS	MN	2.958983	59.142467		Swamp
H	MN	2.95025	59.147717	Cocorite Island, Pokoridi Tun	Swamp
H	MN	2.94695	59.149167	Cocorite Island, Pokoridi Tun	Swamp
H	MN	2.9805	59.133333	Creek	Swamp
H	MN	2.962367	59.141033	Creek	Swamp
H	MN	3.036733	59.122367	Savannah	Swamp
H	MN	2.958983	59.142467		Swamp
F	MN	2.70495	59.1394	Bush Mouth	Bush Mouth
F	MN	2.698183	59.138283	Chaokoo Tun Dana	Bush Mouth
F	MN	2.71875	59.12225	Ishii Wa'o	Bush Mouth
F	MN	2.690883	59.12845	Wizau Wao Head	Bush Mouth
FS	MN	2.94695	59.149167	Cocorite Island, Pokoridi Tun	Bush Mouth
FS	MN	3.041667	59.121083		Bush Mouth
FS	MN	3.038183	59.12255		Bush Mouth
FS	MN	2.99675	59.131067		Bush Mouth
G	MN	2.689567	59.0795	Pidaunu Nao	Bush Mouth
G	MN	3.041666	59.121083		Bush Mouth
G	MN	2.723433	59.127517		Bush Mouth
G	MN	3.038183	59.12255		Bush Mouth
H	MN	3.041667	59.121083		Bush Mouth
H	MN	2.914817	59.123333		Bush Mouth
H	MN	3.038183	59.12255		Bush Mouth
H	MN	2.99675	59.131067		Bush Mouth
F	MN	2.666673	59.094	Aamaazu Wao Head	Bush
F	MN	2.715067	59.119183	Deer Creek	Bush
F	MN	2.78255	59.0304	Machiwizi Creek	Bush
F	MN	2.846016	58.964033	Over Kwitaro River Farm	Bush

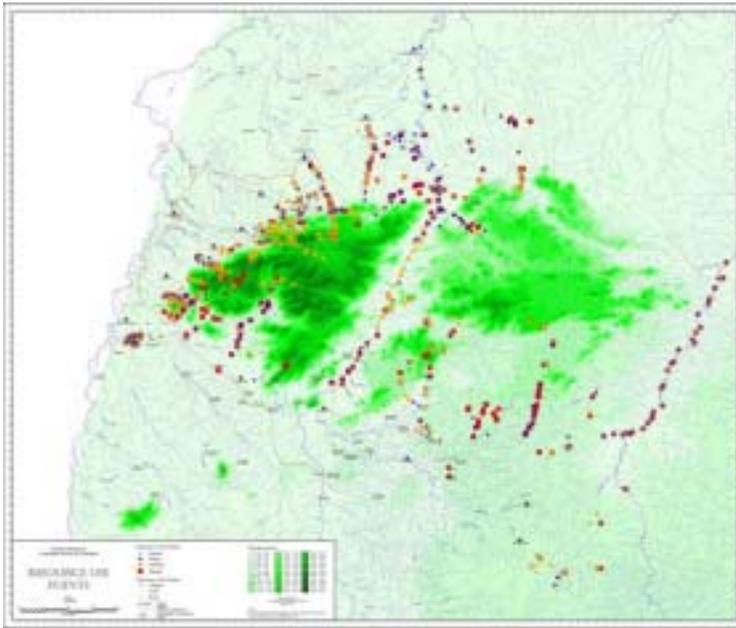
Site Type	Village	° North	° West	Area Name	Zone
F	MN	2.689567	59.0795	Pedaunii Bau	Bush
F	MN	2.666733	59.094	Pidaunii wau	Bush
F	MN	2.719117	59.120017	Shilimpo Boak	Bush
F	MN	2.715733	59.119583		Bush
F	MN	2.721717	59.125667		Bush
F	MN	2.72045	59.123833		Bush
F	MN	2.690917	59.128433		Bush
FS	MN	2.846016	58.964033	Kwitaro River	Bush
FS	MN	3.03825	59.122483	Maam Creek (midway Bush Mouth and Mountain Foot)	Bush
FS	MN	2.689567	59.0795	Machiwii	Bush
FS	MN	2.782583	59.009133	Machiwizi Creek	Bush
FS	MN	2.681567	59.088466	Pazonan Lake	Bush
FS	MN	2.682167	59.089583	Pidaunii Baok	Bush
FS	MN	2.6668	59.094067	Waradad Mada	Bush
G	MN	2.69165	59.073983	Chiwoodnau	Bush
G	MN	2.715067	59.119183	Gabad Wa'o	Bush
G	MN	2.715067	59.119183	Gabada Wa'o	Bush
G	MN	2.8	59.016666	Going Kwitaro	Bush
G	MN	2.6992	59.0146	Hiari Creek	Bush
G	MN	2.71855	59.1221	Ishii Wa'o	Bush
G	MN	2.703733	59.102083	Karshruanau	Bush
G	MN	2.689567	59.0795	Machiwii	Bush
G	MN	2.782583	59.009133	Machiwizi Creek	Bush
G	MN	2.69165	59.073983	Marnicole Creek	Bush
G	MN	2.681617	59.088467	Mashun Bauk	Bush
G	MN	2.666733	59.094	Young Eagle Mountain	Bush
G	MN	2.701817	59.1332		Bush
H	MN	2.6915	59.073983	Foregone Creek	Bush
H	MN	2.69165	59.073983	Hiara Creek	Bush
H	MN	2.6992	59.0146	Hiari Creek	Bush
H	MN	2.846016	58.964033	Kwitaro Area	Bush
H	MN	3.03825	-59.12243	Maam Creek (midway Bush Mouth and Mountain Foot)	Bush
H	MN	2.782583	-59.009133	Machiwizi Creek	Bush
H	MN	2.69165	-59.073983		Bush
FS	MN	3.113233	-59.098833	Aruwa	Mountain Foot

