

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



## **SAND CREEK VILLAGE REPORT**

**May 29 - June 8 2002**

# COMMUNITY RESOURCE EVALUATION

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## Acknowledgement

### "Thank you"

This report is the record of work that was done in Sand Creek Village by the participants who represented their community and the members of the Conservation International team during the Community Resource Evaluation workshop.

All of the work in this report is 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 Eugene Andrews, the other members of the village council, and the Community Coordinators: Brain Andrew and Stanislaus David, all of whom worked together to make the CRE a success

The village for the use of the Community Centre and the Head Master, Stanislaus Joseph who assisted the workshop by providing blackboards, tables and benches.

We Would Also Like To Thank Lydia, Celeste And Andrew For Working Tirelessly To Provide The Workshop With Meals.

# TABLE OF CONTENTS

<b>INTRODUCTION.....</b>	<b>6</b>
Conservation International.....	9
Project Location.....	10
Project Overview.....	12
CRE Overview.....	14
Methodology.....	15
<b>SAND CREEK VILLAGE REPORT .....</b>	<b>22</b>
CRE Workshop Results.....	25
Resource Lists.....	26
Seasonal Calendar.....	29
Sketch Maps.....	33
<b>FIELD OBSERVATION.....</b>	<b>37</b>
Data Results.....	43
Village Surveys.....	50
Village Survey Data Results.....	52
<b>CLOSING ACTIVITIES .....</b>	<b>57</b>
<b>RESOURCE USE PROFILE.....</b>	<b>58</b>
Site Geo-Reference Points.....	63
The Resource Site Maps.....	67
<b>CONCLUSION .....</b>	<b>72</b>
<b>APPENDICES .....</b>	<b>73</b>
Typical Activity Schedule.....	73
Team Profile.....	74
Copy of Bush Data Summaries.....	78
Copy of Village Survey Data Summaries.....	86

## **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.

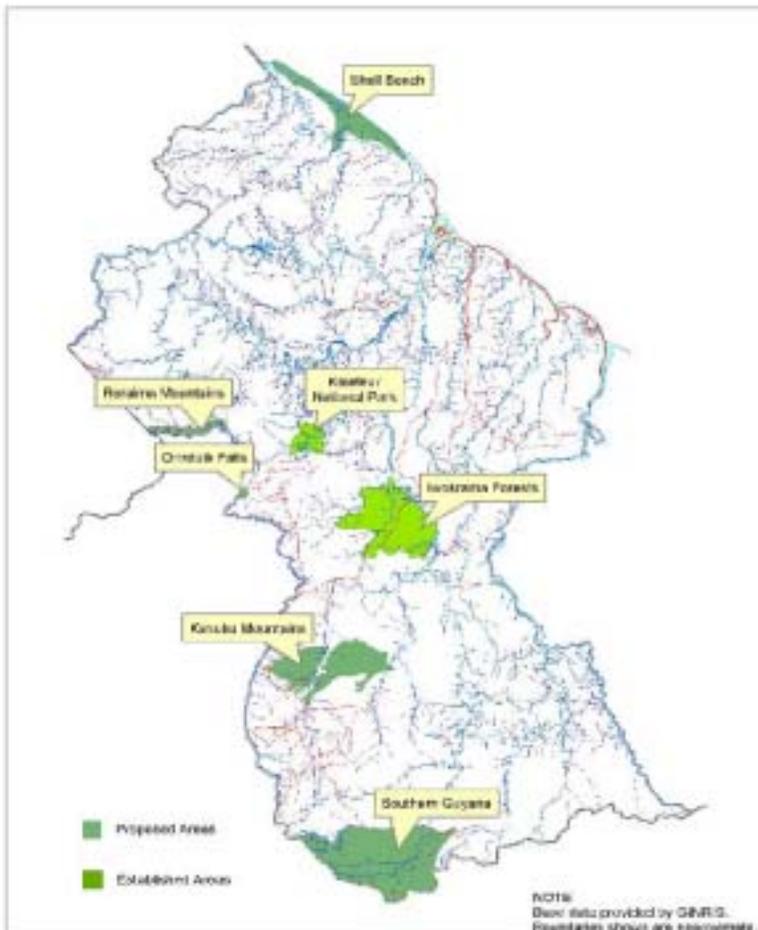
CI has been active in Guyana since 1990 and has led research expeditions, media events and educational activities. The strategic plan of CI Guyana (CIG) is to promote the conservation of biodiversity and the protection of critical ecosystems, through a process comprising scientific research based on 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.

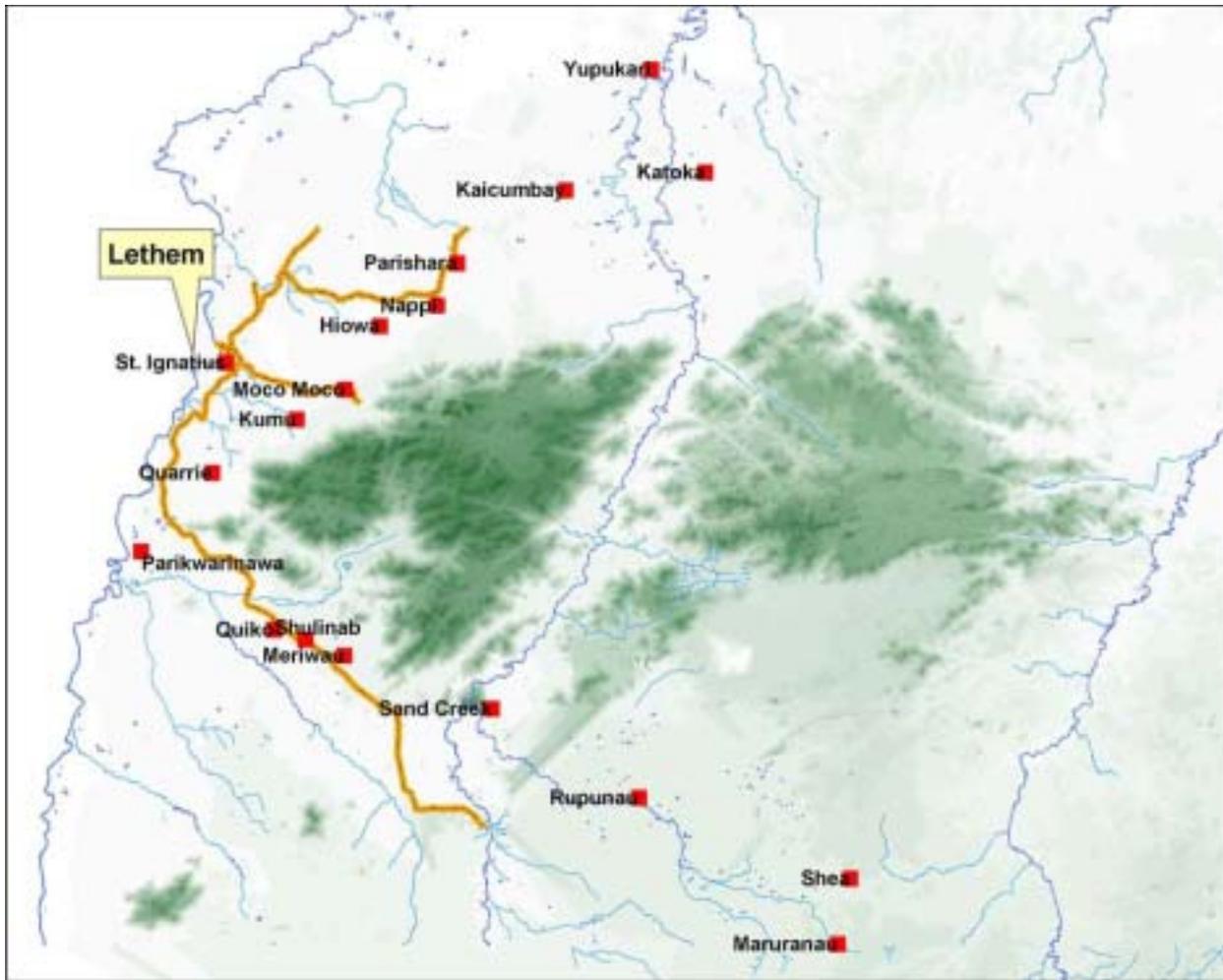
The Kanuku Mountains Proposed Protected Area (KMPA) is one of five areas in Guyana that have been identified by the Environmental Protection Agency (EPA) for conservation efforts. These areas are selected because of their beauty, landscape or richness in biodiversity.



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

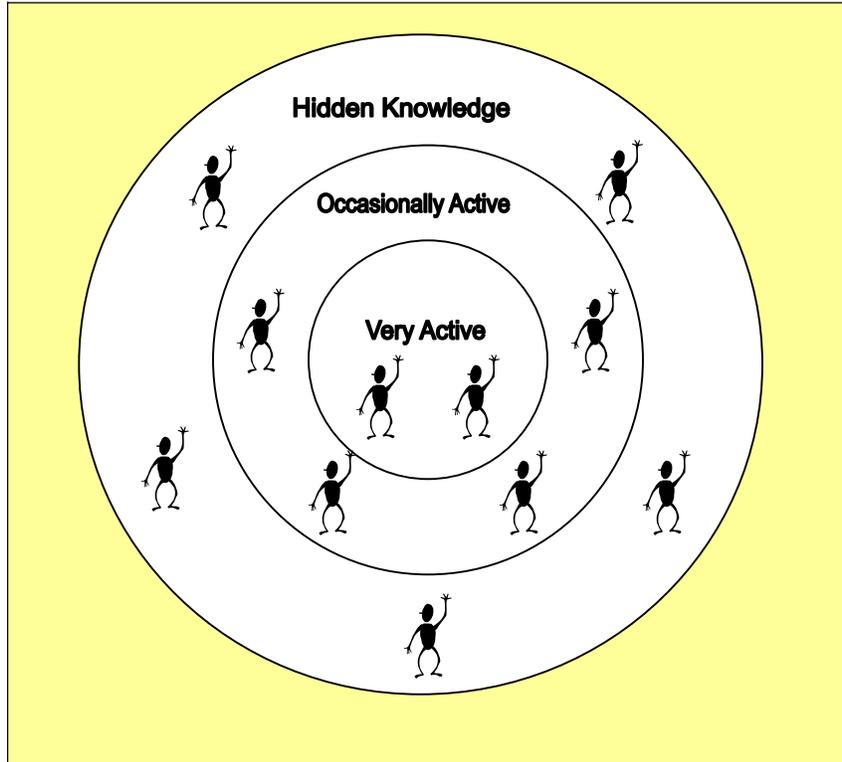
## **7. Mini Lectures**

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**

## **SAND CREEK**

## **SAND CREEK VILLAGE REPORT**

The Community Resource Evaluation was conducted at Sand Creek from May 29<sup>th</sup> to June 8<sup>th</sup> 2002. The CRE was conducted by a team of five persons who made up the team of Conservation International. The CRE followed the same format as that highlighted in the first section of this report.

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 Sand Creek 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.

## VILLAGE DESCRIPTION

The main village is located on a square mile of flat land where the Katiwao (Sand) River enters the Rupununi River. The community is primarily a Wapishana speaking community. A road from Lethem crosses the Rupununi, about 20 miles from Shulinab, by a rocky ford. The crossing is about a mile from the village center, geo-referenced at 2. 99714°N, and 59.51937 °W. Homesteads are laid out on both sides of the vehicle road for another mile before the Rupunau trail branches off to the left between the two southernmost hills of the Kanuku Range. The road then turns right to go south towards Dadanawa, about 12 miles away.

The settlements which have long been associated with Sand Creek, Weri-Moor, Arantau and Rupunau, have since the 1980s been subsumed under Rupunau.

The Rupununi River bisects the Kanuku Mountains into east and west creating access for resource use on both sides. Farming is the main activity done here along with fishing and hunting.

## DEMOGRAPHICS

### Population structure

Age Group	Male	Female	Total
< 1 yr	7	12	19
1 – 4 yrs	36	30	66
5 – 14 yrs	83	97	180
15 – 19 yrs	50	42	92
20 – 44 yrs	76	71	147
45 – 64 yrs	50	49	99
≥ 65 yrs	13	16	29
Total	315	317	632

Sand Creek comprises of 118 households, almost all of these are Wapishana.

