DEFENSE OF THE YANOMAMI:

CCPY'S WORK PROGRAM

AND BUDGET

FOR THE PERIOD

APRIL 1992 - MARCH 1993

PART I - CCPY'S WORK POLICY

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COMMISSION FOR THE CREATION OF A YANOMAMI PARK

CCPY

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PART I

CCPY'S WORK POLICY

São Paulo, 25 February 1992

Introduction - Priorities

This January saw the completion of two years since CCPY returned to the Yanomami area to provide health care once again. CCPY's health work in the area had been interrupted in August 1987 when our teams were abruptly removed from the area on the pretext of not hampering governmental action against the assault on Yanomami lands by tens of thousands of garimpeiros.

At the time that our health work was suspended in 1987, CCPY maintained seven professionals in Boa Vista (one field coordinator, three doctors, one dentist, one field assistant and one administrative assistant) and was recruiting three more staff.

CCPY's Program and Budget for the period April 1992 - March 1993 reflects changes that have affected the Yanomami area since the Collor government took office and is the result of an evaluation made by CCPY in January 1992 when it selected priorities to guide its work over the next two years.

There are three priorities :
1) to expand health work and establish permanent health care through two fixed health bases (Demini and Balaã) in the Yanomami area and to expand and modernize the support office in Boa Vista;
2) to intensify contacts with and pressure on Congress and the Ministries of Health and Justice, to ensure that they give consistent financial support to government programs already initiated in the Yanomami area, to provide the material and human resources necessary for health cover in the area, and to protect the area against new invasions, incursions and other illegal acts; to improve coordination, communications, information and general administration by the São Paulo headquarters;
3) in addition to informal education activities, described

below, which have always been an area of our concern, we plan this year to draw up a pilot project for education in two points of the area, with the aim of making the Yanomami more conscious of their relations with our society.

Since November 1990, for the first time since its foundation, CCPY has encountered a good climate for work between governmental agencies and non-governmental organizations working in the Yanomami area. Work has been undertaken within the context of reasonably good cooperation and division of tasks. We hope that this situation will continue, though we are aware that it is an unstable one.

Brief Account of Health Activities over the Last Two Years

In January 1990, when the government, subject to continuing pressure from all sides, finally drew up and initiated the "Plano Emergencial de Saude ao Yanomami" (PEAS), the Yanomami Emergency Health Plan, and began to take steps to expel the garimpeiros, our health teams returned to the area. As is well known, the genocidal effects of the invasion, assisted by the negligence and complacency of the government, were by then devastating.

The nightmare of the Yanomami continues, however. There are still garimpeiros in their territory, and the consequences and sequelae of brutality and savagery remain in the form of recurring epidemics, the disorganization of the life of scores of villages and serious environmental damage.

More than once, impartial public health officials from the Ministry of Health have affirmed that four years may be necessary to revert the health situation back to it pre-June 1987 state, and this will only be possible if new invasions and unhealthy contact with people from our society are contained.

From January 1990 to March 1991 government health assistance to the Yanomami was of an emergency nature - sporadic and intermittent. In December 1990, however, the National Health Foundation (FUNASA), the Ministry of Health organ which President Collor has charged with assisting the Yanomami, finished putting together a permanent Health Project, which involved the participation of non-governmental organizations.

CCPY was given responsibility for the Demini River region, called Area 15, where Davi Kopenawa lives along with more than 1,000 Yanomami, who are linked through kinship and proximity.

It is a vast area of more than 10,000 km2, covering more than 10% of Yanomami territory with more than 10% of its

population, concentrated mainly along the principle northern source rivers of the Demini - the rivers Balaú, Taraú and Toototobi, which remains under the impact of continued outbreaks of malaria, recently associated also with yellow fever and hepatitis. (See Health Project and Maps attached).

Expansion of Health Services and Infra-Structure in Area 15

In the first semester of 1991 CCPY foresaw the need to install a logistical base amongst the indigenous communities that live along the Venezuelan border along the Balaú, Taraú and Toototobi rivers. These communities, for the most part, have little or no contact with our society, but have already paid a high price, including in deaths, from diseases disseminated in the area by the garimpeiro wave which flooded the territory.

It is a region of difficult access. Airplanes and helicopters are required in order to reach the Indians' *malocas* (communal houses) as are often several hours of arduous walking.

Within one year CCPY programmed and undertook four visits by flying health teams to these outlying communities. However, in October 1991 the Yanomami leader from the Balaú region, Roberto (Davi's stepfather), asked Davi to install a health care post to attend Indians of the Balaú and Taraú regions, and those living along the Urucuzeiro mountain range on the Venezuelan frontier.

In November 1991 our team members, doctor Antonio Nardelli and anthropologist Bruce Albert, confirmed the gravity of the health situation there and strongly recommended the setting up of a permanent health base in the region.

At the end of November 1991 CCPY prepared a number of emergency health visits currently underway to deal with outbreaks of disease (malaria, yellow fever and hepatitis).

The situation requires a rapid and permanent solution. The New Tribes Mission, which for years has given assistance to these groups, without having its own doctors and teams, closed its installations on the Toototobi river, setting up much further to the south in a place called Novo Demini.

When deciding in January 1992 to build a Health Care Base and landing strip at Balaú, CCPY also took into account the following factors :

1. the government's decision of 15 November 1991 to create the Yanomami area;
2. the approval by Congress at the end of December 1991 of

approximately US$ 3 million in resources to demarcate the area;
3. the hiring by FUNAI of a construction firm and the beginning of demarcation work in February, expected to be completed by May 1992;
4. the decision to ratify by Presidential Decree the area created and demarcated and to subsequently register it in the Department of National Patrimony, before the holding of UN Conference on Environment and Development in Rio de Janeiro in June 1992 (Rio 92/Eco 92) - this is the last act in the judicial chain necessary to guarantee the area legally for the Indians.
5. the need to join forces with the current administration of FUNAI, in order to rapidly install posts and bases, which will also serve as important instruments for the inspection and control of the area, given that the area may be subject to new intrusions and destabilizing border incidents;
6. the initiative of the Indians from Balaú, who not only requested the installation of the base, but decided on and initiated (together with Carlo Zacquini and Davi Kopenawa) preliminary work of clearing areas where the landing strip and base will be built.

Taking all the above into consideration, CCPY decided to draw up the "Project for Permanent Yanomami Health Care" for Area 15. The project was put together by Dr. Deise Alves Francisco, who already knows the region, having taken part in medical teams visiting the area during 1991, with suggestions made and the collaboration of other members of the health team and coordination of CCPY.

The Demini base, where Davi Kopenawa lives, has for many months been consolidated and relies on a resident nurse and periodic visits from doctors.

The decision to install a health base at Balaú, is based on CCPY's assessment that latest events have opened up the necessity for re-building infra-structure in Boa Vista and hiring permanent professionals, living in Roraima. Profiles of administrative and health personnel to be based in Boa Vista are described in the budget explanations below.

Activities for the Institutional Defense of the Yanomami

In addition to expanding health work, CCPY will intensify contacts with Ministries and Federal government and Congressional agencies improving the quality of communications services with national and international media and with the support network developed since 1978.

CCPY will continue to support the current work of the National Indian Foundation (FUNAI) and the National Health

Foundation (FUNASA), permanently defending the installation of health bases and posts for inspection and control and general assistance in strategic points of the Yanomami territory.

It is true that the political and economic situation of the country is unstable. President Collor's loss of credibility, the economic recession, serious corruption scandals in the public domain and successive failures and changes in political, economic and exchange rate policies, now following a neo-liberal model, have now led the President to undertake a ministerial reform in order to gain a permanent majority in Congress.