Site Type	Village	North	West	Area Name	Zone
FS	MN	3.116117	-59.0972	Kara'pudo Creek	Mountain Foot
FS	MN	3.113233	-59.098833		Mountain Foot
FS	MN	3.0258	-59.018767		Mountain Foot
FS	MN	3.025816	-59.018533		Mountain Foot
FS	MN	2.9434	-59.069883		Mountain Foot
G	MN	3.113233	-59.098833	Aruwa	Mountain Foot
G	MN	3.116117	-59.0972	Kara'pudo Creek	Mountain Foot
G	MN	3.03825	-59.122483	Stanley O'Connell's Balata Camp Site	Mountain Foot
G	MN	3.113233	-59.098833		Mountain Foot
G	MN	2.987567	-59.028083		Mountain Foot
H	MN	3.113233	-59.098833	Aruwa	Mountain Foot
H	MN	3.116117	-59.0972	Kara'pudo Creek	Mountain Foot
H	MN	3.03825	-59.122483	Stanly O'Connell's Balata Camp Site	Mountain Foot
F	MN	2.698267	-59.010183	Hog Mountain	Up the Mountain
FS	MN	3.03825	-59.122483	Stanley O'Connell's Balata Camp Site	Up the Mountain
FS	MN	2.9433	-59.069833		Up the Mountain
G	MN	3.14645	-59.115717	Top of Two Head Mountain Top	Up the Mountain
G	MN	3.150617	-59.11295	Two Head Mountain Top	Up the Mountain
H	MN	2.69165	-59.073983	Bush Hog Creek	Up the Mountain
H	MN	2.698583	-59.01085	Bush Hog Mountain	Up the Mountain
H	MN	2.698267	-59.010183	Hog Mountain	Up the Mountain
H	MN	3.14645	-59.115717	Top of Two Head Mountain Top	Up the Mountain
H	MN	3.150617	-59.11295	Two Head Mountain Top	Up the Mountain
H	MN	2.98226	-59.02945		Up the Mountain
H	MN	3.01757	-59.02489		Up the Mountain
G	MN	3.03825	-59.122483	Maam Creek (midway Bush Mouth and Mountain Foot)	

## THE RESOURCE SITE MAPS

The following maps are digitized, or computer created, representations of the locations of the sites observed during the CRE fieldwork. The locations or “points” appear on a background that shows the area covered during these field trips in each village. This background is based on the official topographic map of Guyana published by the Guyana Lands and Surveys Department in 1964. The positioning of the rivers, creeks, and roads, and many of the place names come from this official map, which is now nearly 40 years old. This is the reason that some of the names on the map may be spelled differently than they are spelled today. Also some other features may have changed, such as the location of roads, or even smaller creeks, which may have changed direction or ceased to flow.

The readings or geo-reference points taken at each site with the Global Positioning Unit (GPS) are transferred to a computer, which also contains the sections of the official map with the information on the Kanuku Mountain area. A computer program called “ArcView” places the points on the map according to the position recorded by the GPS when the bush team members took the reading.



There is a separate map for each resource category as well as a combined map that has all the readings taken during the CRE. It is important to remember, when viewing the maps, that they represent only a record of sites observed during specific trips made during the CRE. These maps do not show every area a community uses, but show the sites along the routes chosen by the teams to reach, as far as was possible, the furthest areas of community use, and the most important use areas. In some cases, flooding prevented access to some areas, especially those normally reached via creeks. In this case,

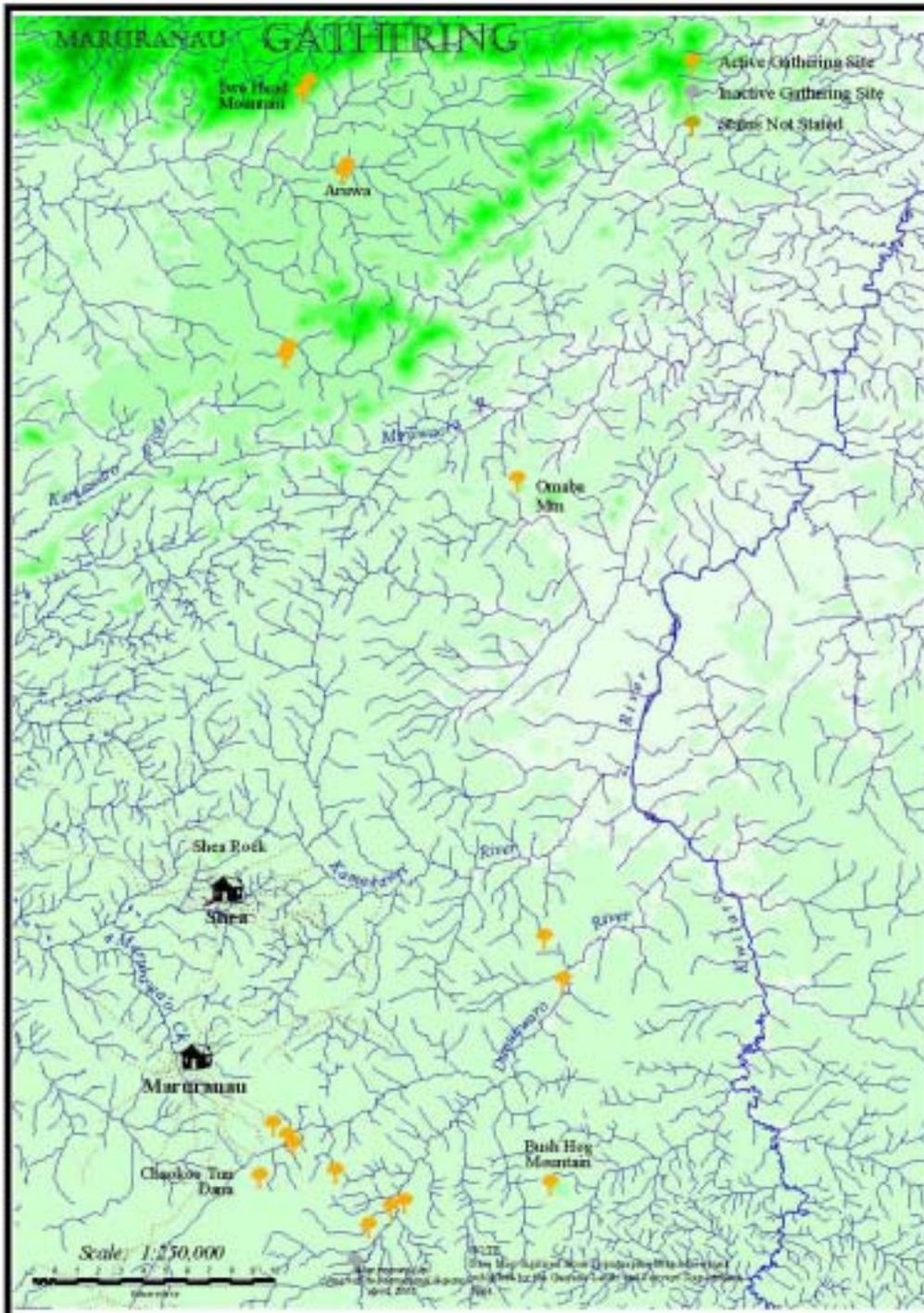
readings were taken at a creek mouth, to record the area, while the use is described in the report. In order to have a complete understanding of the resource use areas, it is important to study the resource sketch maps along with the formal digitized maps. It is the sketch maps that show all the areas recorded by the CRE participants as representing their resource use.