### Administration

The following persons were elected in March, 2002:

- **Eugene Andrews (Captain)**
- **Benedict James**
- **Maxie Pugsley**
- **Foster Indach**
- **Bertina Indach**
- **Taddeus Gomes**
- **Lina Joseph**
- **Cordelia Sam**
- **Lionel Mc Birney**
- **Robert Moses**
- **Johnny Moses**

## PARTICIPANT GROUP

The participant group represented a wide range of persons from all parts of the village.

In addition to representatives of the Village Council – including the – there were members of the Church and women’s group who participated. The group included active farmers, hunters, fishermen and gatherers who brought a wealth of knowledge to the workshop.

In total there were twenty-four persons. Of the entire group eight (5) women and seventeen (19) men participated.

The majority of participants had never been involved in a workshop before.

Andrew Calvin	Andrew Delores	Andrews Eugene	Edward Wesley
James Dermott	Joseph Ivan	Joseph Lawrence	Paul Mario
Angus Ignacio	Moses Johnny	Moses Robert	Moses Susanne
Marco Joe	Anton Raymond	Thomas Lincoln	Pugsley Belina
Francis Guy	Henry Lensky	Jackman Vivian	Spencer Constance
Joseph Walston	Gibbs Martin	Simon Paul	Vivian Horatio

**Community Coordinators: Stanislaus David, Brian Andrews**

### Participant Age Profile

AGE	15 - 28	29 - 40	41 – 55	Above 55	Not Stated
<b>No. of persons</b>	<b>3</b>	<b>5</b>	<b>8</b>	<b>2</b>	<b>6</b>

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

- Andrew Demetro** – Indigenous Knowledge Advisor
- Margaret Gomes** – Wapishana Interpreter
- Susan Stone** – Program Manager
- Nial Joseph** – GIS/IT Technician
- Vitus Antone** – Forest Resource Advisor



**From Left: Back Nial, Margaret, Susan and Vitus. Front Andrew**

# CRE WORKSHOP RESULTS

## CREATION OF THE TOOLS



**Farming group creating their resource list**

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.

Participants created three tools to help communicate Sand Creek'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



**Participant drawing the base map**

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.

# RESOURCE LISTS

## “The What”

### FARMING

The farming group listed fifty-five different types of crops that are planted by the community. The list includes: poisons, herbs, benas, and ground provisions.

The land in Sand Creek is often inundated during the heavy rainy season resulting in the loss of crops and the shortage of cassava. The Mapari area down river gives better produce yields.

Crops			
1.	Eddoes	27.	Benas
2.	Peanuts	28.	Arrows
3.	Rice	29.	Tomatoes
4.	Bananas	30.	Tobacco
5.	Corn	31.	Krowa
6.	Sugar Canes	32.	Ginger
7.	Yams	33.	Bishawad
8.	Watermelons	34.	Barley
9.	Pumpkins	35.	Eschallot
10.	Papaw	36.	Celery
11.	Pears	37.	Cucumbers
12.	Coffee	38.	Boulangier (Egg Plant)
13.	Potatoes	39.	Onions
14.	Cunani, Comarau & Iari (poisons)	40.	Calalu
15.	Black Eye Peas	41.	Chicken Thymes
16.	Pigeon Peas	42.	Inacku
17.	Bora	43.	Mawaru
18.	Hot & Sweet Peppers	44.	Calabash
19.	Bitter & Sweet Cassavas	45.	Sour-sops
20.	Cotton	46.	Coconuts
21.	Pine Apples	47.	Sugar Apples
22.	Squash	48.	Etai
23.	Citrus	49.	Mashish
24.	Ochro	50.	Melonge
25.	Dasheen	51.	Cocoa
26.	Gourds	52.	Mango
		53.	Cashew
		54.	French cashew
		55.	Sorrel

## HUNTING & FISHING

The hunting and fishing lists reflect a wide number of fish and game. In total the group listed thirty-eight different types of birds and animals that the community hunts. The list includes: baboons, hogs, parrots and iguanas.

The fishing list has forty-eight different types of fish, which include arapaima, flounder, shrimps and arawana. The village located on the Sand Creek Rivers near where it flows into the Rupununi, so villages use the resources of both rivers on a daily basis.

Hunting				Fishing			
1.	Tapirs	24.	Parakeets	1.	Arapaima	24.	Flounder
2.	Savannah Deer	25.	Watrash	2.	Haimara & Eggs	25.	Shrimps
3.	Bush Deer	26.	Iguanas	3.	Banana Fishes & Eggs	26.	Crabs
4.	Hogs	27.	Salipenta	4.	Tiger Fishes	27.	Snails (Creta)
5.	Agouti	28.	Anteaters	5.	Colleit Fishes	28.	Pencil Fishes
6.	Labba	29.	Baboons	6.	Low Low	29.	Water Turtles
7.	Adouri	30.	Wild Ducks	7.	Biara	30.	Caiman
8.	Powis	31.	Quails	8.	Basha	31.	Cat Fishes
9.	War-Ka-Bra	32.	Pigeons	9.	Lukunani	32.	Sting Rays
10.	Macaws	33.	Doves	10.	Perai	33.	Eels (electric)
11.	Maam	34.	Foxes	11.	Arawana	34.	Sardine Fishes
12.	Anakwas	35.	Sloth	12.	Pacou	35.	Imiri
13.	Marudi	36.	Caterpillars	13.	Piabi	36.	Kater Back
14.	Toucans	37.	Tocuma	14.	Huri	37.	Silver Fishes
15.	Armadillo	38.	Toum Toum	15.	Yarrow	38.	Bat Fishes
16.	Monkeys			16.	Hassar	40.	Dog Fishes
17.	Jaguars			17.	Patwa	41.	Pacamoo
18.	Squachi			18.	Alligator	42.	Couti
19.	Parrots (all species)			19.	Logo Logo (cutlass fish)	43.	Land turtle/ tortoise
20.	Cock of the Rock			20.	Mangie	44.	Yakatu
21.	Harpy Eagles			21.	QQ	45.	Sword Fishes
22.	Mata Mata			22.	Sun Fishes	46.	Congo Eel
23.	Water Dogs			23.	Dari	47.	Sucker fish
						48.	Smoked hassar

## GATHERING

The gathering group listed twenty-nine different types of materials that are actively used by the community. The list includes: muckru, manicole, house materials, and clay.

Gathering is done far down the river. House materials are extracted and transported by boat along the river during the heavy rains.

<b>Materials</b>			
1.	Nibi	15.	Clay for Pottery & Bricks
2.	Mamouri	16.	Minerals: gold & diamonds
3.	Muckru	17.	Wild Fruits: Cocorite, Lou, Manicole , wild Cashews, Plums, Locust, Warowar, Buri,
4.	Fan Materials	18.	Feathers for arrows/costumes
5.	Karamani/Torara	19.	Katabauro
6.	Balata	20.	Bamboo
7.	Incense	21.	Medicinal Plants: barks, seeds, vines, oil (Maran)
8.	Aruwa Leaves	22.	Cow wood milk for graters
9.	Cocorite leaves	23.	Rocks for graters
10.	Turu	24.	Honey & Wax
11.	Manicole	25.	Lumber: round & bow woods, boat tree
12.	Etai	26.	Coral Rails
13.	Wood Skins (for straps)	27.	Fence Posts
14.	Shingle Materials	28.	Morai morai
		29.	Sacoom

## **SEASONAL CALENDAR**

### **“The When”**

The seasonal calendar that was created by the Sand Creek participants was very detailed and complete. The calendar includes the main seasons (as defined by the participants) and the main activities in each of the resource categories.

The main seasons that were identified are the dry and wet season. These were further divided into smaller seasons such as: the short turtle/iguana rains (February – March), the storm season in August and the Cashew Rains in (November – December).

### **FARMING**

The farming activities are very detailed and show activities for both commercial crops such as (peanuts) and other subsistence crops.

Land preparation takes place from the end of the year (September) through to January – February before the main planting season that coincides with the arrival of the rains in late April. Some crops have multiple planting times such as corn, watermelon, pumpkins, potatoes, pines, bananas etc.

### **HUNTING & FISHING**

There are a number of communal hunts throughout the year in January, June, for Easter and Christmas. With the First Rains there is an increase in the number of game (April – May).

Fishing is done throughout the year. As seen in the calendar, January – March is the time when fishing is done in the lakes, creeks and rivers for a number of fish. There is also sport fishing for athletes. As in hunting, festivities also play a big part in the fish harvesting. In November – December there is fishing done for Christmas, down the river.

Fishing methods reflect the area used and the season (rainy or dry).

Some people use poison as a method of fishing.

### **GATHERING**

The Sand Creek community gathers a wide range of materials. Medicines and craft materials are gathered throughout the year. Feathers, seeds, shells, and tibisiri are gathered in July and August in preparation for Amerindian Heritage Month in September. Housing materials are gathered during the rainy season in order to take advantage of the high water to transport materials by river.

## Seasonal Calendar for Sand Creek

January	February	March	April	May	June	July	August	September	October	November	December		
Dry Season		Short/Turtle/Iguana Rains	Short Dry Season	I H R	Rainy Season (Floods)			Storm Season 'winds'	Rain Sun	Short Dry		Short Rainy/Heavy Showers/Cashew Rains	Seasons
Bush Left To Dry	Burn	Clearing & Planting			Weeding & Continue Planting (Reaping)		Continue Weeding	Reapin	Maiden Forest / UB & cutting	Bush Left To Dry			Cycle
Slash	Burn	Clearing, Weeding & Planting						Lapping Down/UB Slashing	Burn & Wait	Plough & Plant	Slash	Old Farm	
<b>Planting</b> Corn, Watermelon, Pumpkins, Potatoes, Yams, Eddoes, Canes Bananas Pines												Maiden Farm	
				Peanut & Corn (40 days)	Watermelon	Reap 40 days corn	Reap Pumpkins			Reap Peanuts			Maiden Farm
Village Hunt to do village farm work			Easter Hunt - festivities				Community Hunting – Bush Island: Bush Hogs, Deer, Agouris, and Tapirs. Men wait in boats with arrows & bows, guns, sling shots, cutlasses and woods.	Toucan Season & Bush Hog Season In Village – Hogs come out of Bush to village				Christmas Hunt – Savannah Deer; horsemen.	HUNTING
Iguana Eggs	Turtle Eggs		Savannah Bush Deer; 1 <sup>st</sup> Rains- Games Plentiful			Macaws		Alligator & iguana eggs caterpillars, spider monkeys	Iguana eggs, Ducks: Whissy, Muscuvy		Iguana & Caiman Eggs		HUNTING

← Bush Hogs Down River, deep in the forests →												
January	February	March	April	May	June	July	August	September	October	November	December	
Tiger Fish, Banana Fish, Hiamara, Dari Arurorra, Baria, Silverfish, Horia, Lukanani, Paira: Rivers, Creeks, Lakes; using Seines, big cast nets, stretch lines, Bow & Arrows, Face Mask, Cunani Balls, Spoon			Fish March: Baria, Dari, Pakao, othe fishes, pulpus caiman, water animals, manatees,		Fish March out in the Savannah: Piabi, crabs, Hori, Yarrow, Yukatu, Imiri, Tiger Fish					Christmas Fishing down river: Turtle Special Dish		
Fishing for Athletes (Inter branch Sport)					Seine and hooks setting, cast nets (on falls tops)							
Fruits, House Material		Turu, Ginep, Balata, Jenny Pap, Wild Cherries, Po, other wild fruits			Balata, Borii (Palm Fruit), Cocorite; easily transported by rivers.			← Balata, →				
Medicine & Crafts: Muckru Nibi Kurio Shoot Bamboo												
← Lumbering/Logging →												
← Honey →												
Clay Bricks			Boat Building						Pork Knocking			
Pork Knocking				Wood Barks	Arua Leaves, Wood Barks							
				Incense, Hiowa Gum		Toucan & Macaw feathers, seeds, Kaiwa, Deer, Fishes, shells, Tibisiri, gum; for Heritage						
← Bow & Arrows Materials →												
← Reaping & Replanting: cassava cane →												
Slashing		Spot planting	Cassava is planted	Corn is planted		Corn is reaped			Reaping Paddy & Peanuts		Planting Cassava, Banana & reap 1yr old cassava	
		Watermelon, pumpkin	Main planting short season crops: peanuts cane.		Paddy							

FISHING

GATHERING

OLD FARMING

<sup>1</sup> First Heavy Rains.