Coordination Activities for the next Budget Period

The principle objective of CCPY since its foundation has been the creation of a Yanomami Park with a special administration. Once the demarcation is completed and ratified by Presidential decree, we shall start working to stimulate the creation of an adequate administrative organization for the Yanomami area. A specific administrative project is required to address the dimensions of the territory and the relatively large indigenous population, which in the majority still remains isolated, the mineral riches which lie in the sub-soil and the extensive frontier with Venezuela.

From its headquarters in São Paulo, CCPY leads, coordinates, takes part in and administers many diverse activities (besides the health project) which are related to the interests of the Yanomami people. Such activities are notably those related to education, information, communications and representations to public and private bodies.

Informal education is normally undertaken through training Indian assistants to help collect social and demographic data, to fill in individual health records, and through introducing medical notions (treatment and prevention) to the target population and through training Yanomami interpreters and assistants, with the aim of preparing Yanomami health monitors.

Two Indians (in 1992, only one Yanomami from Demini), took part with CCPY's support, in practical applied biology courses at the Indian Research Centre in Goias. The young Yanomami lived with Indians from other Brazilian groups, and this proved to be a stimulating experience. This project was conceived and administered by UNI - the Union of Indian Nations, in São Paulo.

Davi Yanomami has travelled to Europe and the United States, at the invitation of various organisations, accompanied by Claudia Andujar. In 1991 in the United States he visited the Onondaga Indian reserve, had an audience with the Secretary General of the United Nations and visited the World Bank. At Oxfam's invitation he went to England and participated in meetings with the British government's Overseas Development Administration, the Gaia Foundation, the Brazilian Embassy and Survival International.

In April 1992 Davi and his brother-in-law Geraldo, also from Demini, will go to Holland at Novib's invitation together with our Coordinator. They will then travel on to Germany and England at Oxfam's invitation for meetings with supporters and for public information work.

CCPY also supports a project for linguistic research, which aims at producing a manual containing a thematic-lexicon of phrases for use by health teams, and a basic Yanomami grammar, to help non-Indians learn the language. Later, work will be done to produce a primer for teaching literacy, and a primer written by the Yanomami themselves. This project is being undertaken by the linguist Gale Gomez and the anthropologist Bruce Albert, and will enter its second phase in April 1992. CCPY provides administrative support for the project in Brazil. The ethno-linguistic research is entirely financed by George Mark Klabin & Co., a private Brazilian enterprise.

Each year CCPY provides advice to and accompanies Yanomami making visits and contacts with other Indian villages, and on other visits within Brazil, principally to Brasilia, for meetings with authorities and public and private bodies. Work is done to prepare and train the Yanomami for auto-determination.

At the headquarters in São Paulo work has begun on classifying by computer more than 15,000 documents related to the history, legislation, health, mining, demarcation, cooperative agreements, reports, testimonies, projects, research plans and other documents affecting the Yanomami.

In 1992, as in other years, CCPY will participate in scores of encounters, meetings, and seminars promoted by CCPY itself or to which it is invited in São Paulo, Brasilia, Boa Vista and Manaus together with various governmental bodies, Congress, the Ministry of Justice, the Attorney General's Office, and Brazilian non-governmental organizations.

Another important and regular activity is that of maintaining an exchange of information with national and international organizations concerned with the Yanomami or with indigenous questions in general.

CCPY will continue from its headquarters in São Paulo, to edit, publish and distribute its UPDATES, the Urihi bulletin, the Yanomami Urgent letters, and other more substantial reports, improving their quality and where possible issuing them in two languages : Portuguese and English.

Budget - Estimated Costs for the Period April 1992/March 1993

From this year we shall start operating again from Boa Vista using it as the base for health work, with two resident doctors, one of which will coordinate the projects and health care.

Costs Boa Vista (RR) cover almost all the expenses in health care work. We have separated out expenses involved in **Costs for the construction of a Health Base at Balaú**, as these refer to new installations, entirely financed through CCPY, though technically they are linked to the Health Project and expenses in Boa Vista. Costs are estimated by area of expense.

Costs São Paulo (headquarters)

As is normal practice, we give here costs of the CCPY headquarters in São Paulo, including all office expenses, telephones, fax, post, editing and publication of bulletins, reports and updates and costs of meetings and travels.

The headquarters in São Paulo have five salaried workers (Coordinator, senior secretary, publications and communications assistant, administrative assistant and office boy), and professionals and companies hired for consultation and administrative, financial, political, legal, press, accounting, auditing and printing services. These involve between 6 to 10 contracts a year, including Abel de Barros Lima, attorney and general consultant.

About 40% of expenses in São Paulo will be used for administrative work related to the Health Project in Boa Vista, this includes direction, planning, recruitment and selection of health personnel, internal controls, payments, trips planning, accounting, audit, fund-raising, production of reports and health bulletins, personnel administration etc.

Costs for communications and publications have increased annualy in line with CCPY's type of work keeping informed a network of hundreds of organizations and personalities which now regularly receive publications and reports. A large part of these communications are issued in Portuguese and English.

Our budget also unfortunately incorporates heavy government increases in public tariffs (electricity, post, telephone) and fuel, which have increased considerably above the general inflation rate (IGP-M). While inflation in 1991 was 486%, prices of tariffs and fuel rose more than 540%.

Changes in exchange rate policy introduced since August 1991

have negatively affected our income, but on the other hand will, from this year, bring greater realism in the relation between exchange rate and financial investment.

Costs Boa Vista (RR)

The most important costs are to be found under sub-item 2.4 : salaries and social benefits for health personnel. This is a result of the expansion of health services, explained above; Boa Vista will be the cordinating and administrative base for Area 15; this is where doctors and administrative personnel will reside. The public health epxert will also be hired from São Paulo to plan, install and operate the health data base for the entire Yanomami territory.

Personnel for Boa Vista and the Demini and Balaú health bases will be made up of 13 people : one coordenating doctor, one resident doctor, six nurses (one residing in Demini, four in Balaú and one for substitution for holidays, sickness and emergencies), one public health expert, one administrative assistant, one driver, one administrative helper, and one helper for general services at Balau.

Costs for construction of Balaú Base and landing strip

These costs, not all strictly defined (see list and preliminary study) have been projected on the basis of the considerable field experience of Carlo Zacquini, and on recent information obtained from FUNAI in Boa Vista.

These costs cover the building of a landing strip and a rustic building to provide suitable working conditions for the health care to be developed by CCPY staff in the area. The solar energy and plumbing systems will be similar to those installed by CCPY at the Demini post.

Budget - Estimated Revenues

Funds to cover operational costs for the program will be sought from traditional international agencies who have supported CCPY's work with the Yanomami, and from other institutions and governments which have shown particular interest in giving support.