As part of the CRE project, a digitized map of the entire Kanuku Mountain Range was also produced in the same way that the individual village maps were produced. This map shows all the resource point readings (1, 376) taken during all the CRE workshops. Again is important to note that the Kanuku Mountains map is a record of the results of the 47 field trips made during the CRE's.





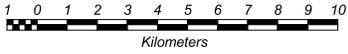




# Kanuku Mountains Community Resource Evaluation

## MARURANAU RESOURCE POINTS

Scale: 1:250,000



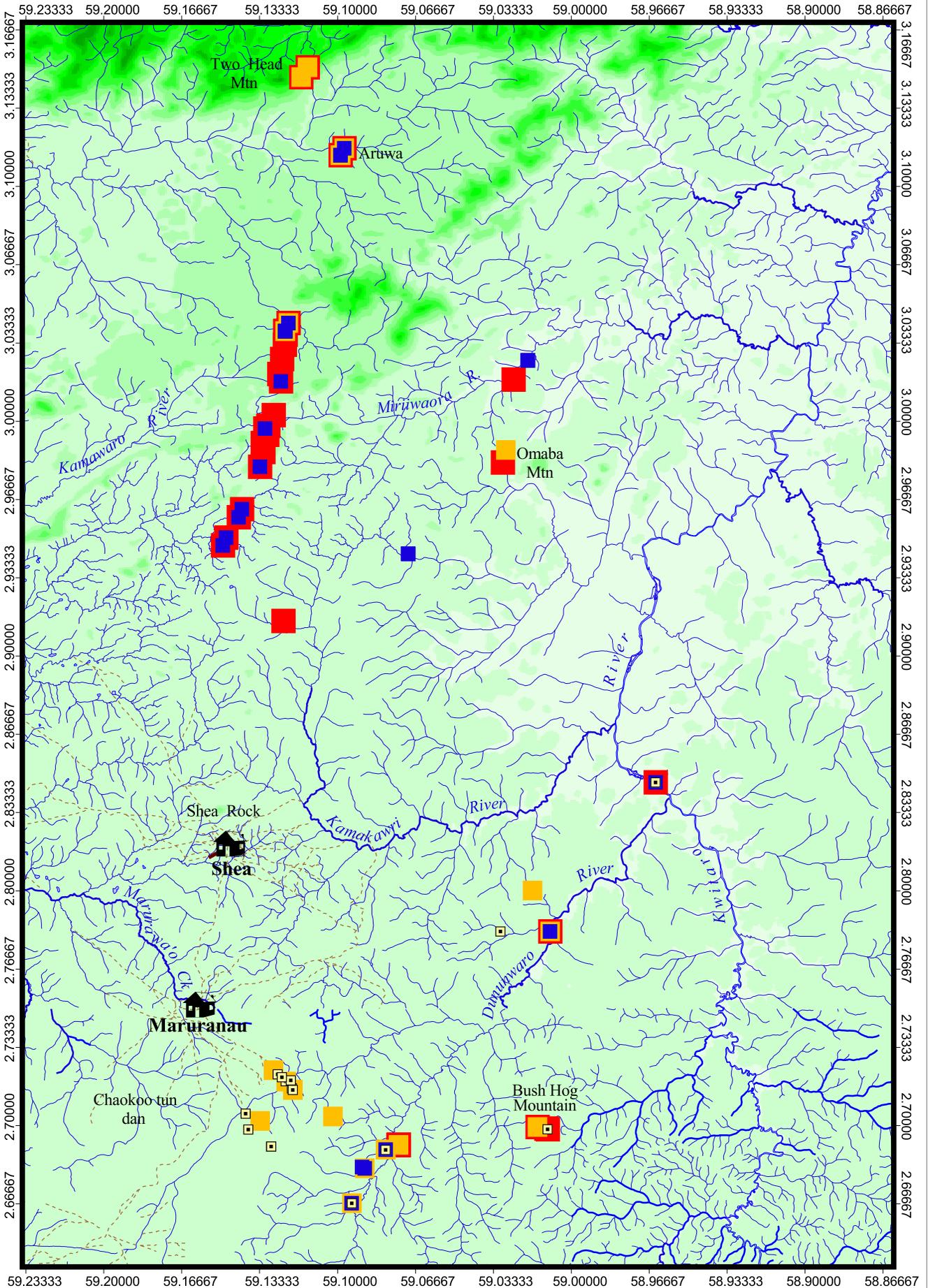
Map prepared by  
Conservation International Guyana  
April, 2003

NOTE  
Base Map digitized from Topographic Map of Guyana  
published by the Guyana Lands and Surveys Department,  
1964.

- Farming
- Fishing
- Gathering
- Hunting
- Airstrips
- Trails
- Roads
- River
- Island
- Main Creek/River
- Secondary Creek/River
- Lake

### Elevation (feet)

200 - 300	1300 - 1400	2400 - 2500
300 - 400	1400 - 1500	2500 - 2600
400 - 500	1500 - 1600	2600 - 2700
500 - 600	1600 - 1700	2700 - 2800
600 - 700	1700 - 1800	2800 - 2900
700 - 800	1800 - 1900	2900 - 3000
800 - 900	1900 - 2000	3000 - 3100
900 - 1000	2000 - 2100	3100 - 3200
1000 - 1100	2100 - 2200	3200 - 3300
1100 - 1200	2200 - 2300	3300 - 3400
1200 - 1300	2300 - 2400	3400 - 3500



## CONCLUSION



**Reviewing the resource points on the small maps, Quarrie.**

The Community Resource Evaluation Workshop was a learning experience for all involved. A great quantity of information was gathered and shared by the community participants. The results of the fieldwork and the draft copies of the resource site maps were returned to community for feedback and verification during a workshop in March 2003. Feedback and corrections were incorporated into the final report.

This information is now in a database, which is a computer program that organizes information in

a way that it can be read and studied. This database of information will be used to help decide about the best type of protected area to propose for the Kanuku Mountains. It is also a valuable tool for the communities to use in communicating their resource use patterns.

In addition to this report, each village will receive a copy of all the data forms filled out on the bush trips, and all the surveys and evaluation forms completed during the CRE and Results workshops. The information will also be available to members of the communities at Conservation International's Lethem field office.