### **Comments**

- All farming activities are dependent on the weather.
- The old farms are farms that were used then abandoned and then reused. That is using it on a rotational basis.
- Turtle is eaten only at Christmas time. It is served all style except in Tumo Pot.
- Spot Planting – first cassava planted are hauled out and new cassava is replanted. First crops planted in the first farm are used for making Parakari and this is called Kadaropan. Second crops planted are called Wenibapan.

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

The major river identified on the maps is the Rupununi River. The map also includes the important tributaries such as Sand Creek River, ponds, trails, and mountains.



**An experienced hunter/fisherman guiding work on a sketch map**

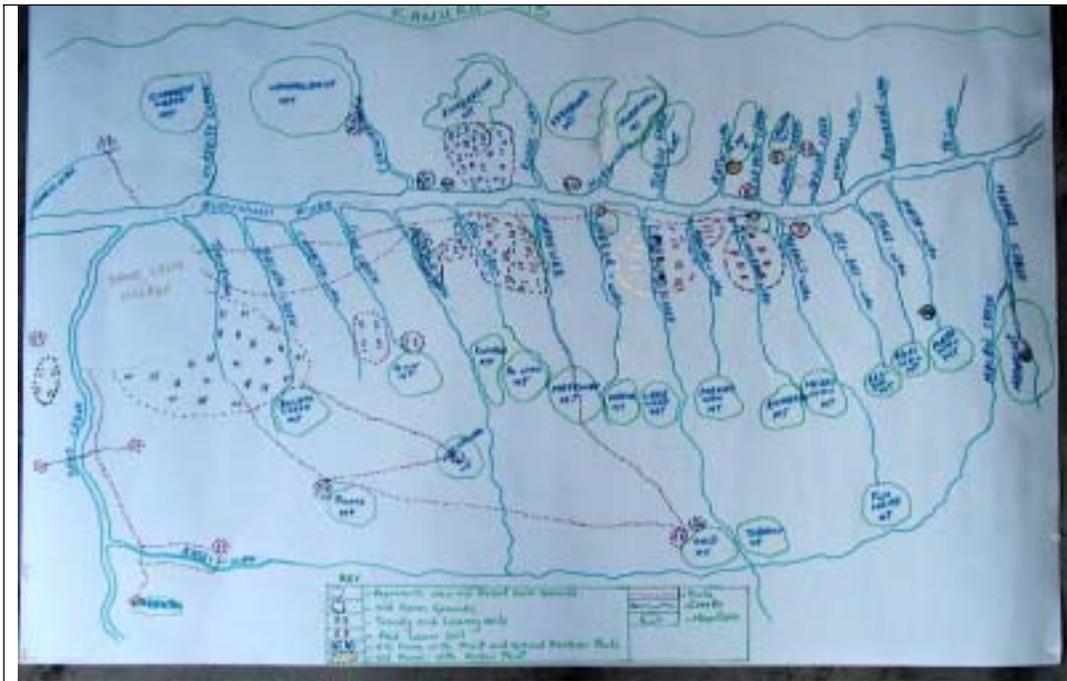
## Farming Resource Use Sketch Map

Farming is done on both sides of the Rupununi River, although most sites are found on the eastern bank due to heavy seasonal flooding on the western side. On the western bank all the farms indicated are old farms under fallow land, except for one at Cocorite Creek (Ramdani's farm). The majority of active farming is done in the bush mouth, closer to the village at the upper Turokwao Creek.

The active farms down river are concentrated at Crabwood Creek and Kumuran on the east bank. Farming is done away from the riverbank along the tributaries to avoid the floods during rainy seasons.

There are a few farms found on the east of Kassi-wao, Puma Mt., Wawarnau, Gold Mountain, and Mapari Mountain however these farms are mostly old farms, no longer planted, but still harvested for citrus.

On the east there are trails leading to the farming grounds down river but these are only usable during the dry season. During the rainy season the only means of transportation down river is by canoe.



**Sand Creek Farming Map**

## Hunting And Fishing Resource Use Sketch Map

This map is a representation of the areas the community uses to obtain their hunting and fishing resources.

As is shown on the map most of the hunting is done along the banks of the Rupununi River and close to the farm sites. Fishing is done in the river itself and its tributaries.

The resource use area covers a span from the village itself right up to the Mapari Creek. The species hunted include armadillo, tapir, turtles, deer, bush hogs, capybara, agouti, powis, marudi, maam. The species fished include arawana, perai, pacou, lukunani, tiger fish, and hassar.

On the other side of the Tawao creek houri is caught at a pool called Haimara. There is another pond at Mapari where fishing is also done.



Sand Creek Hunting and Fishing Map

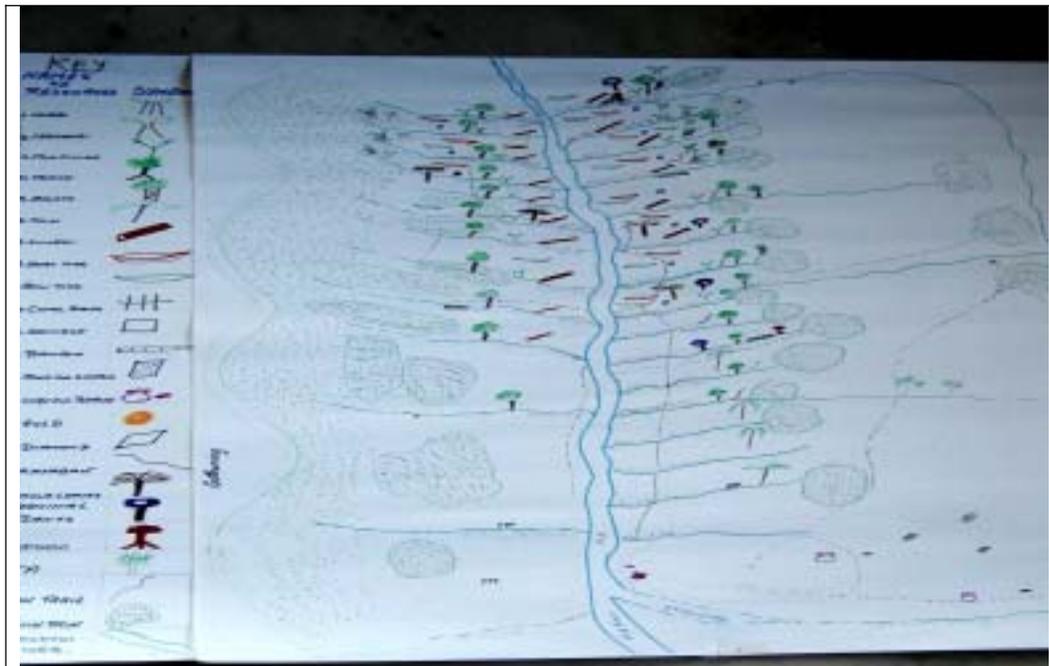
## Gathering Resource Use Sketch Map

The map represents the various forest resources and areas as identified by the CRE participants.

The most widely used resources are: building materials (wood palm leaves), craft material (nibi, mamouri, muckru, bamboo, caramani, clay), minerals (gold, diamond), bush medicines, and wild fruit.

This community gathers along both banks of the Rupununi River with more penetration into the Easter Kanuku Mt. down to the Mapari River. There are also resources on the Western Bank but to a lesser extent, down to the Tawao Creek.

Most of the resources are located further down river. Trails overland are also represented, these are used to access areas that cannot be reached by boat



**Sand Creek Gathering Map**

# FIELD OBSERVATION

## INTRODUCTION

The fieldwork in Sand Creek 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 three teams, with approximately 5 persons on each team. The teams were grouped according to the areas that had to be covered. Each team observed and geo-referenced areas found along the way in each of the resource categories: farming, hunting & fishing and gathering.



**Farm observed in the Krapud area**

A CRE team member led each team but all members of the team actively contributed 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.

## TEAM A

**Andrew Demetro (CI)**  
**Dermott James**  
**Ivan Joseph**  
**Raymond Antone**  
**Guy Francis**  
**Paul Simon**

## AREAS COVERED

The furthest area that was visited by the team was **Mapari Creek Head (First Falls)**, which is approximately 40 miles from the village. The route used to access the furthest point was along the **Rupununi River**. The areas of concentrated use are **Kwapod, Krapud and Kumuran**, which are used mainly for farming.

Other areas being used **Tomkwao, Balata Creek, Comackwao, Gun Creek, Marur – wao, Atoru- wao, Mata – wao, Mapari and Macaw Creek** most of these are creeks in the Eastern Kanuku Mountains.

Areas covered in the Western Kanukus are **Tawao, Mapari-wao, Cashew Creek, Cocorite Creek, Katu – wao, Tortoise Creek, Morai – wao, Karai – wao and Coriwak – wao** which are all **tributaries of the Rupununi**.

## OBSERVATION

At the furthest points, gathering and hunting activities only occurred when mining was done which was 6 – 8 years ago. Hunters could easily find hogs and tapirs in these areas. Up to the time of visiting this area, mining had completely ceased

However there is more use occurring up to the First Falls on the Mapari River. Resources such as nibi, kupa, balata, caramani, mucro are still seen in abundance in the furthest areas. The forest in the area is in excellent condition. There was no evidence of recent balata bleeding activity.



**Forest fruits and other non-timber forest products**

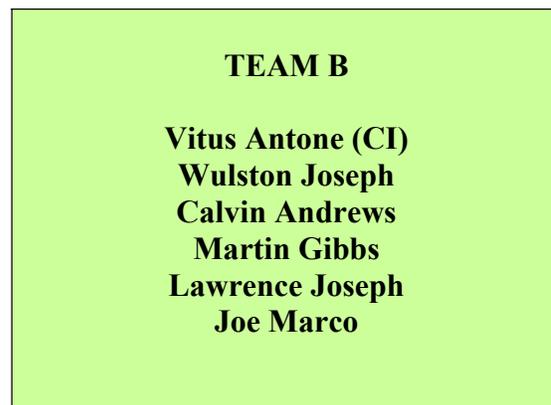
Because of the distance villagers only visit the areas every three months. As is common in the villages – activities are linked together; hunting, fishing and gathering are done at the same time

when the area is visited. Dadanawa also takes tourists into this area during the rainy season as the river is high and it is easily accessed by boat.

Three communities use this common area; Sand Creek, Yupukari and Katoka. Katoka is now establishing farms and has also started to do some logging.

It was observed that the gathering of resources along both banks of the Rupununi River is limited as not a lot of people use the area. Resources such as nibi, muckru, axe handles, bow materials, fan material, house material both for frame and roofing, rails for fences and corrals are still used. Bush medicines are not collected as much, as villagers are turning more to the health center facility in the community.

As there is more demand for sawn house material and with the availability of power saws, the logging resources are becoming more under threat. The power saw owners now use this form of harvesting on a small scale. Closer to the villages it is evident that there was not much gathering of resources other than dry wood for cooking. Most of whatever resources that used to be closer are now exhausted.



## **AREAS COVERED**

The furthest point visited by the team was **Cocorite Creek**, which is 23 miles down river. This is a tributary of the Rupununi River where Luise Ramdani is farming presently. The team also visited **Kumuran and Crabwood**.

## **OBSERVATION**

On this trip it was observed that both sides of the Rupununi River are being used for farming. However, there is a higher concentration of farms on the upper banks of the river than further down river.

The reasons for the majority of farms being located closer to the village is because villagers have other commitments such as sending their children to school, sports activities, community work, medical treatment and rearing livestock. As a result of the concentration of farming the soils close to the village have become exhausted and have a poor crop yield.

One example of this is the Soberlen Mt. Foot where a lot of farms were found and where the school and church farms were once located but were abandoned because it is no longer suitable for farming.



**Cassava farm in the Cranwao area**

In the deep bush down river, at the Kumuran, Crab Wood, Cocorite Creek areas, the soils are very rich and suitable for farming. Here it was observed that more farming activity is done on the eastern bank and many villagers practice hillside farming. On this side of the river floods do not hamper the farms and the hills are closer to the river and have larger planting spaces. This permits farms to be made near to each other and people to work together.