Claudia Andujar
Coordinator

Abel de Barros Lima
Attorney and Consultant

São Paulo, 25 February 1992

CCPY Expenses Estimate for the Period April 92 - March 1993

Costs calculated on 3.2.92 at US$ 1 = Cr$ 1,270,000 (tourist exchange rate)

Item	Expenses	US$
1.0	**São Paulo expenses (headquarters)**	**173,330**
1.1	Running costs	13,000
1.2	Communications	18,800
1.3	Travel and accomodation	7,700
1.4	Salaries and social benefit payments	62,530
1.5	Professional services and social benefit payments	43,800
1.6	Rent and other charges for the office	10,800
1.7	Publication of books and reports	10,200
1.8	Sundry expenses	6,500
2.0	**Boa Vista (Roraima) expenses**	**290,730**
2.1	Running costs	10,700
2.2	Communications	10,600
2.3	Salaries and social benefit payments for administrative staff	21,730
2.4	Salaries and social benefit payments for health personnel	144,400
2.5	Dentist's services and social benefit payments (5 months)	9,250
2.6	Interpreter/anthropologist's services and social benefit payments (4 months)	7,800
2.7	Flights (120 hours at US$ 250 an hour)	30,000
2.8	Medicines, health materials and equipment (partial list attached)	28,000
2.9	1 computer system (Micro, VDU, keyboard, printer) AT type, and software	5,300
2.10	Rent and other charges for the office	3,850
2.11	15 flights São Paulo-Boa Vista-São Paulo, Brasilia-Boa Vista-Brasilia, Rio-Boa Vista-Rio for health personnel	8,300
2.12	Sundry expenses	10,800

3.0	Expenses for construction of Health Base at Balaú and landing strip	49,900
3.1	Solar energy, plumbing and electric systems and machinery.....	21,300
3.2	Air transport (24 flight hours Boa Vista-Tootobi-Boa Vista).....	6,000
3.3	Materials and tools.....	6,200
3.4	Labour.....	6,500
3.5	Food for building personnel.....	2,900
3.6	Sundry expenses.....	2,000
4.0	Total expenses.....	513,900

Claudia Andujar
Coordinator

Abel de Barros Lima
Attorney and Consultant

CCPY: General Information

The Commission for the Creation of the Yanomami Park (CCPY) is an independent, non-profit, non-governmental Brazilian organization based in São Paulo, Brazil.

1. Name

Commission for the Creation of the Yanomami Park
(Comissão pela Criação do Parque Yanomami - CCPY)

2. Objectives

To help and defend the rights, life, culture and territory of the Yanomami and to create a Yanomami Park in a continuous area where the Yanomami have lived throughout history.

3. Addresses

São Paulo office headquarters:

Rua Manoel da Nóbrega 111 cj.32
04001 São Paulo SP Brazil
Tel.: (011) 289-1200
Fax : (011) 284-6997

Boa Vista office:

Rua Capitão Bessa 272
Bairro São Pedro
69300 Boa Vista RR Brazil
Tel.: (095) 224-7568
Fax : (095) 224-3441

4. Foundation and Registration

Founded in 1978 by Claudia Andujar, Carlo Zacquini, Abel de Barros Lima, Alcida Ramos, Carlos Alberto Ricardo, Maria Helena Barros Pimentel and Francisco Pascalicchio. The organization was registered in 1984 under No. 53.374.021/0001.33 in the Taxpayers General Register of the Ministry of Economy.

5. Administration Board

Claudia Andujar (coordinator, headquarters), Abel de Barros Lima (attorney and consultant, headquarters), Carlo Zacquini (advisor, Boa Vista), and Deise Alves Francisco (health coordinator, Boa Vista).

PART II

PROJECT FOR PERMANENT YANOMAMI HEALTH CARE

AREA 15

EXTENDING WORK

I. PROJECT FOR PERMANENT YANOMAMI HEALTH CARE AREA 15

This project is a continuation of the Demini Health Project. It covers the same area of operation, has the same general objectives, and is based on the same fundamental principles, yet seeks to extend the model of assistance developed in Davi's community to other communities in **Area 15**. Because of recent changes in distribution of the regional population, however, it is necessary to re-define the target population in terms of each sub-region and the different types of assistance required by each one.

Sub-region Novo Demini, NTB (former Toototobi mission area)

With the running out of natural resources in the immediate vicinity, and the move of the New Tribes Mission's base to the banks of the Demini river, there has been a change in the distribution of groups in the Toototobi. Parts of the villages Antonio and Fialho have already moved with the Mission, taking up residence near the village of José, in the hope of obtaining some kind of medical assistance. According to the Indians this process may also affect other villages in the Toototobi region, unless CCPY takes on some kind of permanent presence in the region. These three villages (Antonio, Fialho and José) now make up the sub-region 'Novo Demini' and have a total of 120 people divided in two *malocas* (communal houses).

Sub-region Upper Toototobi

The other villages which still remain in the Toototobi region are those of Plinio, Paulino and Warebiú. They are currently receiving no medical assistance whatsoever. They make up **sub-region Upper Toototobi**, with 165 people distributed in three *malocas*.

Sub-region Wanabiu

These areas showed the highest incidence of malaria known in **Area 15**. With the move of the New Tribes Mission they are now further than ever from any type of medical assistance. As they are located in a central region of **Area 15**, we believe that the new health base should be installed here. The **sub-region of Wanabiú** has 54 people distributed in three *malocas*: Eduardo, Roberto and Uxiximabiutheri.

Sub-region Balaú/Upper Demini

Has two communities, Hwayasiketheri and Dyobetheri, with a total of 133 people distributed in six *malocas*.
It is noteworthy that the above mentioned two sub-regions were only visited by us twice last year, and never by the New Tribes Mission.

Sub-region Taraú

Has never received any type of medical assistance. Sometimes Indians from this region are found visiting other villages and according to information passed on it seems its population was very much affected by the mining invasion. Taraú is located some days walk from the other villages already mentioned. The sub-region Taraú is made up of an estimated population of 250 to 300 people, distributed in 6 *malocas*.

Sub-regions Ajuricaba and Aracá

These villages are at great distance from other villages mentioned. Ajuricaba can only be reached by river, there is no airstrip, and thus it is relatively isolated. The *maloca* in Ajuricaba has 62 people. The *maloca* in Aracá, where the New Tribes Mission has a post, has 97 people.

Sub-region Watorike (Demini Indigenous Post)

Good general health conditions, guaranteed by permanent health care in the area. It is also relatively far from other villages and has served as a logistical base for attending the whole area. It is located between Boa Vista and Tootobi and has one of the best landing strips in the Yanomami area. There are 87 inhabitants.

We propose the following scheme for organizing assistance to these populations, and the specific characteristics of each sub-region, for the next two years :

1. maintain assistance currently given to the **Watoriketheri**, attending to new needs already described;

2. regular visits by CCPY and FNS/RR health teams to sub-regions **Novo Demini, Aracá and Ajuricaba**;

3. permanent health care, as specified in this project (ie. installing new post) for **sub-regions Wanabiú**, Balaú/ Upper Demini, Taraú and Upper Tootobi.

1. TARGET POPULATION

Sub-Region	Communities	Population
WANABIU	ROBERTO	19
	EDUARDO	13
	UXIXIMABIUTHERI	23
BALAU/UPPER DEMINI*	HWAYASIKETHERI (2 malocas)	55
	AYOBETHERI : Xakibitheri	11
	Koherebitheri	35
	Beira do Alto Demini	20
	Aka Xekerema	13
TARAU* *	WEYUKUTHERI, BAHABITHERI RAHARABITHERI, MAXABABITHERI XIHOMETHERI and WAKEXITHATHERI (estimated population)	300
UPPER TOOTOTOBI	PLINIO	65
	PAULINO	37
	WAREBIUTHERI	68
NOVA DEMINI	JOSE	62
	ANTONIO and	59
	FIALHO (1 village)	43
ARACA	1 village	97
AJURICABA	1 village	62
WATORIKE (Demini Indigenous Post)	1 village	87
TOTAL	23 villages	1069

* *Incomplete census in Balaú/Upper Demini*

** *No census for Taraú - population indicated is an anthropological estimate of 50 people per maloca*

2. CENTRAL OBJECTIVES

1. General health care of a preventative and curative nature;

2. Reduction in rates of mortality, especially infant mortality;

3. Control of incidence of malaria;

4. Eradication of other prevalent transmissible diseases;

5. Vaccination;

6. Dental treatment;

7. Stimulation of autonomy of the Indians through basic health training, integrating traditional curative practices;

8. Population census for the whole region.

3. CONTROL OF DISEASES

Following strategy recommendations for the control of diseases specified in the Ministry of Health and National Health Foundation's 'Yanomami Health Project', health care provision should be guided by :

Malaria

1. identification of and measures to eradicate focal points of transmitting carriers(vectors), with support from FNS/RR;
2. regular and systematic immunological research among populations visited;
c) rapid and complete medical intervention in proven malaria cases.