Copies of the village reports will be given to those government entities, and donor agencies involved in the protected areas process in Guyana including:

Environmental Protection Agency  
Lands and Surveys Department  
Forestry Commission  
Minister of Amerindian Affairs  
Regional Democratic Council  
Office of the President  
United States Agency for International Development (USAID)  
The World Bank



**Explaining the results of the village survey data, Parikwarinawa**



**Verifying the seasonal calendar, Rupunau.**



**Reading their CRE reports, Maruranau.**

**APPENDICES**  
**APPENDIX 1**  
**Typical Activity Schedule**

<i>DATE</i>	<i>ACTIVITY(S)</i>
Day 1	<b>A.M</b> ☞ Arrival ☞ Meeting with Touchau/Council
Day 2	<b>A.M</b> ☞ <b>Public Meeting</b> <ul style="list-style-type: none"> <li>• Defining Concepts</li> <li>• The Protected Area Process</li> <li>• Presenting the CRE</li> </ul> ☞ <b>Participant Meeting</b>
Day 3	<b><u>A.M.</u></b> ☞ Introductions ☞ Community Participation ☞ Creating Resource Focus Groups <b>P.M</b> ☞ Creating Resource List: <i>The What</i>
Day 4	<b><u>A.M.</u></b> ☞ Seasonal Resource Use Calendar: <i>The When</i> ☞ The Village Resource Use Sketch Map: <i>The Where</i> ☞ Discussion: Resource Use Methods, Availability and Threats: <i>The How</i> ☞ Group Presentations
Day 5	Activity Break
Day 6	<b><u>A.M.</u></b> ☞ Field Work Preparation <ul style="list-style-type: none"> <li>• Finishing of Maps</li> <li>• G.P.S. Training/ Where am I on the face of the Earth.</li> <li>• Discussion of goals and objectives of fieldwork</li> <li>• Identifying Teams</li> <li>• Mini-Lectures</li> <li>• Planning the fieldwork</li> </ul> <b><u>P.M.</u></b> ☞ Bush Team: Prepare for Departure
Day 7	Village Team: <b><u>A.M.</u></b> ☞ Bush Team Departs ☞ Village Team <ul style="list-style-type: none"> <li>○ Prepare for surveys</li> <li>○ Create Village Map</li> <li>○ Review survey</li> </ul>
Day 8	<b><u>A.M.</u></b> ☞ Village Surveys and stories ☞ Video Show at school and quiz
Day 9	☞ Continue with village surveys and interviews
Day 10	☞ Bush Teams returns ☞ Village Team <ul style="list-style-type: none"> <li>• Compile Interview Results</li> <li>• Prepare Presentations</li> </ul>

## **APPENDIX 2**

### **Team Profile**

#### **Andrew Demetro (Indigenous Knowledge Advisor):**

Andrew Demetro is from the village of Nappi where he served as Touchau for 8 years. He has been working with CI-Guyana for more than ten years.

During the CRE he served as:

- Co Facilitator
- Interpreter
- Bush Team Leader
- Lead Advisor-Bush Teams
- Lead Indigenous Advisor-Planning Team

Andrew served as co-lead facilitator for CRE activities, as lead for the Bush Fieldwork, and as Macushi interpreter. As a Bush Team Leader, during the CRE activity Andrew participated in 9 CRE's and served as lead implementer for three additional data gathering field exercises. He has led 9 Bush Team trips of approximately 600 miles and 41 days duration. As a member of the technical team in the Lethem office, Andrew advises on community relations and methodology design for community activities. New skills acquired:

- Methodology design
- Facilitation
- Training
- Use of GPS and Digital Photography

#### **Nial Joseph (GIS/IT Technician):**

Nial is originally from St. Ignatius but lives in Lethem. He has been working with CI – Guyana for two years.

During the CRE his role was as:

- IT and GIS Technician
- Overall Field Technical Lead-Responsible for all technical equipment
- Technical Lead for Team
- Facilitator
- Bush Team Leader

Nial has participated in 10 CRE's. His role for Team A includes:

- Focus group leader
- Bush Team leader.
- Facilitator for Mapping Mini lecture and GPS training
- Technical lead (responsibility for equipment, video shows, photo management, onsite design and presentation of closing photo show)

Nial is responsible for all GIS work related to the CRE fieldwork. He is responsible for downloading all waypoints from GPS units, maintaining files and liaising with the GIS specialist in Georgetown. Nial manages the mapping software and the flow of data to and from Georgetown.

Responsibilities also include issuing of all equipment in preparation for each CRE activity. Nial has acquired skills in MS Word, PowerPoint, Arc View, OziExplorer, and Camedia Photo Management, in addition to technical skills in IT support. Nial trained both in Georgetown, Lethem, and Washington, DC. as IT support for all computer equipment in the Lethem office.

Nial led 9 Bush Team trips with over 45 participants and 35 days duration covering over 600 miles.

**Lloyd Ramdin (Agriculture Advisor):**

Lloyd is originally from the Upper Essequibo and has been working for CI for nearly two years.

During the CRE he worked as:

Bush Team Leader  
Training  
Materials Manager

Lloyd has participated in 9 CRE's. His role for the team includes:

- Focus Group leader
- Bush team leader
- Mini-lectures on soils for participants and students
- Technical assistant on photography and video

Lloyd is responsible for the production of all printed materials for the CRE activities, having acquired skills in MS Word, Publisher and PowerPoint. He co-designed a three-day training program for community field team leaders in CRE methodology, data gathering and GPS use. He also designed and presented presentations for participants and students in agricultural topics. Lloyd has led 9 Bush Team trips with 48 participants over 36 days and more than 600 miles.

**Margaret Gomes:**

Margaret is originally from Aishalton and now lives in Sand Creek. Before joining CI she was very involved in the community, in the church, women's group, the PTFA and SCIPDA.

During the CRE her role was as:

Facilitator  
Village Team Leader  
Overall Purchasing Manager

Margaret has participated in 9 CRE's. Her role in the Team includes:

- Wapishana interpretation
- Facilitator
- Lead Facilitator Village Team Activities
- Focus Group Leader

- Kitchen Manager (supervising preparation of 300 meals during the activity)

Maggie is responsible for all supplies-food and stationery-for all CRE activities. She inventories, buys, distributes all supplies, manages and accounts for purchasing funds, and supervises all packing of supplies for both teams for each activity. During the CRE Activity, Maggie takes the role of lead facilitator for the Village 'Team activities, including:

- The village sketch map
- Village survey
- Preparation of participants for the student and public meeting presentations
- Student interactions

Maggie has acquired skills in purchasing and inventory management, use of calculator, bookkeeping and cash management. She also led a Bush Team during the Katoka Pilot CRE.

**Vitus Antone (Forest Resource Advisor):**

Vitus is from Lethem. He has been working for CI for one year. Before joining CI he worked at Iwokrama as a forest ranger. He attended both the University of Guyana and the Guyana School of Agriculture.