The areas visited at Kumuran and Krapod were old farming grounds, which were used years ago. There are many fruit trees; cashew, mangoes and oranges that show human contact and the forest is of secondary growth. The four main factors for the reduction in farming activity done here are: the distance, migration of youth to Brazil, old people dying out, and the youth not being interested in farming. However, due to lower crop yields in the closer farms, many people are returning to these areas.

Farmers are returning to these old farming areas because acoushi ants now plague the closer farms. In the areas down the river the farmers are required to spend more time in their farms in order to keep away wild animals that destroy their crops. The elderly people of the village do most of the deep bush farming in Kumuran and Krapud. Farming and fishing is also done at the Macaplene areas.

There are plans to/for

- Return to Macaw Plain to do farming and fish in a pond in the river just above the Cashwao creek.
- A future residential areas close to where farming is being done in order to access the fertile soil.

## TEAM C

**Nial Joseph (CI)**  
**Wesley Edwards**  
**Angus Jackman**  
**Robert Moses**  
**Constance Spencer**  
**Mario Paul**  
**Robert Moses**

## AREAS VISITED



**Members of the bush team filling in data forms**

The **second waterfall** along the **Mapari River** was the furthest point visited on this trip. It is approximately 35 miles from Sand Creek village. Mapari itself is a mountain that is situated on the Eastern bank of the Rupununi River and is accessible by boat along the river and up the Mapari Creek, a small tributary of the Rupununi River. It is more easily accessed during the rainy season when the river is high.



**Participant weaving a basket from nibbi straw**



**Dermott holding a piece of kufa that is use to make wicker furniture**

## OBSERVATION

The furthest point visited by the team was in pristine condition and the resources are bountiful. There is not much of human presence in the area and as a result wildlife is plentiful.

The Mapari River never dries and animals are able to get water even during the dry season. Because humans do not constantly visit the areas, animals such as labba, tapir and acouri are easily hunted, as their instinct is to observe rather than flee. Fishing is done only up to First Falls on the Mapari River. The waterfall prevents the bigger fish from going further up stream. The fishes found in this river are species such as haimara, catfish, pacou and lukunani.

Because of the rich biodiversity of this area, Mapari Head is targeted for tourist activities by the management of Dadanawa Ranch.

The only means of transportation to access this area is by boat.

Crabwood creek on the western bank of the Rupununi River is an area that is used.

# 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.

The entire participant group was given training on how to use the GPS units and the bush teams received additional training in addition to that received by the group. The bush teams were also shown how to record data on the data forms. The information presented in this section is therefore the result of the work of that which was recorded by the “Bush teams”.

The results of the geo-referencing exercise are described 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 area visited, as well as the intensity and quality of use.

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

## DATA SUMMARY

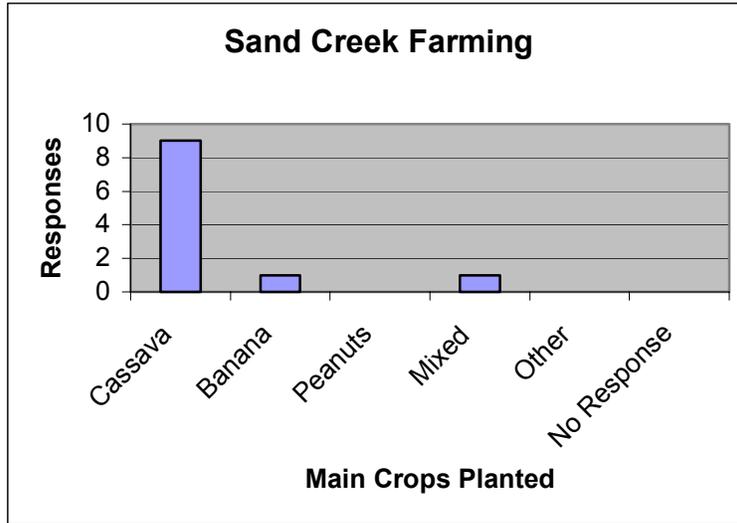
In total ninety-seven (97) waypoints were taken. The following is a summary of all the waypoints in each category

- **Farming**      **11**
- **Hunting**      **21**
- **Fishing**      **25**
- **Gathering**    **40**

## FARMING DATA RESULTS

### QUALITY

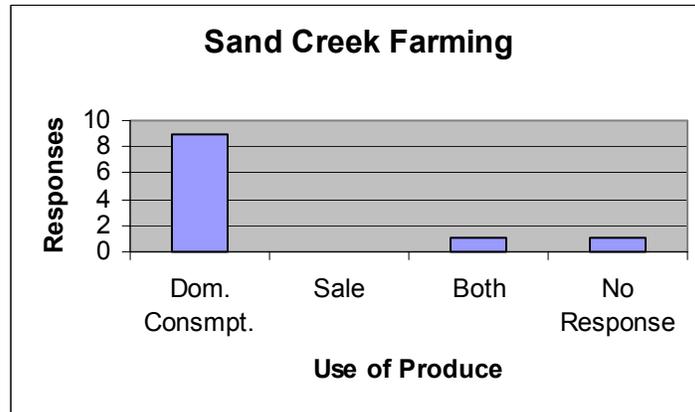
The type of soil at the farms was either loamy (9) or clayey (2). Cassava was planted at most of the farms (9) followed by banana (1) and mixed crops (1). **See graph.**



### INTENSITY

The majority of the farms visited were concentrated in the mountain foot (6) and up the mountain (4) areas. Eight (8) of the farms were active and three (3) were fallow.

The farms are mainly more than five acres (5) or between 2 – 4 acres. The produce of the farms is used domestically (9) and with one site recording both sale and domestic use (1). **See graph.**



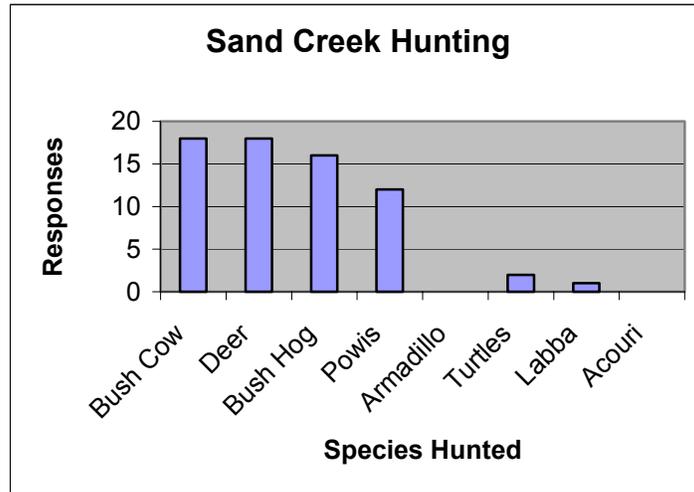
### THREATS

There were no threats recorded at any of the sites. Nine of the eleven sites that were visited listed hogs as being a pest followed by deer (1) and caterpillars (1).

# HUNTING DATA RESULTS

## QUALITY

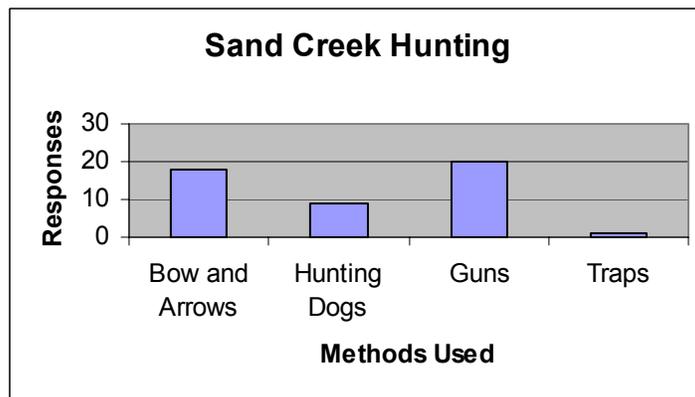
The condition of the hunting resources is considered to be either “good” (10) or “excellent” (11). Commonly hunted species are: bush cow (18), deer (18), bush hog (16) and powis (12).



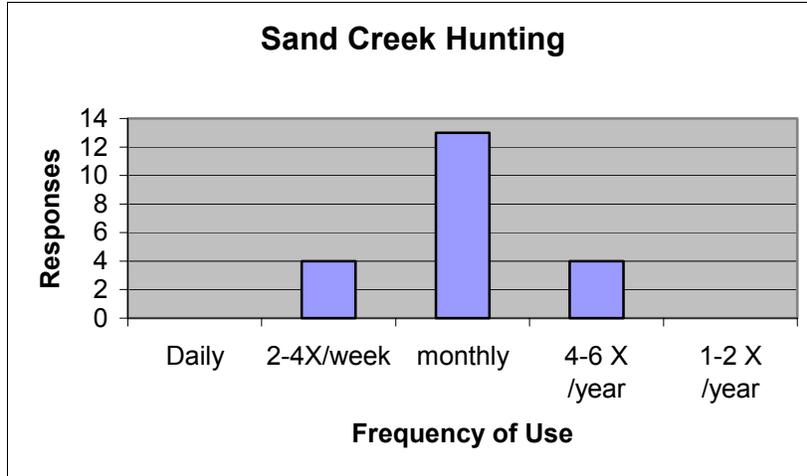
## INTENSITY

The waypoints that were taken are concentrated in the bush (13) and savannah (5) area. All of the sites (21) are active.

The game is caught using both traditional methods bow and arrows (18) and hunting dogs (9), and guns (20). **See graph**

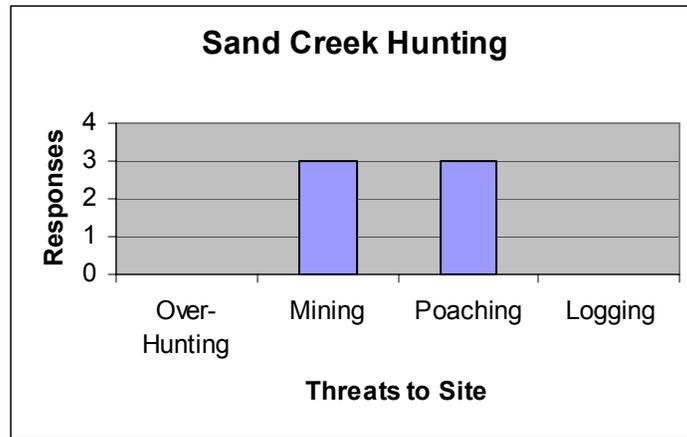


Hunting is done primarily on a monthly basis (13) and to a lesser extent 2 – 4 times per week (4) and four to six times per year (4). In all of the sites visited that game was recorded as being for domestic use only (21).



### THREATS

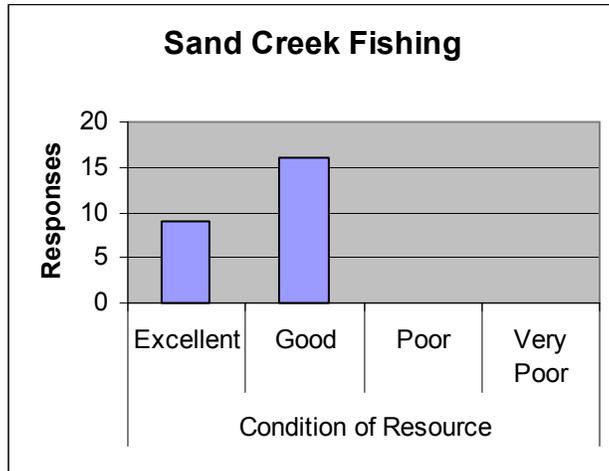
There were threats recorded at six of the sites poaching (3) and mining (3).