Measles

Mass vaccination followed by regular vaccination of children born after original vaccination drive.

Whooping Cough

Mass vaccination of children up to the age of 6 and thereafter that of those born subsequently.

Diphtheria, Tetanus, Poliomyelitis, Rabies, and Meningitis

Epidemiological monitoring with laboratory support and specific investigations when necessary.

Yellow Fever and Hepatitis B

Given the recent occurrence of cases in the area, including lethal ones, mass vaccination of the populations is necessary and urgent.

Onchocerciasis

In regions where this has become hyper-endemic (Toototobi and Wanabiú) mass treatment with a single dose of Invermectina once a year is necessary. In other regions epidemiological monitoring is necessary through skin biopsies, followed by treatment of confirmed cases and those with evident clinical symptoms.

Snake bites

Immediate treatment with specific serums, which should be kept in minimum stocks and in ready state for rapid use.

Tuberculosis

1. Undertake PPD (tuberculosis test) followed by BCG vaccinations in cases which do not show reaction;
2. Identify respiratory symptoms, undertake baciloscope (two examinations of mucus per month) of all those suspected, and provide treatment at the base, or at the *Casa do Indio*, of confirmed cases;
3. Undertake baciloscope in communicators and children under five who reacted strongly to PPD.

Gastro-enteritis

1. Identify and eliminate source of transmission in cases of outbreaks;
2. Treat with oral re-hydration.

Sexually Transmitted Diseases (STD)

1. Epidemiological monitoring, integrated with general health care;
2. Laboratory diagnosis and immediate treatment.

Cutaneous and Visceral Leishmaniosis

1. Undertake skin biopsies examinations in cases suspected of being tegumentary type;
2. Pass on cases suspected of being visceral type for diagnosis;
3. Provide treatment and monitor progress following cure;
4. Undertake entomological investigation together with FNS/RR of areas where cases are confirmed.

Malnutrition

1. Specific intervention (nutritional therapy) in most serious isolated cases and in critical groups;
2. Stimulate maintenance of feeding habits;
3. Seek re-equilibrium of eco-system through cooperation with Environmental Secretariat (SEMAM) and Brazilian Institute for Renewable Resources and Environment (IBAMA).

4. ACTION STRATEGIES TO PROVIDE CONTINUITY OF HEALTH CARE AND ADDRESS NEW NEEDS IN WATORIKE SUB-REGION (DEMINI INDIGENOUS POST)

1. Maintain a nursing professional living in the area to guarantee continuity of health care given to date;

2. Arrange visits by a doctor three times a year, minimum stay one week, to evaluate general health situation;

3. Arrange visit by a dentist for at least 15 days a year to evaluate oral health, give preventive guidance and treatment;

4. Improve basic sanitation installed (running water, treatment of feces, septic tank etc);

5. Maintain pharmacy;

6. Maintain buildings;

7. Hold a refresher course for nurse living in the area.

5. ACTION STRATEGIES FOR A NEW HEALTH CARE BASE FOR SUB-REGIONS WANABIU, BALAU, TARAU AND UPPER TOOTOTOBI

Basic Infrastructure

1. Build a landing strip;

2. Build a medical post with space for the following:

ambulatory attendance
infirmary for interning around 20 patients
laboratory
pharmacy
radio room
sleeping quarters for four nurses and medical team
kitchen
bathrooms
fresh-water well

store room for goods to trade with Indians
store room for sundry materials

3. Dig a plot to grow food for patients and health professionals;

4. Acquire solar panels and batteries to generate energy and maintain refrigeration, electric light and water pump;

5. Communication : radio at medical post and portable radio for visiting villages;

6. Transport :
buy a small aluminium motor boat to reach villages by river;
hire airplanes for transporting health professionals and for use in transporting patients where necessary;
enter into agreement with FNS and/or FUNAI for possible use of Air Force helicopters;

7. Install basic sanitation at the base (septic tank and running water), and treatment of hospital waste;

8. Logging of data : buy a computer (Toshiba Laptop T1000XE) and printer for office in Boa Vista.

Personnel

1. Hire and give professional training to three nurses to be permanently attending to the regions of the new base;

2. Hire a nurse to give holiday cover for the above, and to accompany health teams to sub-regions Nova Demini, Araca and Ajuricaba;

3. Hire a professional for general duties at the post;

4. Hire a doctor responsible for the full time coordination of the project;

5. Hire a second doctor for field work;

6. Hire a dentist for four months of the year;

7. Arrange the services of an anthropologist/interpreter for two months of the year;

8. Arrange consultancy services;

9. Payment for work done by Indians;

10. Hire a computer professional to operate data base;

11. Hire interpreters.

Organization of Health Care

1. Nursing team

A team of four nurses living in the field should guarantee permanent health care in the area. One of these nurses to be responsible for general supervision of nursing services at the post, the sending of monthly reports of activities, stock control within the pharmacy etc.

Two of the nurses should travel in alternation to the villages in order to :

Systematically prepare slides for plasmodium research among populations;
Give general attendance and that of emergencies;
Complete vaccinations;
Make topical application of fluoride;
Accompany visits by doctors and complete initial treatments ministered.

Observation : attendance given should be noted down on standardized field cards and transcribed onto definitive individual cards at the base at the end of each visit.

The other two nurses should stay at the base in order to :

Follow the progress of interned patients;
Attend at the base to incidents from other regions;
Undertake laboratory examinations (see above);
Give continuity to training of Indian health agents.

2. Multi-disciplinary Team

At regular intervals a multi-disciplinary team should visit the various sub-regions in order to give :

General medical attendance;
Epidemiological evaluation of prevalent diseases;
Control carriers (vectors), entomological/ epidemiological investigations;
Undertake and update population census;
Update information about political and social dynamic of Indians, incorporating their own opinions about assistance to be developed.

3. Consultancies

We forsee the future participation of specialists to address to other needs such as :

Evaluation of and measure to control outbreaks of contagious

diseases;
Evaluation of the environment and measures to recover natural resources degraded by mining activities;
Passing on anthropological knowledge to professionals working in the project (introduction courses in Yanomami culture, etc).

Basic health training for interested Indians:

First aid, integrated with traditional curative practices;
Training Indians to act as sources for updating socio-demographic information (births, mortality, marriages, moves etc);
Teaching preparation of malaria slides;
Identification of serious symptoms for cases to be immediately passed on to the base.

5. Other items

Give support to research in areas of medicine, biology, anthropology, linguistics etc that may improve the quality of project work;
Hold refresher courses for professionals working in the area.

6. General Supervision and Planning

A doctor, hired full-time, will coordinate health activities related to the project and will be responsible for :

6.1 Following progress and evaluating the general health situation in the area;
6.2 Following and evaluating health care activities forseen in the project;
6.3 Planning, with CCPY's general coordinating board, and with the participation of project professionals and the Indians, measures to be taken in the course of work;
6.4 Planning timetable of activities and visits by the teams to the areas;
6.5 Hiring professionals together with CCPY's general coordinating board;
6.6 Contact with other health institutions;
6.7 Giving medical assistance in the area when necessary.

Logging Data

For better monitoring and analysis of the population's morbidity profile and to evaluate the impact of health care administered, it is necessary to establish a computerized system for logging information. This system should be capable of relating principle health indicators by sex, age range, village, sub-region and globally, based on individual clinical file cards.