During the CRE his role was:

Co Facilitator  
 Technical Lead on Digital and Video Photography,  
 CRE presentations  
 Training

Vitus has participated in 8 CRE's. His role for Team B includes:

- Co-lead facilitator
- Bush Team Leader
- Focus Group Leader
- Lead responsibility for Bush Team activities
- Technical Lead for photography, video, GPS work

Vitus co-facilitates the team's activities. He holds lead responsibility for all photographic data, including downloading of images, maintenance and identification. He co-designed and implemented the community field leader training as well as delivered training in report writing for the CRE team members.

Vitus has designed and delivered presentations on forestry topics for the student interactions using digital photo presentations and PowerPoint, and has delivered mini-lectures on his experiences while working with Iwokrama. He manages the technical issues for Team B, including GPS training and mapping lectures. Vitus has led 6 Bush Teams with 33 participants over 24 days and 430 miles.

**Natalie Victoriano (Macushi Interpreter):**

Natalie is originally from Kumu village. She has worked with CI for two years. Before joining the organization she was the Women's Group Leader, Church Assistant and a Village Councillor.

Initial Role: Macushi Interpreter

Current Role: Interpreter  
Facilitator  
Lead Village Team Activates  
Asst. Purchasing Manager

Natalie has participated in 10 CRE's. Her role in the team includes:

- Interpreter
- Facilitator
- Focus Group Leader
- Lead Facilitator Village Team
- Kitchen Manager

Natalie assists Margaret Gomes in purchasing supplies, taking responsibility for all medical/first aid supplies. She assists in supply inventories and maintains supply list and menus on the computer using MS Word. During the activity Natalie managed the kitchen and the preparation of over 300 meals and all rations for the bush teams. As Village Team leader, Natalie facilitates all Village Team Activities, including:

- the village sketch map
- Village survey
- Preparation of participants for the student and public meeting presentations
- Student interactions

Natalie has also lead Bush Teams for the Katoka Pilot and the Maruranau CRE.

### **Richard Wilson (Indigenous Knowledge Advisor):**

Richard Wilson has worked with CI- Guyana for two years. He is originally from Rupunau Village where he was once a Touchau.

His role in the CRE included acting as an:

Interpreter  
Facilitator  
Bush Team Leader

Richie has completed 10 CRE's. His role on the team includes:

- Wapishana Interpreter
- Facilitator
- Bush Team Leader
- Focus Group Leader

Richie assists in logistics for launching the CRE activity. He provides interpretation CRE activities in Wapishana communities. As Bush Team leader, he assists in training participants in GPS use and data collection. Richie has lead 9 Bush Team trips covering approximately 440 miles over 37 days, training 46 participants. Richie has acquired skills in digital photography, GPS, and operation of audio/visual equipment.

**Julie Kanhai (Database Coordinator):**

Julie is originally from Georgetown and has been working with CI for a year. Julie attended the University of Guyana and also taught at the St. Ignatius Secondary School

He role is as Data Input Manager  
Database design  
CRE facilitation backup

Julie has participated in 4 CRE's. Her role in Team A includes:

- Facilitation
- Village team group leader
- Focus Group Leader
- Kitchen Manager

Julie manages all data gathered during the CRE, including data forms, surveys, lists, calendars, participant information, attendance and field notes-both electronic and hard copy. She tracks and inputs all data as it arrives from each completed CRE. She has also been backup CRE field staff, completing 4 CRE's, where she assisted in facilitation and in Village team and student interaction activities. In Quarrie she took over as kitchen manager, supervising the community cooking staff and the Bush team preparations. Julie has added to her computer skills in MS Excel, Access, Publisher and PowerPoint.

**Susan Stone (Program Manager):**

Susan is from California, USA. She has been working with CI-Guyana for three years. Her first year was spent living in the village of Nappi where she worked along with the Nappi Balata Artisans.

As the Program Manager, Susan has overall responsibility for the CREs, which includes:

Management  
Recruitment  
Planning  
Design  
Implementation  
Budgeting  
Evaluation and Reporting

In total she has participated in 9 CRE exercises. In the CRE she served as the lead facilitator for the team. In addition she oversaw the logistics of the activity, the bush team and the village teamwork.

**Esther McIntosh (CRE Facilitator):**

Esther is from Georgetown. She has been working with CI-Guyana for over a year as the CRE Facilitator and has participated in 8 CRE exercises. She worked on the CRE as a lead facilitator for the team.

Her responsibilities during the CRE include:

- Facilitator
- Village Team leader
- Logistics
- Management
- Reporting

Esther was lead facilitator for team “B”, and lead for the Village team and student activities. She was also instrumental in implementation of the overall CRE project, designing methodology, capacity building, training and reporting.

Date <table style="display: inline-table; border: none;"> <tr> <td style="border: 1px solid black; width: 40px; text-align: center;">Month</td> <td style="border: 1px solid black; width: 40px; text-align: center;">Day</td> <td style="border: 1px solid black; width: 40px; text-align: center;">Year</td> </tr> <tr> <td style="border: 1px solid black; width: 40px;"></td> <td style="border: 1px solid black; width: 40px;"></td> <td style="border: 1px solid black; width: 40px; text-align: center;">2002</td> </tr> </table> Group <input style="width: 100%;" type="text"/>	Month	Day	Year			2002	<b>Point Identification</b> Code <table style="display: inline-table; border: none;"> <tr> <td style="border: 1px solid black; width: 40px; text-align: center;">GPS Unit</td> <td style="border: 1px solid black; width: 40px; text-align: center;">Village</td> <td style="border: 1px solid black; width: 40px; text-align: center;">Feature</td> <td style="border: 1px solid black; width: 40px; text-align: center;">Waypoint</td> </tr> <tr> <td style="border: 1px solid black; width: 40px;"></td> </tr> </table>	GPS Unit	Village	Feature	Waypoint					<b>Coordinates</b> <table style="display: inline-table; border: none;"> <tr> <td style="border: 1px solid black; width: 40px; text-align: center;">North</td> <td style="border: 1px solid black; width: 40px; text-align: center;">West</td> </tr> <tr> <td style="border: 1px solid black; width: 40px;"></td> <td style="border: 1px solid black; width: 40px;"></td> </tr> </table>	North	West		
Month	Day	Year																		
		2002																		
GPS Unit	Village	Feature	Waypoint																	
North	West																			
<b>Area Identification</b> Name <input style="width: 100%;" type="text"/>																				
Feature Codes: Farming=F; Hunting=H; Fishing=P; Gathering=G																				
<b>Use Zone</b> Savannah <input type="checkbox"/> Bush Mouth <input type="checkbox"/> Bush <input type="checkbox"/> Mountain Foot <input type="checkbox"/> Up the Mountain <input type="checkbox"/>																				