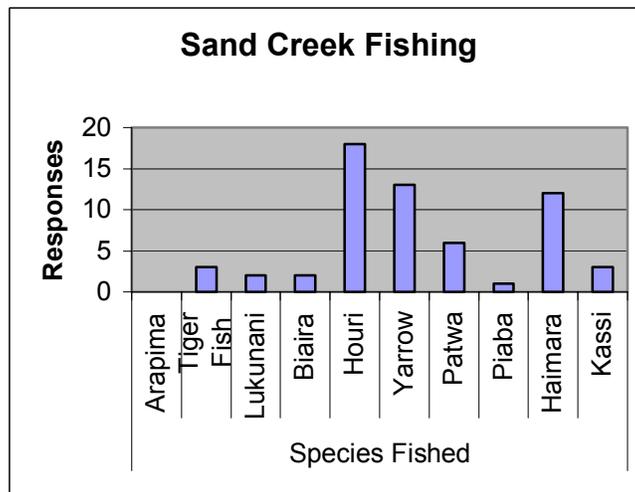
# FISHING DATA RESULTS

## QUALITY

Of all the twenty-five waypoints that were taken, the resource condition at sixteen (16) of the sites were considered to be “good” and nine (9) are considered to be “excellent”.



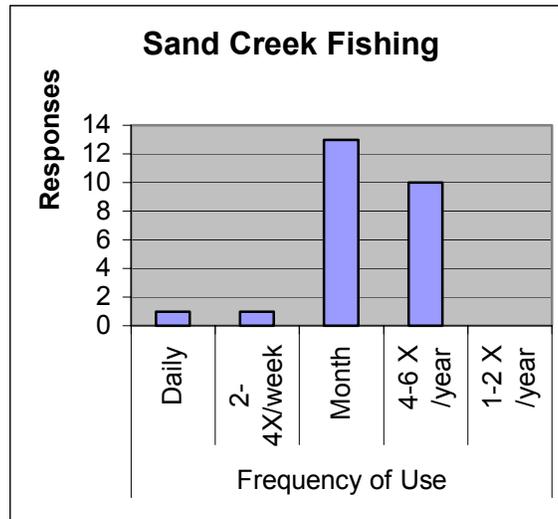
Different types of fishes are caught including Houri (18), Yarrow (13), Haimara (12), Patwa (6) and Tiger Fish (3).



## INTENSITY

The majority of the fishing sites are creeks (22), which are located in the bush area (19) and in the savannah (5). Most of them were active (21) with four of them being inactive.

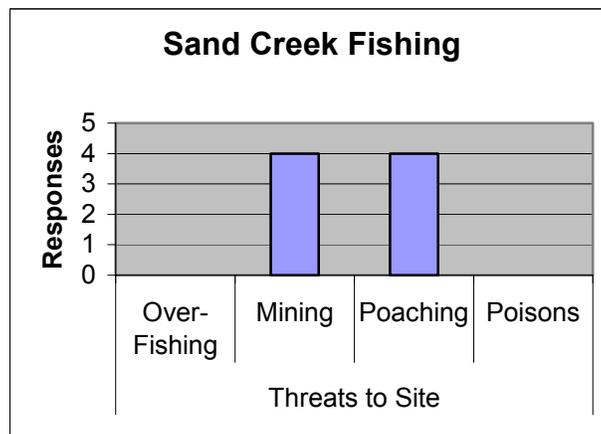
Hook and line is the most used method of fishing (25), followed by bow and arrows (13), and cast nets (8). Fishing is done mainly monthly (13) or 4 – 6 times per year (10) at the sites. The catch is usually between 3 – 10 (14) or 10 – 20 (10).



At all the sites the catch was recorded as being for domestic consumption.

## THREATS

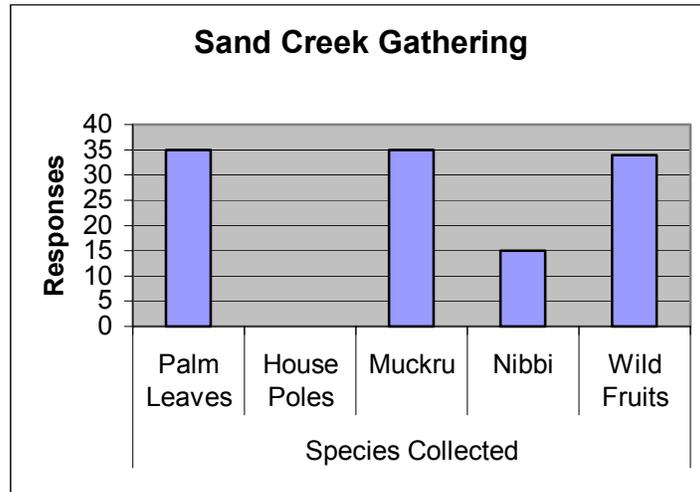
Only two threats were recorded mining (4) and poaching (4).



# GATHERING DATA RESULTS

## QUALITY

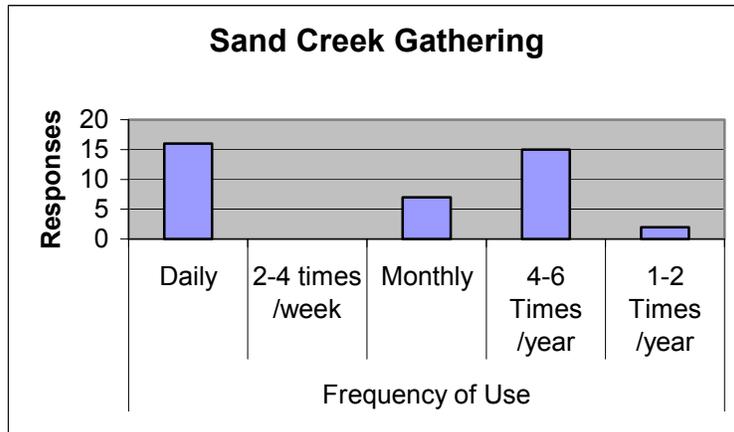
In all the sites that were visited the resource condition was recorded as being either “good” (23) or “excellent” (17). The resources were mainly palm leaves (35), muckru (35), wild fruits (34) and nibi (15).



## INTENSITY

Gathering sites were recorded in the bush (18), mountain foot (15) and up the mountain (5). Most of the sites were active (39).

Cut and carry was the most used method of harvesting materials (37) followed by picking (32) and pork knocking (4). The gathering of materials is usually done daily (16) or 4 – 6 times per year (15).



In all cases (40) the materials gathered were for domestic use only.

## THREATS

There was only one recording of a threat to the gathering resources and that is logging(1).

# VILLAGE SURVEYS

## INTRODUCTION

The village fieldwork was done over a period of four days. The surveys were conducted whilst the “bush teams” were out in the fields. The fieldwork was conducted using the remaining participants of the group.

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.

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 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

## The Village Team



**Margaret Gomes (CI), Dolores Andrew, Susane Moses Touchau Eugene Andrew, Lincoln Thomas, Vivian Horatio Susan Stone (CI) Pugsley Belina, Johnny Moses, Stanislaus David**

## INTRODUCTION

The Village Team's work benefited from a very well organized and enthusiastic group. The village sketch map was easily created and the persons to be interviewed, identified.

The participants went out themselves to notify the villagers whom they had selected. The group divided themselves into three teams.

In total 30 households were interviewed by the group.

## OBSERVATION

Even though Sand Creek is a large community the households are not spread out, the persons listed to be interviewed were easily reached. The three groups set out in different directions on both days.

### *Concerns/Questions:*

- Is CI going to take away our land?
- Will the team be able to reach the furthest resource use areas during the fieldwork exercise?
- If a Protected Area is established will the local people be managers?
- How will the government see all the places we use if these places are not being used during the high floods and sometimes during the dry season? I ask this question cause it will look like we don't use these areas cause they're not on the maps.
- Weather and fires are presently (2003) our biggest threats.
- The workshops have brightened up my knowledge. You promised top bring back the information and your have and we can use this information to help ourselves. That's why I'm glad and thankful for your advice and materials, and I was worried about the areas not shown.



**Village survey team**

Because of the lack of information a lot of time was spent explaining the concept of Protected Areas, CI'S role, and on the government's involvement.

It was observed that after persons were provided with information they felt free to speak and ask questions.

# VILLAGE SURVEY DATA RESULTS

## INTRODUCTION

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.

### PROFILE

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

Whilst the "Village Team" was out doing surveys and collecting stories from the village, Lensky 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.



The results of the village survey 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, the intensity and quality of the resources.

Each graph is followed by a description of the information that is represented on the graph. The information is presented in for the three resource use categories,

farming, hunting and fishing and gathering.

## VILLAGE SURVEY DATA SUMMARY

In total thirty (30) surveys were collected. The following is a summary of all the data that was collected in each of the three resource categories:

- **Farming**      **28**
- **Hunting**      **1**
- **Fishing**      **10**
- **Gathering**    **7**

## FARMING DATA RESULTS

### INTERVIEWEES INFORMATION

#### *Age*

15-28	29-40	41-55	Above 55
1	6	11	10

#### *Gender*

Male	Female
20	8

### INTENSITY

During the village survey, most people who were interviewed said that they farm in the bush mouth area (12) and in the deep bush (8) Farms are also located in the savannah (2), at the mountain foot (1) and other (5). From the table below it can be seen that the farming areas are very spread out and cover several different areas. **See table**

#### *Where is your farm?*

Savannah	Bush	Bush Mouth	Deep Bush	Mountain Foot	Up the Mountains	Other
2	0	12	8	1	0	5

Farm sizes were said to be mainly between 2-4 acres (16) and to a lesser extent 1>2 acres (8), <1 acre (3) and 5 and more acres (1). **See table** The majority (21) of respondents did not state the use of their farms' produce while six (6) stated both domestic and sale purposes and one (1) for domestic use only.

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

< 1 Acre	1>2 Acre	2-4 Acre	5 Acre and more
3	8	16	1

### THREATS

Wild animals (25) and acoushi ants (23) were felt to be the main threats to farm crops. Two other threats stated were monkeys (5) and the weather (2). **See table**

#### *What are the threats to your crops?*

Wild animals	Acoushi ants	Weather	Caterpillar	Weed	Monkey	Domestic animals
25	23	2	0	0	5	0

## HUNTING DATA RESULTS

### INTERVIEWEES INFORMATION

#### *Age*

15-28	29-40	41-55	Above 55
0	1	0	0

#### *Gender*

Male	Female
1	0

### QUALITY

One person who was interviewed said that s/he felt that they had to go further to hunt than they did in the past. It was felt that there had been a change in the availability of resources and s/he was commented that the reason for this was the introduction of new methods.

### INTENSITY

The interviewee said that s/he hunts up the mountain and does so daily. The catch that is gotten is used only in the home.

### THREATS

The main threat was felt to be the increase in the population.

## FISHING DATA RESULTS

### INTERVIEWEES INFORMATION

#### *Age*

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

#### *Gender*

Male	Female
10	0

### QUALITY

Six (6) persons who were interviewed said that they felt that they had to go further to hunt than they had done in the past. Three (3) persons said that there had been a change in the availability of fishing resources while one (1) person said that there hadn't been a change. Some people commented that fish are plentiful down river but that fish is difficult to catch near to the village. It was also felt that the increase in the population and the introduction of new methods had affected the availability of fish.

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

Yes	No	No Response
3	1	6

### INTENSITY

Fishing is concentrated mostly in the savannah area (6) and regularly. As the table below shows some of the answer given were: two times a week (3), daily (2), weekly, quarterly and seasonally (1). Most of the catch is used mainly for domestic use only (9) and for both domestic and sale purposes (1).

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

Daily	2 x wk	Weekly	2 x Monthly	Quarterly	Seasonally
2	3	1	0	1	1

### THREATS

The major threats to fishing sites were felt to be caimans (3) the weather, the increase in the population, and poisoning of fish (1).

#### *What are the threats to your fishing resources?*

Weather	Poison	Population	Caiman	No Response
1	1	1	3	4

## GATHERING DATA RESULTS

### INTERVIEWEES INFORMATION

#### *Age*

15-28	29-40	41-55	Above 55
0	3	1	2

#### *Gender*

Male	Female
6	1

### QUALITY

Two (2) persons who were interviewed said that they felt that they had to go further to gather materials than they had done on the past. One person said that there had been a change in the availability of resources. It was commented that the increase in the population was responsible for this.

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

Yes	No	No Response
1	1	5

### INTENSITY

Gathering is done mainly up the mountains (4) and also at the mountain foot and in the deep bush (1). **See table**

#### *Where do you gather?*

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

It was said that gathering is done regularly: either weekly or daily (1). **See table** The materials that are gathered are for both domestic use and for sale (2) and domestic use only (1).