There should be a standardized method of collecting information in the field using field cards to be filled in during attendance in the field. Information from these field cards should be transferred onto individual clinical file cards at the post and to the computer in Boa Vista. This information should then be passed back to the area in the form of a summarized clinical history, when health care bases are visited.

A computer professional will be responsible for this item and should give continuity to work and discussion of the system already set up with FNS/RR and the Federal University of Rio de Janeiro/UFRJ.

In addition to the above, it will be necessary to draw up reports at the base and after each visit to a village giving health data and whenever possible relating this to possible factors which may interfere in the general situation (for example visits between communities or individuals, the presence of third parties in the area etc.).

Contacts with Other Institutions

Following mutual cooperation, specifically in the Ministry of Health's 'Yanomami Health Project', joint discussion and solutions should always be sought with FNS/RR in order to attend to the following specific needs for the development of the project:

1. Standardization of therapy;

2. Training and refresher courses for health professionals :

2.1 Laboratory diagnosis of malaria and pulmonary tuberculosis, hemograms for cutaneous leishmaniosis, parasitology of feces and urine;
2.2 Notions of the principle contagious diseases;
2.3 Diagnosis and treatment of other common diseases in the area;
2.4 Behaviour in relation to the Yanomami's cultural universe, and notions of the Yanomami language.

3. Laboratory and hospital back-up for clarification, diagnosis and treatment;

4. Medicines and vaccines;

5. Control of carriers (vectors);

6. Vaccinations;

7. Logging data;

8. Consultancies;

9. Transport.

In order to attend to needs above, support should also be sought from the following institutions : FUNAI, Fiocruz (RJ), UFRJ (RJ), the Red Cross (RJ), Evandro Chagas Hospital (Belem), The Institute of Tropical Diseases (Manaus), The Sao Paulo School of Medicine (SP), Sucem (SP) and others.

List of Materials Needed For the Post

A list of basic medicines will be drawn up in the field.

1 duo-sonic estethoscope
1 refrigerator (run by gas, kerosene or solar power)
2 radio systems (1 portable)
2 metric measuring tapes
1 examining table
1 metal arm rest (for intravenous injections)
2 steel basins
4 supports for intravenous drips
1 nebulizer
material for emergency tubing : 1 ambu and laringoscope (1 adult, 1 child size)
reagents for the laboratory
1 bed pan
1 torch with four elements
1 bench
2 tables
4 chairs
1 packet of tongue pallets
1 packet of formaline lozenges
10 scalpel blades
2 small needle holders
2 cannula probes
4 straight Kellys
2 curved Kellys
4 Kocher tweezers
2 pairs of curved Mayo scissors
2 medium sized needle holders
1 water filter
material for antisepsis
general utensils for kitchen and living at the post
4 rubber colars
2 canulas for traqueostomies
1 small oxygen cannister
1 stretcher
2 small torches for mouth and throat examinations
disposable surgical gloves
1 stove
1 large pressure cooker
1 card index

II. FINAL CONSIDERATIONS

The principle objective of the 'Demini Project', proposed by the Yanomami leader Davi Kopenawa, and developed by CCPY since April 1990, was to control high rates of malarial infection and address the general deterioration of the health of Indians in the region, following the invasion of the area by thousands of garimpeiros. Today, nearly two years into the project, in the light of an evaluation of results obtained to date, some adjustments are needed to the original proposals in order to attend to health care needs encountered in the region, so that initial objectives, which are still some distance from being reached, can be attained.

The specific project area covered that called **Area 15** or **Demini Area.** It has an estimated population of 1000 people, (about 10% of the Yanomami population in Brazil) distributed in about 20 communities. Two basic fronts of health care provision were developed within the project area:

As a priority work was done in Davi Kopenawa's community (population 87 inhabitants), with the aim of setting up a permanent health care post. The basic infrastructure (health post, pharmacy etc.) was installed, and two nurses were hired who took up residence in the area. This secured favourable levels of life and general health for Indians in this region;

The other communities in Area 15 (the region of the Demini River's source rivers), which are inaccessible by land from Davi's community, were visited by flying health teams only. These teams, normally made up of a doctor, nurse/ laboratory technician, a dentist and an anthropologist/interpreter, made four visits to the region during the last year, lasting approximately one month each.

This type of discontinuous health care proved to be insufficient in terms of the impact it could make on the health of these Indians - as can be seen from an analysis of health data collected in the last year. As we could establish, these communities which make up a large section of the population (estimated population 650 inhabitants), were more seriously affected by mining activities. Thus here, as in the rest of the Yanomami region, the greatest factor responsible for a persistent rise in rates of incidence of malaria in following months was the delay in removing garimpeiros until the middle of last year. While our action helped prevent higher rates being reached, this intermittent assistance did not allow for us to stem the tendency of this and other indices of morbidity in the region to increase.

Attendance of more distant communities in the valleys of the rivers Balaú and Taraú was jeopardized, if given at all because of the huge demand of communities living nearest to the landing strip of the former New Tribes Mission of Brazil

base in Toototobi, which was used as a starting base for health care operations. Recent reports of the deterioration of the health conditions and reports of deaths spurred us to organize, with the support of the National Health Foundation/ Roraima (FNS/RR), two emergency teams to provide urgent health care in these regions at the end of the year.

As a result of this worrying deterioration in the health of Yanomami in the regions of the rivers Toototobi, Balaú/Upper Demini and Taraú, and of operational difficulties in trying to organize teams to visit the areas (distances between communities, high transport costs, interruption of treatment etc) professionals working in the Demini Project in 1990 and 1991, considered suggestions from Indians in the region and concluded that the form of health assistance in this area must be re-thought.

The example of the positive experience with Davi's community shows that only permanent and systematic health assistance will be effective in the control of diseases to which these Indians are exposed. To achieve this it will be necessary to hire and train new professionals and install a health care post in a central area (river Balaú) which can serve as a logistical base for continuous assistance to these communities. By continuous assistance we do not intend for attendance to be limited to one fixed place, but for it to be provided through frequent and continuous visits to the communities. This will guarantee systematic diagnosis and complete treatment of diseases encountered. This base will also serve as a reference point for emergencies, for the internment of cases which need greater monitoring or clarification of diagnoses, and for the training of Indian health agents in preparation of malaria slides, first aid etc.

In drawing up this project we have based ourselves on the general objectives, and operational and actions strategies described in the Ministry of Health/National Health Foundation 'Yanomami Health Project', adapting it to the realities and specific needs in Area 15.

Bearing in mind the problems encountered by the Yanomami as a whole, it will be very important to seek greater exchange of experience with other governmental and non-governmental institutions working in the Yanomami territory. It will be very valuable to have mutual cooperation with the Coordinators of the National Health Foundation's Yanomami Health District in Roraima in area, such as training of personnel, control of disease carriers(vectors), vaccination, standardization of treatment, logging of health data and others.

In the meantime, one of the greatest challenges lies in seeking greater involvement of the Yanomami themselves in

this project. While trying to develop a non-paternalistic type of assistance which discourages excessive dependence, effort must also be made to find creative ways of achieving the direct participation of the Indians. Means of participation should be thought through and decided together with the Indians themselves. This should guarantee that Indians participate in the decisions that have to be taken in the short- term, and in those which have the prospect of bringing them greater autonomy in questions of health care in the medium and long-term.

With the essential participation of the Indians in the project, we can achieve significant results.

The urgent and dramatic health situation of the Indians that live in **Area 15** demands that governmental and non-governmental organizations which work in the region (FNS, FUNAI, CCPY, New Tribes missionaries) engage in a common and converging effort to impede new focal points of epidemics and illnesses which threaten the existence of the Yanomami.

Until the airstrip and logistical base for the central region are constructed (near Roberto's *maloca*), we believe the project should make immediate use of the installations of the old New Tribes Mission post, as a provisional working base.