## HUNTING

<b>Type of Site</b>	<b>Site Use Status</b>	<b>Species Hunted</b>	<b>Methods Used</b>	<b>Frequency of Use</b>
Feeding Area <input type="checkbox"/>	Active <input type="checkbox"/>	Bush Cow <input type="checkbox"/>	Bow & Arrow <input type="checkbox"/>	Daily <input type="checkbox"/>
Track <input type="checkbox"/>	Inactive <input type="checkbox"/>	Deer <input type="checkbox"/>	Hunting Dogs <input type="checkbox"/>	2-4 times/week <input type="checkbox"/>
Drinking Pond <input type="checkbox"/>		Bush Hog <input type="checkbox"/>	Guns <input type="checkbox"/>	Monthly <input type="checkbox"/>
Nesting Area <input type="checkbox"/>		Powis <input type="checkbox"/>	Traps <input type="checkbox"/>	4-6 times/year <input type="checkbox"/>
Other <input style="width: 100%;" type="text"/>		Others <input style="width: 100%;" type="text"/>	Others <input style="width: 100%;" type="text"/>	1-2 times/year <input type="checkbox"/>
				Other <input style="width: 100%;" type="text"/>
<b>Amount of Catch</b>	<b>Use of Catch</b>	<b>Threats to Site</b>	<b>Condition of Resource</b>	
Less than 3 <input type="checkbox"/>	Domestic Consumption <input type="checkbox"/>	Over-hunting <input type="checkbox"/>	Excellent <input type="checkbox"/>	Good <input type="checkbox"/>
4-10 <input type="checkbox"/>	Sale Outside of Village <input type="checkbox"/>	Mining <input type="checkbox"/>	Poor <input type="checkbox"/>	Very Poor <input type="checkbox"/>
10-20 <input type="checkbox"/>	Both <input type="checkbox"/>	Poaching <input type="checkbox"/>	Notes	
20-50 <input type="checkbox"/>	% Amount sold <input style="width: 100%;" type="text"/>	Logging <input type="checkbox"/>		
More than 50 <input type="checkbox"/>	outside village	Other <input style="width: 100%;" type="text"/>		

## FISHING

<b>Type of Site</b>	<b>Site Use Status</b>	<b>Species Fished</b>	<b>Methods Used</b>	<b>Frequency of Use</b>
River <input type="checkbox"/>	Active <input type="checkbox"/>	Huri <input type="checkbox"/>	Hook and line <input type="checkbox"/>	Daily <input type="checkbox"/>
Creek <input type="checkbox"/>	Inactive <input type="checkbox"/>	Yarou <input type="checkbox"/>	Poisoning <input type="checkbox"/>	2-4 times/week <input type="checkbox"/>
Pond <input type="checkbox"/>		Lukunani <input type="checkbox"/>	Seine/ Cast Net <input type="checkbox"/>	Monthly <input type="checkbox"/>
Other <input style="width: 100%;" type="text"/>		Patwa <input type="checkbox"/>	Bow and Arrows <input type="checkbox"/>	4-6 times/year <input type="checkbox"/>
		Others <input style="width: 100%;" type="text"/>	Others <input style="width: 100%;" type="text"/>	1-2 times/year <input type="checkbox"/>
				Other <input style="width: 100%;" type="text"/>
<b>Amount of Catch</b>	<b>Use of Catch</b>	<b>Threats to Site</b>	<b>Condition of Resource</b>	
Less than 3 <input type="checkbox"/>	Domestic Consumption <input type="checkbox"/>	Over-fishing <input type="checkbox"/>	Excellent <input type="checkbox"/>	Good <input type="checkbox"/>
3-10 <input type="checkbox"/>	Sale Outside of Village <input type="checkbox"/>	Mining <input type="checkbox"/>	Poor <input type="checkbox"/>	Very Poor <input type="checkbox"/>
10-20 <input type="checkbox"/>	Both <input type="checkbox"/>	Poaching <input type="checkbox"/>	Notes	
20-50 <input type="checkbox"/>	% Amount sold <input style="width: 100%;" type="text"/>	Poisons <input type="checkbox"/>		
More than 50 <input type="checkbox"/>	outside village	Other <input style="width: 100%;" type="text"/>		

Month <input type="text"/> Day <input type="text"/> Year <input type="text" value="2002"/> <b>Date</b>	<b>Point Identification</b>			<b>Coordinates</b>	
<b>Group</b> <input type="text"/>	GPS Unit <input type="text"/>	Village <input type="text"/>	Feature <input type="text"/>	Waypoint <input type="text"/>	North <input type="text"/>
<b>Area Identification</b>					
<i>Feature Codes: Farming=F; Hunting=H; Fishing=P; Gathering=G</i>					
<b>Name</b> <input type="text"/>			<b>Use Zone</b> Savannah <input type="checkbox"/> Bush Mouth <input type="checkbox"/> Bush <input type="checkbox"/> Mountain Foot <input type="checkbox"/> Up the Mountain <input type="checkbox"/>		

## GATHERING

Site Use Status	Species Collected	Methods Used	Frequency of Use	Amount Collected
Active <input type="checkbox"/>	Palm Leaves <input type="checkbox"/>	Cut and Carry <input type="checkbox"/>	Daily <input type="checkbox"/>	<input type="text"/>
Inactive <input type="checkbox"/>	Wild Fruits <input type="checkbox"/>	Tapping <input type="checkbox"/>	2-4 times/week <input type="checkbox"/>	
	Muckru <input type="checkbox"/>	Picking <input type="checkbox"/>	Monthly <input type="checkbox"/>	
	Medicine <input type="checkbox"/>	Pork-knocking <input type="checkbox"/>	4-6 times/year <input type="checkbox"/>	
	Others <input type="text"/>	Others <input type="text"/>	1-2 times/year <input type="checkbox"/>	
			Other <input type="text"/>	

Use of Collection	Threats to Site	Condition of Resource	Notes
Domestic Consumption <input type="checkbox"/>	Over-Harvesting <input type="checkbox"/>	Excellent <input type="checkbox"/> Good <input type="checkbox"/>	Notes
Sale Outside of Village <input type="checkbox"/>	Mining <input type="checkbox"/>	Poor <input type="checkbox"/> Very Poor <input type="checkbox"/>	
Both <input type="checkbox"/>	Poaching <input type="checkbox"/>		
%Amount sold outside village <input type="text"/>	Logging <input type="checkbox"/>		
	Other <input type="text"/>		