#### *How often do you gather?*

Daily	Weekly	Monthly	Every 5 Years	Every 2 years	Quarterly	Other	No Response
0	1	1	0	0	0	3	2

### THREATS

The major threats to gathering resources were felt to be the increase in the population and fire (2)

## CLOSING ACTIVITIES

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.



**Bush team report**



**School children involvement**

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.

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



**Village team report**

## 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 create an understanding of:

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

Sand Creek is a Wapishana Community situated in the eastern Kanukus, on the east bank of the Rupununi River; which separates the mountains into Eastern and Western ranges. The village center was geo-referenced at 2.99714°N and 59.51937°W. As a riverain community most use areas are accessed by boat. The main activity is farming with dependence on the forest for wooden building materials, craft materials, medicine, wild fruits, game, and on the river and creeks for fish. This community uses both banks of the Rupununi River and both Eastern and Western ranges of the Kanuku Mountains to a distance of approximately 38 miles down the Rupununi River and up the Mapari River. The use of the eastern bank for farming activities is greater since these areas are higher and continuous farming throughout the year can be done. The use of the western bank with respect to farming activities is more seasonal. These areas are used mainly for gathering, hunting and fishing.

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. Savannah areas observed included: **Comackwao** and **Pokoridiwao**.

## BUSH MOUTH

The community describes this area as where the savannah ends and the bush or the forest begins, extending approximately one mile into the bush. This term 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 bush mouth farm. The forest of this area is typically secondary growth with a lot of minerals locally known. **Torokau** site is located 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. Bush areas visited by the teams included:., **Kwapod, Puwao, Gun creek, Balata creek, , Atoru wao, Mata 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. **Cokorite creek, Kumuran, Taw-wao, Komiirii wao, Cashew Creek** were among the sites geo-referenced.

## 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. Up the Mountain sites observed included: **Mapari Creek Head, Manarwao, Crab Wood Mountain**

East Bank	West Bank
Mapari Creek Head	Tawao
Kwapod	Mapari wao*
Krapud	Cashew Creek
Kumuran	Cocorite Creek
Tomak wao*	Katu wao*
Balata Creek	Tortise Creek
Comaka wao*	Morai wao*
Gun Creek	Korai wao*
Marur wao*	Corikak wao*
Atoru wao*	
Mato wao*	
Macaw Creek	
Mapari River	

\* Wao is the Wapishana word for creek

Most of the areas visited by the "bush teams" were done by boat via the Rupununi River. Areas visited were those where villagers were actively engaged in activities. All points taken on these trips were at the creek mouths, in the Rupununi River, with the exception of the **Mapari, Crabwood, and Gold Mountain** areas. It was not possible to access other areas due to floodwaters. However, Sand Creek uses these areas seasonally for hunting, fishing and gathering.

The table above lists the sites where geo-reference points were taken were on the East and West Banks of the Rupununi River.

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**

## QUALITY

Most of the farms visited were located at the mountain foot. Closer to the community, farming areas are becoming exhausted and so the villagers are returning to old farm grounds at **Kumuran – Kwapod** areas. The locality of the farms (mountain foot) is mainly due to seasonal flooding. The farming areas of Sand Creek are spread out and, sections of the community farm in different areas. There is a higher concentration of farms on the upper banks of the river than further down river. In the deep bush down river, at the **Kumuran, Crab Wood, Cocorite Creek** areas, the soils are very rich. Kumuran and Krapud were old farming grounds, which were used years ago. Farmers are returning to these old farming areas because acoushi ants now plague the closer farms and the concentration of farms close to the village has caused the soils to become exhausted and have a poor crop yield

The other category of resources are said to be in good to excellent condition, which are mainly for domestic purposes. Resources such as nibi, kupa, balata, caramani and muckru are still seen in abundance in the furthest areas. Bush medicines are not collected as much now, as villagers are turning more to the health center facility in the community.

## INTENSITY

SC	Savannah	Bush Mouth	Bush	Mountain Foot	Up The Mountain
Farming	0	0	1	6	4
Hunting	5	0	13	1	2
Fishing	5	0	19	0	1
Gathering	1	1	18	15	5

The table shows that high use of resources occurs in all the different zones except the bush mouth, which is an area not extensively used. Sand Creek resource use is more directed along banks of the Rupununi River and in the Kanuku Mountains entered from both sides of the river. The main access to areas of use is via the river. The Rupununi River itself is used as far as the Mapari River. The areas near and at Mapari river mouth are referred to as “down river”, while those closer to the village are called “up river”.

In the areas visited by the bush teams the higher number of farms are found along the mountain foot areas and up the mountains. This is so mainly due to the need for farms to be located on grounds that will not become flooded by the Rupununi overflow during the rainy season.

Generally the higher grounds are located closer to the mountains where the soils are also richer. In the bush reports it was also reported that most of the active farms are found on the eastern side than the west due to more higher lands being available closer to the east bank river. This requires most people to practice hillside farming. The mountains on the west side is further away from the river creating areas of lowland more prone to flooding than on the east side. For the bush zone only one area was indicated but it is at present the main area where most farms are found. Little farming is done in the savannah due to its poor soils and the need for barricade to be erected to keep out the cattle that are a threat to farm crops.

More hunting grounds are available in the bush areas than the other areas. This is because the inland bush areas are extensive, especially in the vicinity of existing farms, thus providing a large area where game animals can roam and feed. Also, unlike the mountain foot or up mountain zones that are more restricted due to rough terrain limiting access to the hunters, the bush have fairly easy terrain that can be traversed with ease. The savannahs are very good hunting grounds for deer especially during the rainy season when they come out to feed at night. At this time of the year hunting by eye-shine (shining torches into the animal's eyes) is done.

Fishing is an activity that is concentrated way down the river as far as the Mapari Creek- considered to be deep bush as indicated by the table. From the mouth of the Mapari going up stream, fishing for the haimara is done. This was identified as an up the mountain area. All along these places excellent fishing grounds exist as was reported by the bush teams. Despite the excellent fish population these places are not frequented very often due to the remoteness and difficulty accessing the area during dry season when water transport is not possible. In the savannah quite a few fishing areas were indicated. This is mainly along the small tributaries of the Rupununi where small fishes are caught.

Most gathering sites visited occurred in the bush leading up to the mountains as is indicated by the table. There is more interaction with the bush since this is where fishing and hunting also occur, and gathering is done during the same trips. But in order to get some resources that are lacking in quality or cannot be found in the bush area, the villagers go to the mountain areas to find them. The savannah and bush mouth are also used for some amount of gathering directly by the villagers for items such as firewood and clay for brick making.

The Mapari area is used for hunting, fishing and gathering. Because of the distance villagers only visit the areas every three months. As is common in the villages – activities are linked together; hunting, fishing, and gathering are done at the same time when the area is visited. Dadanawa also takes tourists into this area during the rainy season as the river is high and it is easily accessed by boat. The Mapari River hardly ever dries and animals are able to get water even during the dry season. Because humans do not constantly visit the areas, animals such as labba, tapir and agouti are easily hunted, as their instinct is to observe rather than flee. Fishing is done only up to First Falls on the Mapari River.

Three communities use this common area- Sand Creek, Yupukari, and Katoka. Katoka is now establishing farms and has also started to do some logging.

## **THREATS**

The threats listed for farming were hogs, deer and caterpillars. For the other activities, poaching, mining and lumbering were listed. There is also the continued growth of the community population to be considered since it creates a greater demand for resources.

## 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	SC	3.06363	59.47551	Balata Creek	Savannah
FS	SC	3.06619	59.47509	Balata Creek	Savannah
FS	SC	3.07253	59.46734	Comackwau	Savannah
FS	SC	3.04816	59.48673	Turukwau	Savannah
FS	SC	3.04988	59.486	Turukwau	Savannah
G	SC	3.208316	59.40075	Pokuridi Wao	Savannah
H	SC	3.06363	59.47551	Balata Creek	Savannah

Site Type	Village	° North	° West	Area Name	Zone
H	SC	3.06619	59.47509	Balata Creek	Savannah
H	SC	3.07253	59.46734	Comackwau	Savannah
H	SC	3.041816	59.48673	Turukwau	Savannah
H	SC	3.04988	59.486	Turukwau	Savannah
G	SC	3.0458	59.487433	Torokau	Bush Mouth
F	SC	3.10748	59.44099	Kwa-Pud	Bush
FS	SC	3.33844	59.32899	Dadarina 2 Lakes	Bush
FS	SC	3.0879	59.45926	Gun Creek	Bush
FS	SC	3.31162	59.34576	Kumalli Creek	Bush
FS	SC	3.0993	59.45422	Kuruwakwau	Bush
FS	SC	3.09715	59.45491	Kwapod Creek	Bush
FS	SC	3.33362	59.25387	Mapari Creek	Bush
FS	SC	3.33337	59.25382	Mapari Creek	Bush
FS	SC	3.32776	59.24764	Mapari Creek/Macaw Creek Mouth	Bush
FS	SC	3.3346	59.30706	Mapari Falls Bottom	Bush
FS	SC	3.32697	59.2241	Mapari Falls Top/Haima Last Pool	Bush
FS	SC	3.36744	59.30706	Mapari Mouth	Bush
FS	SC	3.35944	59.32265	Mapir Creek	Bush
FS	SC	3.13169	59.42126	Mapiwerwau	Bush
FS	SC	3.04821	59.48669	Madowau	Bush
FS	SC	3.04413	59.50612	Orariwau	Bush
FS	SC	3.22931	59.3819	Pokoridiwau	Bush
FS	SC	3.11921	59.43964	Puwau	Bush
FS	SC	3.1092	59.45162	Sword Fish Creek/Moraiwau	Bush
FS	SC	3.31015	59.35201		Bush
G	SC	3.16003	59.33086	Anteater Creek	Bush
G	SC	3.273933	59.36405	Arrow-Bai-Wau	Bush
G	SC	3.19063	59.37032	Aruwa Creek	Bush
G	SC	3.30415	59.34105	Atoru-Wau	Bush
G	SC	3.060483	59.476783	Balata Creek	Bush
G	SC	3.06915	59.468716	Comack Wau	Bush
G	SC	3.173416	59.405783	Crab Wood Creek	Bush

Site Type	Village	° North	° West	Area Name	Zone
G	SC	3.084433	59.460183	Gun Creek	Bush
G	SC	3.197483	59.394566	Kumuran	Bush
G	SC	3.20115	59.400633	Kuta wao	Bush
G	SC	3.093783	59.456283	Kwapod	Bush
G	SC	3.18525	59.4021	Manaru Wau	Bush
G	SC	3.364233	59.30855	Mapari Creek	Bush
G	SC	3.128883	59.4222	Mapewer	Bush
G	SC	3.144816	59.42055	Marurawau	Bush
G	SC	3.318166	59.337583	Mata Wau	Bush
G	SC	3.243533	59.378166	Meriwau Wao	Bush
G	SC	3.116	59.440966	Pu Wau	Bush
H	SC	3.16003	59.33086	Anteater Creek	Bush
H	SC	3.0995	59.45422	Gun Creek	Bush
H	SC	3.09715	59.45491	Kwapod Creek	Bush
H	SC	3.13096	59.4216	Kwapowau	Bush
H	SC	3.33362	59.25387	Mapari Creek	Bush
H	SC	3.33337	59.25382	Mapari Creek	Bush
H	SC	3.33776	59.24764	Mapari Creek/Macaw Creek Mouth	Bush
H	SC	3.13169	59.42126	Mapiwerwau	Bush
H	SC	3.04821	59.48669	Maridowau	Bush
H	SC	3.04413	59.50612	Orariwau	Bush
H	SC	3.11587	59.4411	Puwau	Bush
H	SC	3.35975	59.3223	Tawau Baok	Bush
H	SC	3.35969	59.32249	Tawu Creek	Bush
G	SC	3.25325	59.375516	Achaawudu Wao	Mountain Foot
G	SC	3.223716	59.3914	Cashew Creek	Mountain Foot
F	SC	3.20128	59.40312	Cokerite Creek	Mountain Foot
F	SC	3.20887	59.4043	Cokerite Creek	Mountain Foot
G	SC	3.290733	59.3535	Fish Pond	Mountain Foot
H	SC	3.15198	59.32753	Gold Mountain	Mountain Foot
G	SC	3.15198	59.32753	Gold Mountain Foot	Mountain Foot
G	SC	3.3275	59.336916	Komiirii Wao	Mountain Foot
G	SC	3.09783	59.455483	Koriwak Wao	Mountain Foot
F	SC	3.19661	59.39005	Kumarau	Mountain Foot
F	SC	3.19428	59.39218	Kumarau	Mountain Foot
F	SC	3.19449	59.39257	Kumarau	Mountain Foot