The following people helped with suggestions and ideas for drawing up the health project : José Luis V da Silva (nurse), Maria Aparecida Oliveira (dentist), Bruce Albert (anthropologist) and Luci Mara M Montejane (nurse).

CCPY also thanks Vander Nardelli (doctor), Istvan D. Varga (doctor), Ivone Menegola (doctor) and Carlo Zacquini (permanent advisor to CCPY in Boa Vista), for their considerations.

josé luiz v. da silva
enfermeiro da ccpy

milton guran-cedi/ccpy

PART III

THE HEALTH CARE BASE IN THE BALAÚ REGION

Introduction

The Health Care Post at Balao, entails physically building a 600 meter landing strip for light aircraft which can carry up to six people; constructing a circular rustic building made of wood, covered with thatch, with woven palm walls, based on traditional Yanomami *maloca* construction (so that it does not appear strange to the Yanomami); and equipping it to receive, examine and treat the sick, and to serve as lodgings for non-Indian personnel, with sick rooms etc. (See preliminary study next page).

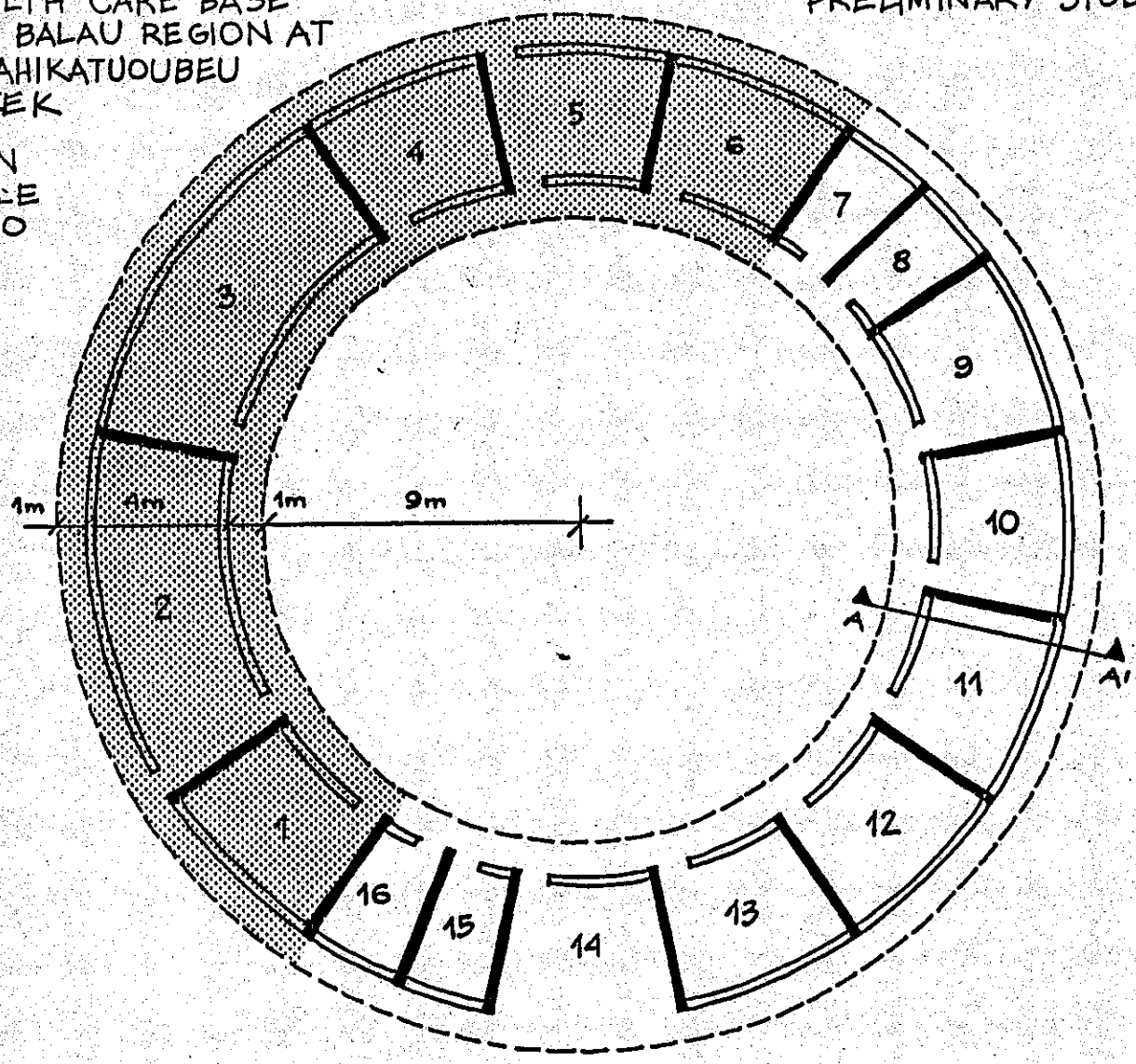
Our plan is to build the base in two phases over two years, the first beginning and ending in our financial year (April 92 - March 93).

In this first period approximately 150 m^2 of the health base will be built, with the landing strip built by March 1992, depending on conditions of the terrain, rainy season etc.

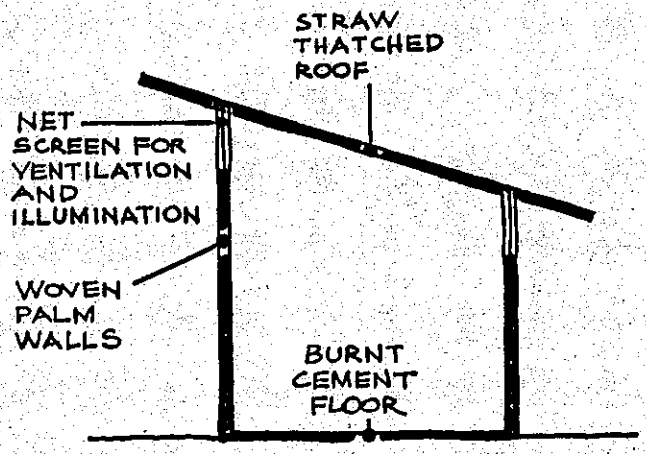
HEALTH CARE BASE FOR BALAU REGION AT ROHAHIKATUOUBEU CREEK

PRELIMINARY STUDY

PLAN
SCALE
1:200



USAGE	m²
1. CLINIC	18,84
2. INFIRMARY	37,69
3. KITCHEN/REFECTORY	37,69
4. ACCOMODATION	18,84
5. STORE ROOM	18,84
6. ACCOMODATION	18,84
FIRST STAGE	150,74
7. BATHROOM	9,42
8. BATHROOM	9,42
9. ACCOMODATION	18,84
10. MEETING ROOM	18,84
11. ACCOMODATION	18,84
12. PHARMACY	18,84
13. LABORATORY	18,84
14. WAITING ROOM	18,84
15. BATHROOM	9,42
16. BATHROOM	9,42
SECOND STAGE	150,74
TOTAL	301,48



SECTION AA'
SCALE 1:100

LIST OF MACHINES, SYSTEMS, MATERIALS, TOOLS, LABOUR AND AIR TRANSPORT NEEDS FOR CONSTRUCTION OF THE HEALTH CARE BASE AND THE LANDING STRIP AT BALAU, DRAWN UP BY CARLO ZACQUINI AND DAVI KOPENAWA

MACHINES AND SYSTEMS (purchased in São Paulo)

1 small chainsaw (similar to Davi's)
3 extra chains with 3 files for sharpening them
4 extra spark-plugs
Solar energy system
Electric and hydraulic network