## FARMING

<b>Farmer's Name</b> <input type="text"/>		Active <input type="checkbox"/>	Fallow <input type="checkbox"/>	Abandoned <input type="checkbox"/>	Age of Farm <input type="text"/>	Persons Fed <input type="text"/>
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Method of Extension	Size of Farm	Soil Type	Main Crops Planted
Shifting <input type="checkbox"/> Extension <input type="checkbox"/>	< 1 acre <input type="checkbox"/> 1 acre <input type="checkbox"/>	Gravelly <input type="checkbox"/> Sandy <input type="checkbox"/>	Cassava <input type="checkbox"/> Banana <input type="checkbox"/>
Rotation <input type="checkbox"/>	2-5 acre <input type="checkbox"/> > 5 acre <input type="checkbox"/>	Clayey <input type="checkbox"/> Peggasse <input type="checkbox"/>	Peanuts <input type="checkbox"/> Mixed <input type="checkbox"/>
Other <input type="text"/>		Loamy <input type="checkbox"/>	Other <input type="text"/>

Yield per Acre	Threats to Site	Pest and Diseases	Notes
<input type="text"/>	Over-farming <input type="checkbox"/>	Deer <input type="checkbox"/>	Notes
	Mining <input type="checkbox"/>	Caterpillar <input type="checkbox"/>	
	Wildlife <input type="checkbox"/>	Acoushi Ants <input type="checkbox"/>	
	Logging <input type="checkbox"/>	Hogs <input type="checkbox"/>	
	Other <input type="text"/>	Other <input type="text"/>	

Use of Produce	Threats to Site	Pest and Diseases	Notes
Domestic Consumption <input type="checkbox"/>	Over-farming <input type="checkbox"/>	Deer <input type="checkbox"/>	Notes
Sale Outside of Village <input type="checkbox"/>	Mining <input type="checkbox"/>	Caterpillar <input type="checkbox"/>	
Both <input type="checkbox"/>	Wildlife <input type="checkbox"/>	Acoushi Ants <input type="checkbox"/>	
% Amount sold outside village <input type="text"/>	Logging <input type="checkbox"/>	Hogs <input type="checkbox"/>	
	Other <input type="text"/>	Other <input type="text"/>	

**Copy of Bush Data Summaries**

**Farming Summary**

***Village***MN  
***Total Number of Points*** 16

Use None

Savannah	Bush Mouth	Bush	Mountain Foot	Up The Mountain			
0	4	11	0	1			

Use Status

Active	Fallow	Abandoned	No Response				
13	3		0				

Method of Extension

Shifting	Extension	Rotation	Other	No response			
4	4		5	3			

Size of Farm

< 1 Acre	1 Acre	2-5 Acre	> 5 Acre	No Response			
4	2	4	5	1			

Soil Type

Gravelly	Sandy	Clayey	Peggasse	Loamy	No Response		
1	11	1	0	3	0		

Main Crops Planted

Cassava	Banana	Peanuts	Mixed	Other	No Response		
9	1	1	2	3	0		

Use of Produce

Dom. Consmpt.	Sale	Both	No Response				
14		1	1				

Threats to Site

Over-Farming	Mining	Wildlife	Logging				
		4					

Pest and Diseases

Deer	Caterpillar	Acoushi Ants	Crickets	Hogs	Monkeys	Birds	Agouti
	1	8	1				

## Hunting Summary

**Village**MN

**Total Number of Points**36

### Use None

Savannah	Bush Mouth	Bush	Mountain Foot	Up The Mountain	Swamp		
9	4	7	3	7	6		

### Type of Site

Feeding Area	Track	Drinking Pond	Nesting Area	Combined			
5				31			

### Use Status

Active	Inactive						
36							

### Species Hunted

Bush Cow	Deer	Bush Hog	Powis	Armadillo	Turtles	Labba	Acouri
35	34	34	24	8	16	5	2

### Methods Used

Bow and Arrows	Hunting Dogs	Guns	Traps				
36	35	33	30				

### Frequency of Use

Daily	2-4X/week	monthly	4-6 X /year	1-2 X /year			
2	3	17	6	8			

Amount of Catch

< 3	3 to 10	10 to 20	20 to 50	> 50			
1	6	25	4				

Use of Catch

Dom. Consumpt	Sale	Both					
34	1	1					

Threats to Site

Over-Hunting	Mining	Poaching	Logging				

Condition of Resource

Excellent	Good	Poor	Very Poor	No Response			
19	16			1			

## Fishing Summary

**Village**MN

**Total Number of Points**24

### Use None

Savannah	Bush Mouth	Bush	Mountain Foot	Up The Mountain	Swamp				
1	4	7	6	2	4				

### Type of Site

River	Creek	Pond	Other						
1	21	2	0						

### Use Status

Active	Inactive								
24									

### Species Fished

Arapima	Tiger Fish	Lukunani	Baiara	Houri	Yarrow	Patwa	Piaba	Haimara	Kassi
	3	2	2	16	8	13	3	6	14

### Methods Used

Hook and Line	Poisoning	Cast Net/Seine	Bow and Arrows						
23	17	19	22						

Frequency of Use

Daily	2-4X/week	Month	4-6 X /year	1-2 X /year					
	2	14	1	7					

Amount of Catch

< 3	3 to 10	10 to 20	20 to 50	> 50					
	2	3	5	14					

Use of Catch

Dom. Consumpt	Sale	Both							
22		2							

Threats to Site

Over-Fishing	Mining	Poaching	Poisons						
2		1	1						

Condition of Resource

Excellent	Good	Poor	Very Poor						
13	11								

## Gathering Summary

*Village*MN

*Total Number of Points*25

### Use None

Savannah	Bush Mouth	Bush	Mountain Foot	Up The Mountain			
0	4	13	6	2			

### Use Status

Active	Inactive						
24	1						

### Species Collected

Palm Leaves	House Poles	Muckru	Nibbi	Wild Fruits			
9	7	13	3	9			

### Methods Used

Cut and Carry	Tapping	Picking	Pork knocking				
19	9	13	2				

### Frequency of Use

Daily	2-4 times /week	Monthly	4-6 Times /year	1-2 Times /year	No response		
2	1	4		16	2		

### Use of Collection

Dom. Consumpt	Sale	Both	No response				
20	2	2	1				

Threats to Site

Over-Harvesting	Mining	Poaching	Logging				

Condition of Resource

Excellent	Good	Poor	Very Poor				
17	8						

Age:  
# of dependants:  
Gender:

## **Conservation International Guyana**

### **COMMUNITY RESOURCE EVALUATION VILLAGE SURVEY**

#### **FARMING**

- (1) How many farms do you have?
- (2) Where are your farm(s) located (savannah, bush mouth, up the mountain etc.)?
- (3) How big is your farm(s)?
- (4) How do you get to your farm (bicycle, walking, boat etc.)?
- (5) How far away is your farm (hours/minutes)?
- (6) How often do you go to your farm?
- (7) How much of your produce do you sell and where?
- (8) What are the threats that affect your farm?
- (9) What do you think is the biggest threat to your farm?
- 10) How do you solve these problems?
- (11) What has changed?