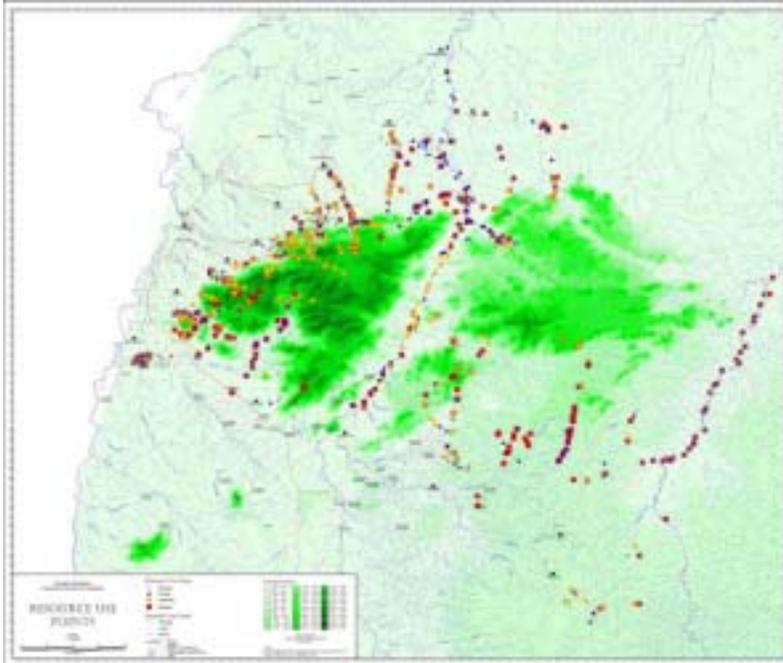
Site Type	Village	° North	° West	Area Name	Zone
F	SC	3.19556	59.39352	Kumarau	Mountain Foot
G	SC	3.18607	59.39385	Manar Wau	Mountain Foot
G	SC	3.18609	59.39392	Manar Wau	Mountain Foot
G	SC	3.18704	59.39381	Manar Wau	Mountain Foot
G	SC	3.330566	59.255233	Mapari Campsite	Mountain Foot
G	SC	3.304666	59.353483	Mapari Wao	Mountain Foot
G	SC	3.1647	59.412166	Moroi Wao	Mountain Foot
G	SC	3.3567	59.32403	Taw-Ao	Mountain Foot
G	SC	3.18116	59.4095	Wurada Wao	Mountain Foot
F	SC	3.17993	59.39721	Crab Wood Mountain	Up the Mountain
F	SC	3.1812	59.39488	Crab Wood Mountain	Up the Mountain
F	SC	3.19729	59.39357	Kamarau	Up the Mountain
F	SC	3.17539	59.3967	Manar Wau	Up the Mountain
FS	SC	3.15576	59.33221	Crab Wood Creek Falls	Up the Mountain
G	SC	3.15576	59.33221	Crabwood Creek Falls	Up the Mountain
G	SC	3.19729	59.39357	Kamarau	Up the Mountain
G	SC	3.32215	59.246583	Macaw Creek	Up the Mountain
G	SC	3.324583	59.238266	Mapari Creek	Up the Mountain
G	SC	3.20001	59.36149	Tobacco Mountain	Up the Mountain
H	SC	3.15576	59.33221	Crab Wood Creek Falls	Up the Mountain
H	SC	3.20001	59.36149	Tobacco Mountain	Up the Mountain

## 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.

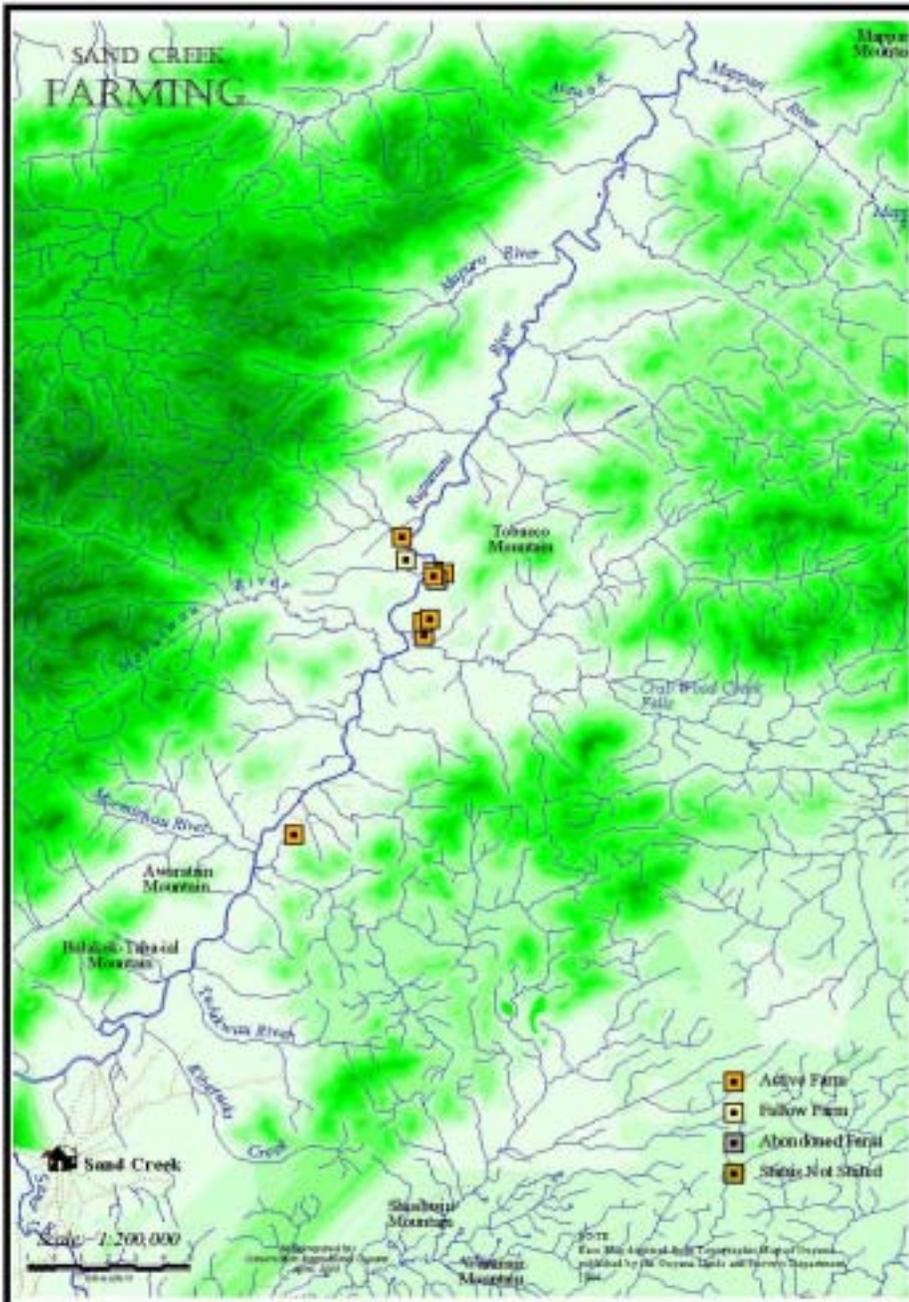


In some cases, flooding prevented access to some areas, especially those normally reached via creeks. In this case, readings were taken at a creek mouth, to record the area, while the use is described in the report.

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

## SAND CREEK RESOURCE POINTS

Scale: 1:200,000



Map prepared by  
Conservation International Guyana  
April, 2003

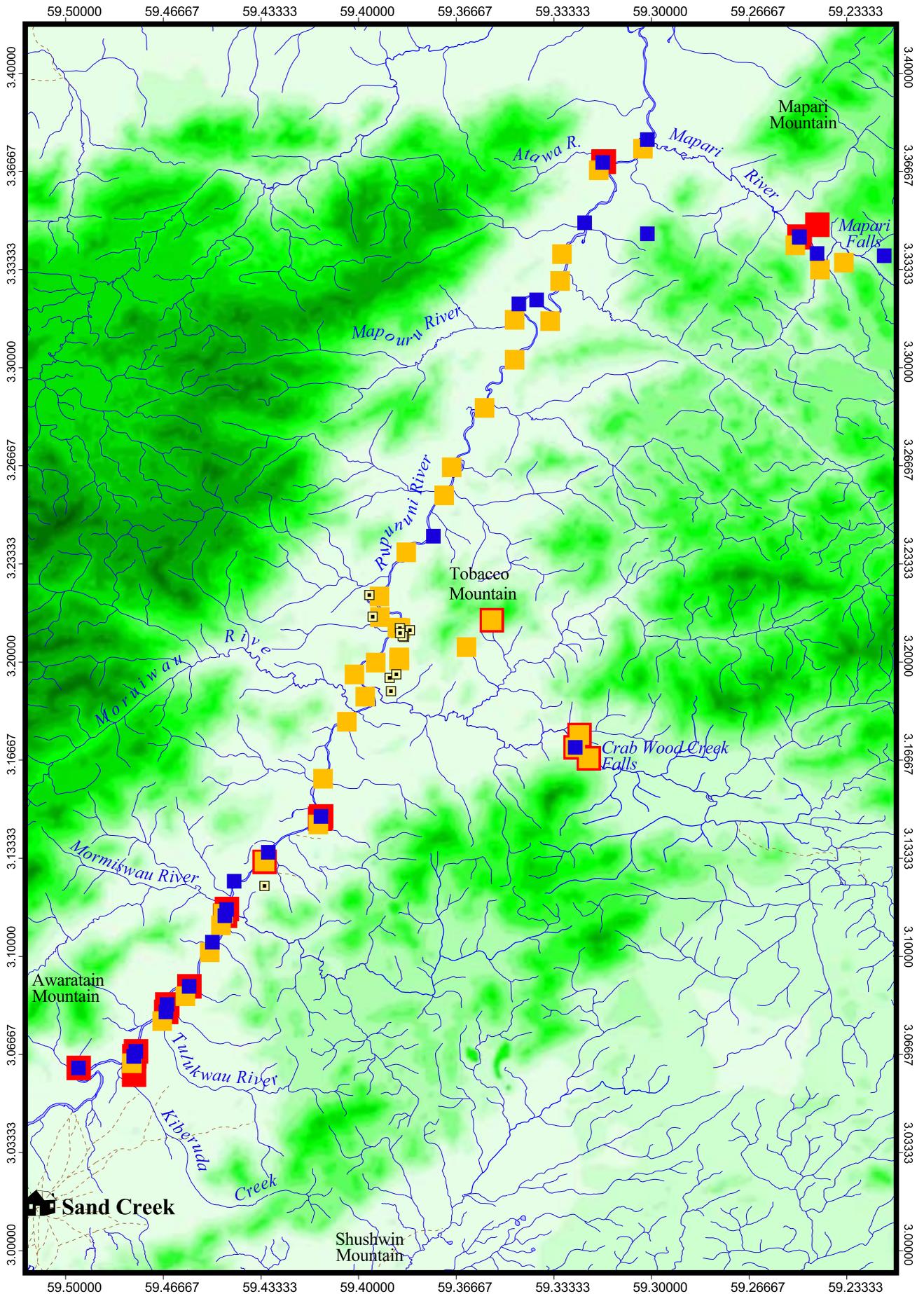
NOTE  
Base Map digitised from Topographic Map of Guyana  
published by the Guyana Lands and Surveys Department,  
1964.

- Farming
- Fishing
- Gathering
- Hunting
- Airstrips
- Trails
- Roads

### 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

- River
- Island
- Main Creek/River
- Secondary Creek/River
- Lake



## CONCLUSION



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

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

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



**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>A.M.</b> ☞ Introductions ☞ Community Participation ☞ Creating Resource Focus Groups <b>P.M.</b> ☞ Creating Resource List: <i>The What</i>
Day 4	<b>A.M.</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>A.M.</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>P.M.</b> ☞ Bush Team: Prepare for Departure
Day 7	Village Team: <b>A.M.</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>A.M.</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.