TRANSPORT (Boa Vista)

24 hours of flights (trips Boa Vista-Toototobi-Boa Vista) to transport people and materials

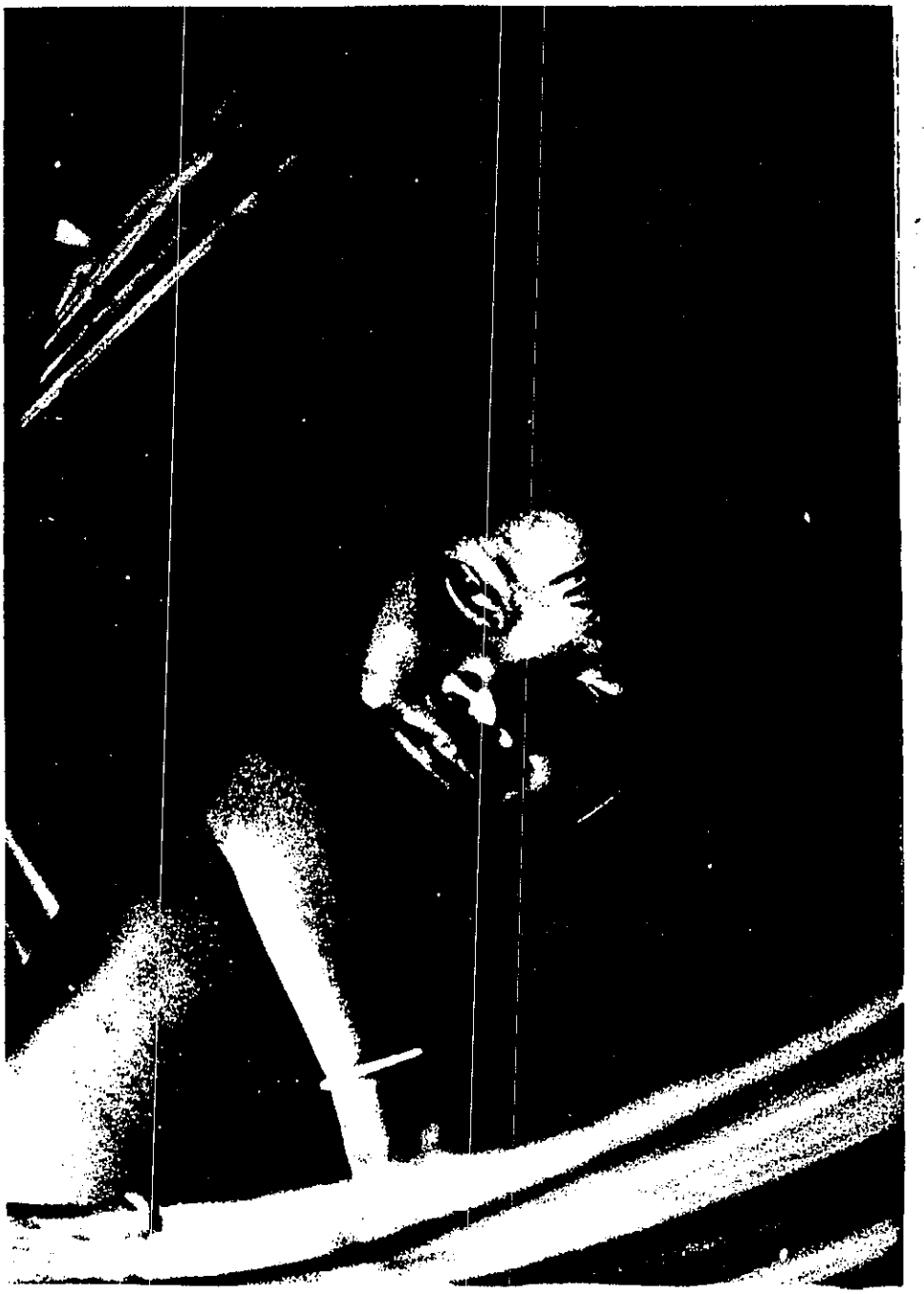
MATERIALS AND TOOLS (purchased in Boa Vista)

10 spades
15 trowels
15 hoes
10 pickaxes
02 wheelbarrows with tyred wheels
25 axes
04 crates of two time oil
100 litres of gasoline
02 saws 70 or 80 cm
03 carpenter's hammers
10 kilos of 2 inch nails
02 kilos of 3 inch nails
01 kilo of 1 1/2 inch nails
01 kilo of nails for netting
02 pairs of pliers
02 torques for pulling out nails
10 flat files for sharpening machetes
01 2 meter measure
01 plumb bob
01 30 cm plainer
01 manual emery wheel
01 manual drill handle with 5 drill points 5 to 90
01 bench lathe, 15 cm wide
01 fencing tool
04 chisels 1-2-2, 5-3 cm
04 gully holes
10 diggers
10 kilos of galvanized wire
50 metres of mosquito netting, 1 metre width
04 20 litre tins of white paint
10 tubes of blue and red paint

10 hammock hooks
50 screws for hammock hooks
30 hinges for doors and windows
200 screws for door and window hinges
02 external yale locks
02 5 litre water filters
100 metres of nylon string
01 steel lever/crank 1.5 meters
20 sacks of cement
30 machetes

LABOUR (from Boa Vista)

2 carpenters for three months
2 building assistants



charles vincent-cedi/ccpy

APPENDICES

GENERAL INFORMATION ON THE HEALTH SITUATION

As malaria is the disease of greatest epidemiological significance in the area, we have provided detailed information (by village and by region) about the incidence of this disease only. For a greater analysis of the general nosological profile, see the reports by health teams and from the Demini health post, on which this information is based (1).

Among the Watoriketheri (Davi's village), as mentioned above, general conditions of life and health are good. Without doubt this is due to the permanent presence in the area of two nurses, who through daily monitoring of the health situation have been able to guarantee rapid diagnosis and complete treatment of pathologies found. Before the health post was installed here, the total number of cases of malaria found on occasional visits by teams during 1990 was 85. This year, with systematic assessments from January to December, this number fell to 19. The population which in February stood at 79 increased to 87 by December 1991. The annual incidence of malaria in this village in 1990 was 1.07/per inhabitant; in 1991 this fell to 0.21/per inhabitant. This means there was an 80% reduction in the number of cases of malaria in one year. (See graphs A and B).

In the other regions in Area 15, however, the situation is quite the contrary. As seen in the tables and graphs that follow, there is a tendency for a general increase in incidence of malaria in the regions Toototobi, Balaú/Upper Demini and Wanabiú.

---

1. References :

- Report of Activities - Nov-Dec 1990 - Demini/Toototobi Project - Istvan D Varga and Luci Mara Montejane

- Yanomami Health Report - Toototobi Region - April 1991- Deise Alves Francisco and Bruce Albert

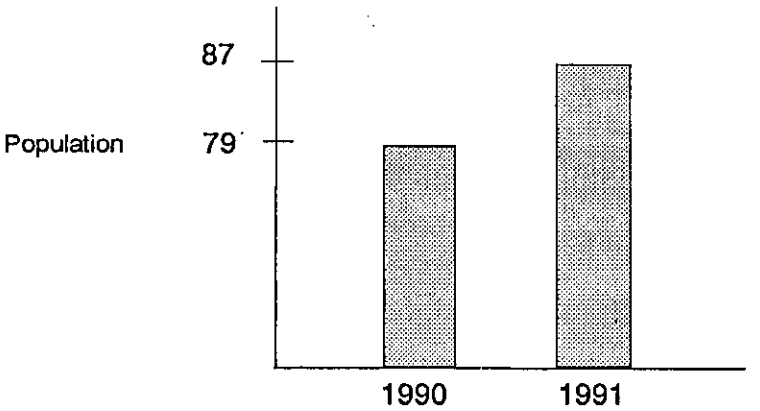
- Health Report - Toototobi Area - Maria Gorete G Selau - July 1991