#### **HUNTING AND FISHING**

- (1) Where do you go to hunt / fish?
- (2) How often do you go there to fish/hunt?
- (3) What are the methods that you use (e.g. hook and line, seine etc.)?
- (4) Do you sell any of the fish or game that you catch (in the village, Lethem etc.) and how much of it do you sell?
- (5) What are the threats that affect your hunting/fishing resources?
  
- (4) Do you have to go further to fish or hunt than you did in the past?
- (5) How much further do you have to go (time)?

(6) Is the fish or game as available as it used to be in the past?

(7) Is there any animal/fish that is not there anymore?

(8) What has changed?

### **GATHERING**

(1) Where do you go to gather materials?

(2) How often do you go to gather materials?

(3) Do you sell any of the materials that you gather (in the village, Lethem etc.) and how much do you sell?

(4) What are the threats to the resources that you gather?

(5) Are the resources that you gather, as available as in the past?

(6) Do you have to go further than you did before?

(7) How much further do you have to go (time/miles)?

(8) Is there any material that you used to gather that is not there anymore?

(9) What has changed?

**Copy of Village Survey Summaries**

**Farming Village Summary**

**Village** Maruranau

**Total Number of Points** 36

Age

No Response	15-28	29-40	41-55	Above 55			
3	3	8	14	8			

Gender

Male	Female	No Response					
21	15						

Number of Dependants

Average	Variance	Maximum	Minimum				
6.7	6.84	14	3				

### Number of Farms

Average	Variance	Maximum	Minimum				
3.03	2.15	8	1				

### Size of Farm

< 1 Acre	1>2 Acre	2-4 Acre	5 Acre and more	Other	No Response		
6	16	5	5	4			

### Farming Zone

Savannah	Bush	Bush Mouth	Deep Bush	Mountain Foot	Up the Mountains	Other	No Response
	4	17	13			2	

### Methods of Transportation

Walking	Bicycle	Bullock Cart		Other	No Response		
28	12	9		1			

### Frequency of Use

Daily	2 x wk	3 x wk	4 x wk	5 x wk	Weekly	2 x mth	2 x Yr
7	3	4	3	1	6		1

### Use of Produce

Dom. Consmpt.	Sale	Both	No Response				
3	2	21	10				

### Threats to Farms

Wild animals	acoushi ants	weather	caterpillar	domestic animals	monkey	weed	other
31	26	7	1	5	2		4

### Biggest Threat

Wild animals	acoushi ants	weather	caterpillar	domestic animals	monkey	weed	fire
9	22	1	1	1			

**Hunting Summary**

*Village* Maruranau

*Total Number of Points* 18

Age

No Response	15-28	29-40	41-55	Above 55			
0	1	3	6	8			

Gender

Male	Female	No Response					
13	5						

Number of Dependants

Average	Variance	Maximum	Minimum				
6.69	7.56	13	3				

Frequency of Use

Daily	Weekly	Monthly	Seasonally	Quarterly	2 x Yr	Other	No Response
2	3	5	2	1	0	3	2

Methods Used

Arrow & Bows	Guns	Dogs	Other	No Response	Poison		
1	2	3	1	10	1		

Hunting Zone

Savannah	Bush Mouth	Bush	Mountain Foot	Up The Mountain	Deep Bush	Other	No Response
1	1	2		1	6	1	6

Hunting Site

Feeding area	Track	Pond	Creek	Nesting area	Combined	No Response	
					4	14	

Use of Catch

Dom. Consumpt	Sale	Both	No Response				
13		3	2				

Threats to Site

Over-Hunting	Weather	Population	Tiger	Outsiders	Increase of hunters	Other	No Response
4	2	8	0	1	0	2	1

Do you Fish Further?

Yes	No	No Response					
16	1	1					

Change In Resource availability

Yes	No	No Response					
15	2	1					

Extinct or Scarce Species

deer	amadillo	labba	turtle	Other			
5	9		2	3			

## Fishing Summary

**Village** Maruranau

**Total Number of Points** 33

### Age

No Response	15-28	29-40	41-55	Above 55			
2	3	6	13	9			

### Gender

Male	Female	No Response					
20	13						

### Number of Dependants

Average	Variance	Maximum	Minimum				
6.97	6.72	14	3				

### Frequency of Use

Daily	2 x wk	Weekly	2 x mth	3 x mth	Monthly	Seasonally	Quarterly	Yearly	Other	No Response
2	1	6	1	1	10	3	1	3	3	2

Fishing Zone

Savannah	Bush Mouth	Bush	Mountain Foot	Up The Mountain	Deep Bush	Other	No Response
8		4			10	1	10

Fishing Site

River	Creek	Pond	Falls	Combined	No Response		
6	11	1		11	4		

Use of Catch

Dom. Consumpt	Sale	Both	No Response				
25	0	8					

Methods Used

Hook and Line	Poisoning	Cast Nets	Bow and Arrows	Seine	Other	No Response	
14	5	5	3	10	7		

Threats to Site

Over fishing	Weather	Poison	Population	New_Methods	Outsiders	Fire	No Response
5	0	15	11	5	0	0	11

Do you Fish Further?

Yes	No	No Response					
30	2	1					

Change In Resource availability

Yes	No	No Response					
32	1						

Extinct or Scarce Species

Arapaima	Big Fishes	Lukunani	Turtles	Hiamara	Manji/Mangi	Tiger Fish	Other
	12	1	2	1	1	3	7

## Gathering Summary

**Village** Maruranau

**Total Number of Points** 28

### Age

No Response	15-28	29-40	41-55	Above 55			
1	2	8	12	5			

### Gender

Male	Female	No Response					
15	13						

### Number of Dependants

Average	Variance	Maximum	Minimum				
6.54	5.71	13	3				

### Frequency of Use

Daily	Weekly	3 x mth	Monthly	Quarterly	Seasonally	Yearly	Every 5 yrs	Other	No Response
1	1	1	5	3	1	5	1	7	3

Gathering Zone

Savannah	Bush Mouth	Bush	Mountain Foot	Up The Mountain	Deep Bush	Other	No Response
	2	2			8		16

Use of Catch

Dom. Consumpt	Sale	Both	No Response				
13	1	8	6				

Threats to Site

Over-Harvesting	Weather	Population	Logging/Cutting	Woodants	Wastage	Other	No Response
4	1	5	6	0	1	1	11

Do you Gather Further?

Yes	No	No Response					
24	3	1					

Change In Resource availability

Yes	No	No Response					
22	5	1					

Extinct or Scarce Species

House Materials	Green Heart	Purple Heart	Bitter Cedar	Types of Nibi	Cedar Bush	Spice wood	Other
			1	1	1		