**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.

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**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.

Date <table style="width:100%; border: none;"> <tr> <td style="width:33%; text-align: center;">Month</td> <td style="width:33%; text-align: center;">Day</td> <td style="width:33%; text-align: center;">Year</td> </tr> <tr> <td style="border: 1px solid black; width: 33px; height: 20px;"></td> <td style="border: 1px solid black; width: 33px; height: 20px;"></td> <td style="border: 1px solid black; width: 33px; height: 20px; text-align: center;">2002</td> </tr> </table> Group <input style="width: 100%; height: 20px;" type="text"/>	Month	Day	Year			2002	<b>Point Identification</b> Code <table style="width:100%; border: none;"> <tr> <td style="width:25%; text-align: center;">GPS Unit</td> <td style="width:25%; text-align: center;">Village</td> <td style="width:25%; text-align: center;">Feature</td> <td style="width:25%; text-align: center;">Waypoint</td> </tr> <tr> <td style="border: 1px solid black; width: 25%; height: 20px;"></td> <td style="border: 1px solid black; width: 25%; height: 20px;"></td> <td style="border: 1px solid black; width: 25%; height: 20px;"></td> <td style="border: 1px solid black; width: 25%; height: 20px;"></td> </tr> </table>	GPS Unit	Village	Feature	Waypoint					<b>Coordinates</b> <table style="width:100%; border: none;"> <tr> <td style="width:50%; text-align: center;">North</td> <td style="width:50%; text-align: center;">West</td> </tr> <tr> <td style="border: 1px solid black; width: 50%; height: 20px;"></td> <td style="border: 1px solid black; width: 50%; height: 20px;"></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%; height: 20px;" 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

Type of Site	Site Use Status	Species Hunted	Methods Used	Frequency of Use
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%; height: 20px;" type="text"/>		Others <input style="width: 100%; height: 20px;" type="text"/>	Others <input style="width: 100%; height: 20px;" type="text"/>	1-2 times/year <input type="checkbox"/>
				Other <input style="width: 100%; height: 20px;" type="text"/>

Amount of Catch	Use of Catch	Threats to Site	Condition of Resource	
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: 50px;" type="text"/>	Logging <input type="checkbox"/>		
More than 50 <input type="checkbox"/>	outside village	Other <input style="width: 100%; height: 20px;" type="text"/>		

## FISHING

Type of Site	Site Use Status	Species Fished	Methods Used	Frequency of Use
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%; height: 20px;" type="text"/>		Patwa <input type="checkbox"/>	Bow and Arrows <input type="checkbox"/>	4-6 times/year <input type="checkbox"/>
		Others <input style="width: 100%; height: 20px;" type="text"/>	Others <input style="width: 100%; height: 20px;" type="text"/>	1-2 times/year <input type="checkbox"/>
				Other <input style="width: 100%; height: 20px;" type="text"/>

Amount of Catch	Use of Catch	Threats to Site	Condition of Resource	
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: 50px;" type="text"/>	Poisons <input type="checkbox"/>		
More than 50 <input type="checkbox"/>	outside village	Other <input style="width: 100%; height: 20px;" 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	
Domestic Consumption <input type="checkbox"/>	Over-Harvesting <input type="checkbox"/>	Excellent <input type="checkbox"/>	Good <input type="checkbox"/>
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"/>	Notes	
%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"/>	<b>Age of Farm</b> <input type="text"/>	<b>Persons Fed</b> <input type="text"/>
---	--	---------------------------------	---------------------------------	------------------------------------	---	---

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** SC

**Total Number of Points** 11

#### Use None

Savannah	Bush Mouth	Bush	Mountain Foot	Up The Mountain			
0	0	1	6	4			

#### Use Status

Active	Fallow	Abandoned	No Response				
8	3	0	0				

#### Method of Extension

Shifting	Extension	Rotation	Other	No response			
10	1	0	0	0			

#### Size of Farm

< 1 Acre	1 Acre	2-5 Acre	> 5 Acre	No Response			
2	0	4	5	0			

#### Soil Type

Gravelly	Sandy	Clayey	Peggasse	Loamy	No Response		
0	0	2	0	9	0		

Main Crops Planted

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

Use of Produce

Dom. Consmt.	Sale	Both	No Response				
9	0	1	1				

Threats to Site

Over-Farming	Mining	Wildlife	Logging				
0	0	0	0				

Pest and Diseases

Deer	Caterpillar	Acoushi Ants	Crickets	Hogs	Monkeys	Birds	Agouti
1	1	0	0	9	0	0	0

# Hunting Summary

**Village** SC

**Total Number of Points** 21

## Use None

Savannah	Bush Mouth	Bush	Mountain Foot	Up The Mountain			
5	0	13	1	2			

## Type of Site

Feeding Area	Track	Drinking Pond	Nesting Area	Combined			
15	0	1	0	5			

## Use Status

Active	Inactive						
21	0						

## Species Hunted

Bush Cow	Deer	Bush Hog	Powis	Armadillo	Turtles	Labba	Acouri
18	18	16	12	0	2	1	0

## Methods Used

Bow and Arrows	Hunting Dogs	Guns	Traps				
18	9	20	1				

## Frequency of Use

Daily	2-4X/week	monthly	4-6 X /year	1-2 X /year			
0	4	13	4	0			

Amount of Catch

< 3	3 to 10	10 to 20	20 to 50	> 50			
20	1	0	0	0			

Use of Catch

Dom. Consumpt	Sale	Both					
21	0	0					

Threats to Site

Over-Hunting	Mining	Poaching	Logging				
0	3	3	0				

Condition of Resource

Excellent	Good	Poor	Very Poor				
11	10	0	0				

## Fishing Summary

*Village* SC

**Total Number of Points** 25

### Use None

Savannah	Bush Mouth	Bush	Mountain Foot	Up The Mountain					
5	0	19	0	1					

### Type of Site

River	Creek	Pond	Other					
2	22	1	0					

### Use Status

Active	Inactive							
21	4							

### Species Fished

Arapima	Tiger Fish	Lukunani	Baira	Hour	Yarrow	Patwa	Piaba	Haimara	Kassi
0	3	2	2	18	13	6	1	12	3

### Methods Used

Hook and Line	Poisoning	Cast Net/Seine	Bow and Arrows					
25	0	8	13					

### Frequency of Use

Daily	2-4X/week	Month	4-6 X /year	1-2 X /year				
1	1	13	10	0				

Amount of Catch

< 3	3 to 10	10 to 20	20 to 50	> 50					
0	14	10	1	0					

Use of Catch

Dom. Consumpt	Sale	Both							
25	0	0							

Threats to Site

Over-Fishing	Mining	Poaching	Poisons						
0	4	4	0						

Condition of Resource

Excellent	Good	Poor	Very Poor						
9	16	0	0						

## Gathering Summary

*Village*SC

*Total Number of Points*40

### Use None

Savannah	Bush Mouth	Bush	Mountain Foot	Up The Mountain			
1	1	18	15	5			

### Use Status

Active	Inactive					
39	1					

### Species Collected

Palm Leaves	House Poles	Muckru	Nibbi	Wild Fruits		
35	0	35	15	34		

### Methods Used

Cut and Carry	Tapping	Picking	Pork knocking			
37	1	32	4			

### Frequency of Use

Daily	2-4 times /week	Monthly	4-6 Times /year	1-2 Times /year		
16	0	7	15	2		

### Use of Collection

Dom. Consumpt	Sale	Both				
40	0	0				

Threats to Site

Over-Harvesting	Mining	Poaching	Logging				
0	0	0	1				

Condition of Resource

Excellent	Good	Poor	Very Poor				
17	23	0	0				

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 Data Summaries**

**Farming Village Summary**

**Village** Sand Creek

**Total Number of Points** 28

Age

No Response	15-28	29-40	41-55	Above 55			
0	1	6	11	10			

Gender

Male	Female	No Response					
20	8						

Number of Dependants

Average	Variance	Maximum	Minimum				
2.58	8.25	8	1				

Number of Farms

Average	Variance	Maximum	Minimum				
2.57	1.14	5	1				

### Size of Farm

< 1 Acre	1>2 Acre	2-4 Acre	5 Acre and more	Other	No Response		
3	8	16	1				

### Farming Zone

Savannah	Bush	Bush Mouth	Deep Bush	Mountain Foot	Up the Mountains	Other	No Response
2		12	8	1		5	

### Methods of Transportation

Walking	Bicycle	Bullock Cart	Boat	Other	No Response		
9	2	2	10				

### Frequency of Use

Daily	2 x wk	3 x wk	4 x wk	5 x wk	Weekly	2 x mth	No Response
							28

### Use of Produce

Dom. Consmt.	Sale	Both	No Response				
1		6	21				

Threats to Farms

Wild animals	acoushi ants	weather	caterpillar	domestic animals	monkey	weed	fire
25	23	2			5		

Biggest Threat

Wild animals	acoushi ants	weather	caterpillar	domestic animals	monkey	weed	fire
19	14	1			2		

**Hunting Summary**

*Village* Sand Creek

*Total Number of Points* 1

Age

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

Gender

Male	Female	No Response					
1							

Number of Dependants

Average	Variance	Maximum	Minimum				
2.24		8	8				

Frequency of Use

Daily	2 x wk	3 x wk	4 x wk	5 x wk	Weekly	2 x mth	3 x mth
1							

Methods Used

Arrow & Bows	Guns	Dogs	Other	No Response			
				1			

Hunting Zone

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

Hunting Site

Feeding area	Track	Pond	Creek	Nesting area	Combined	No Response	
					1		

Use of Catch

Dom. Consumpt	Sale	Both	No Response				
			1				

Threats to Site

Over-Hunting	Mining	Weather	New_Methods	Fire	Population	Tiger	Increase of hunters
							1

Do you Fish Further?

Yes	No	No Response					
1							

Change In Resource availability

Yes	No	No Response					
1							

Extinct or Scarce Species

deer	amadillo	labba	turtle	bush hog			

## Fishing Summary

**Village** Sand Creek

**Total Number of Points** 10

### Age

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

### Gender

Male	Female	No Response					
10							

### Number of Dependents

Average	Variance	Maximum	Minimum				
4.89	9.86	8	1				

### Frequency of Use

Daily	2 x wk	3 x wk	4 x wk	Weekly	Seasonally	Quarterly	Other
2	3		1	1	1	1	1

Fishing Zone

Savannah	Bush Mouth	Bush	Mountain Foot	Up The Mountain	Deep Bush	Other	No Response
6							4

Fishing Site

River	Creek	Pond	Falls	Combined	No Response		
7	1				2		

Use of Catch

Dom. Consumpt	Sale	Both	No Response				
9		1					

Methods Used

Hook and Line	Poisoning	Cast Nets	Bow and Arrows	Seine	Other	No Response	
						10	

Threats to Site

Over fishing	Weather	Poison	Population	New_Methods	Outsiders	Fire	Alligator/Caiman
0	1	1	1	0	0	0	3

Do you Fish Further?

Yes	No	No Response					
6	1	3					

Change In Resource availability

Yes	No	No Response					
3	1	6					

Extinct or Scarce Species

Arapaima	Big Fishes	Lukunani	Biara	Hiamara	Manji/Mangi	Arawana	
4							

## Gathering Summary

**Village** Sand Creek

**Total Number of Points** 7

### Age

No Response	15-28	29-40	41-55	Above 55			
1		3	1	2			

### Gender

Male	Female	No Response					
6	1						

### Number of Dependants

Average	Variance	Maximum	Minimum				
5.66	5.22	8	2				

### Frequency of Use

Daily	3 xwk	Weekly	3 x mth	Monthly	Quarterly	Other	No Response
		1		1		3	2

### Gathering Zone

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

### Use of Catch

Dom. Consumpt	Sale	Both	No Response				
1		2	4				

### Threats to Site

Over-Harvesting	Weather	Population	Fire	Woodants	Clearing land/farms	Outsiders	No Response
0	0	2	2	0	0	0	3

### Do you Gather Further?

Yes	No	No Response					
2	1	4					

### Change In Resource availability

Yes	No	No Response					
1	1	5					

### Extinct or Scarce Species

House Materials	Caramani						
	1						