- Health Data for November 1991 (report being concluded) - Bruce Albert and Vander Nardelli

- Monthly Reports from Demini Indigenous Post - 1991 - Luci Mara Montejane and Jose Luis V. da Silva

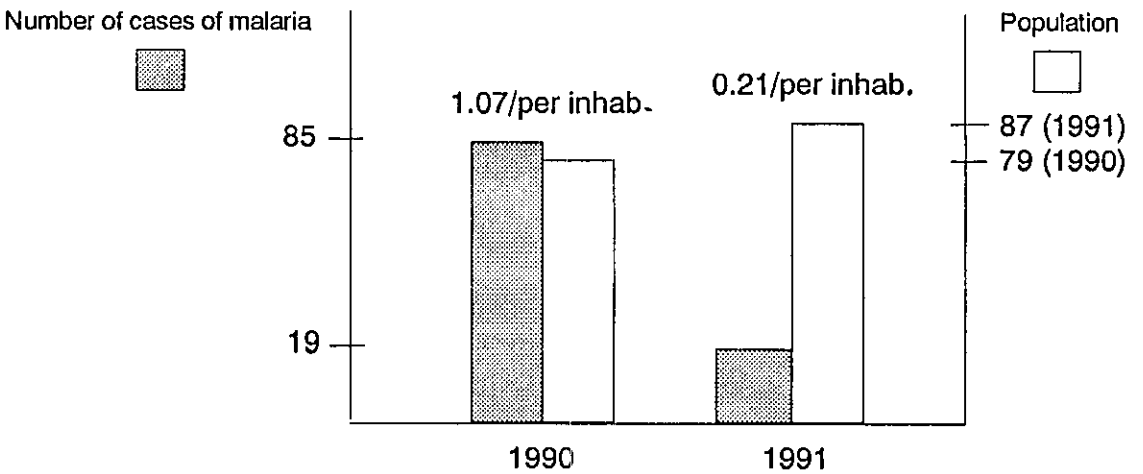
- Health Care Project for the Demini Community - Report - March 1991 (information from PIN Demini 1990) - Maria Gorete Selau

GRAPH A: POPULATION OF DEMINI INDIGENOUS POST WATORIKE COMMUNITY 1990/91



- From 1990 to 1991 the population of the DEMINI INDIGENOUS post increased by 11%.

GRAPH B: ANNUAL INCIDENCE OF MALARIA PER INHABITANT AMONG WATORIKETHERI DURING 1990 AND 1991



- With continuous health care there was a decrease in the annual average of cases per inhabitant from 1.07/per inhabitant in 1990 to 0.21/per inhabitant in 1991.

Information given here comes from the four visits made during the year to the region of the Demini river's source rivers. Information gathered during the two emergency visits paid in December 1991 to the Taraá, Balaú and Novo Demini region is not included (at the time of drawing up this project the emergency health teams had not yet returned).

When we began attending the region, in November 1990, 19.8% of the total population had malaria. One year later in November 1991 this regional figure had risen to 28.9%, a 9% increase in a year. If there is a repetition of the tendency for a peak to occur in April, due to climatic conditions favouring the proliferation of Anopheles (mosquitoes), we can expect in the next four months an average rate of 37% of the population of the whole region with malaria, and that this will reach more than 56.2% of the population of certain communities, such as that of Ayobetheri. (See graph 4).

The total number of known deaths between January and November 1991 was 36,17 of unknown cause (probably malaria), 12 from malaria, 4 from congenital malformations, two from tuberculosis and one from respiratory problems. 63% of these deaths were of children below the age of 12.

Two new cases of tuberculosis (BK+) were interned in the **Casa do Indio** (FUNAI's Indian quarters and infirmary) in Boa Vista for treatment, in addition to the one known case from last year. There are clinical indications of four new cases in the area which are awaiting laboratory confirmation for commencement of treatment.

Seven cases of visceral leishmaniosis are similarly awaiting laboratory confirmation.

Up to August 1991 nine cases of moderate malnutrition in proteins and calories were identified (all children). 122 children had clinical signs of anemia and 355 manifest enlarged spleens.

Increasing rates of presence of worms, respiratory infections and skin diseases encountered are cause for concern.

The tables and graphs that follow give information only from villages which were visited more than once.

Occasional treatment of Indians visiting from villages from other areas were not included in the data below.

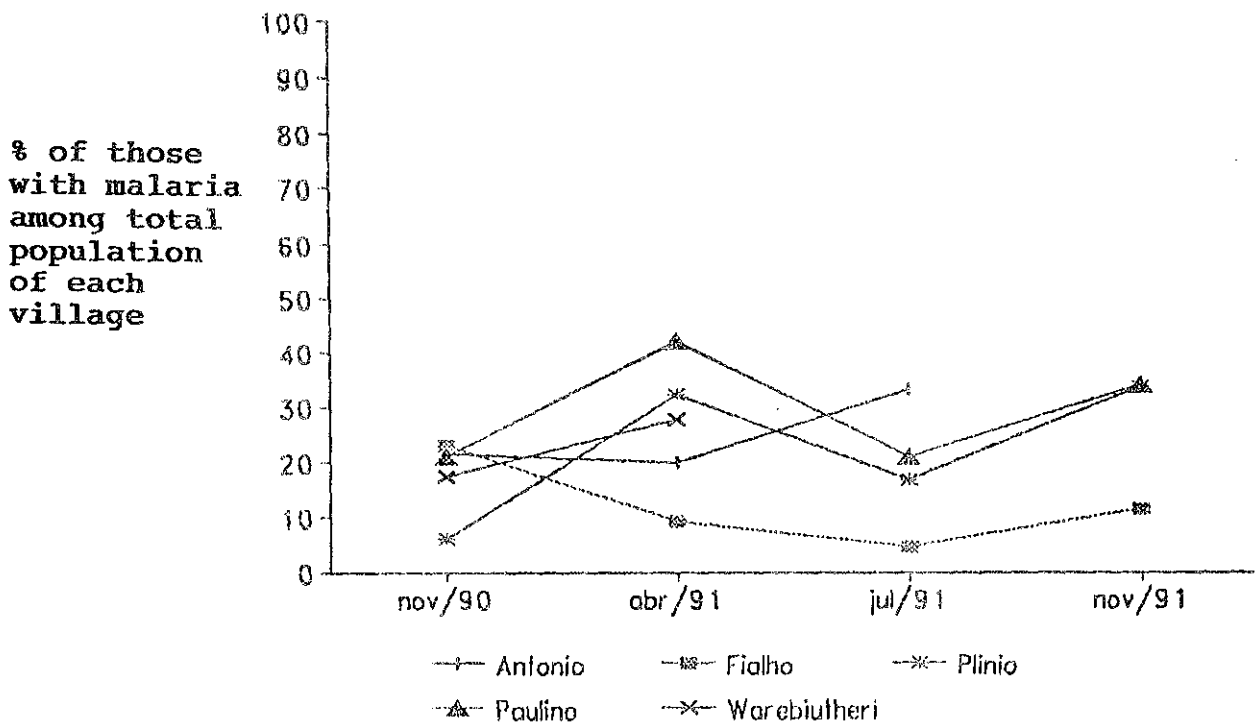
Percentage calculations are based on the **number of cases found in the total population of each village**, on each visit made by a health team.

TABLE 1: TOTAL NUMBERS AND PERCENTAGES OF INCIDENCE OF MALARIA IN VILLAGES ATTENDED BY CCPY DURING ONE YEAR

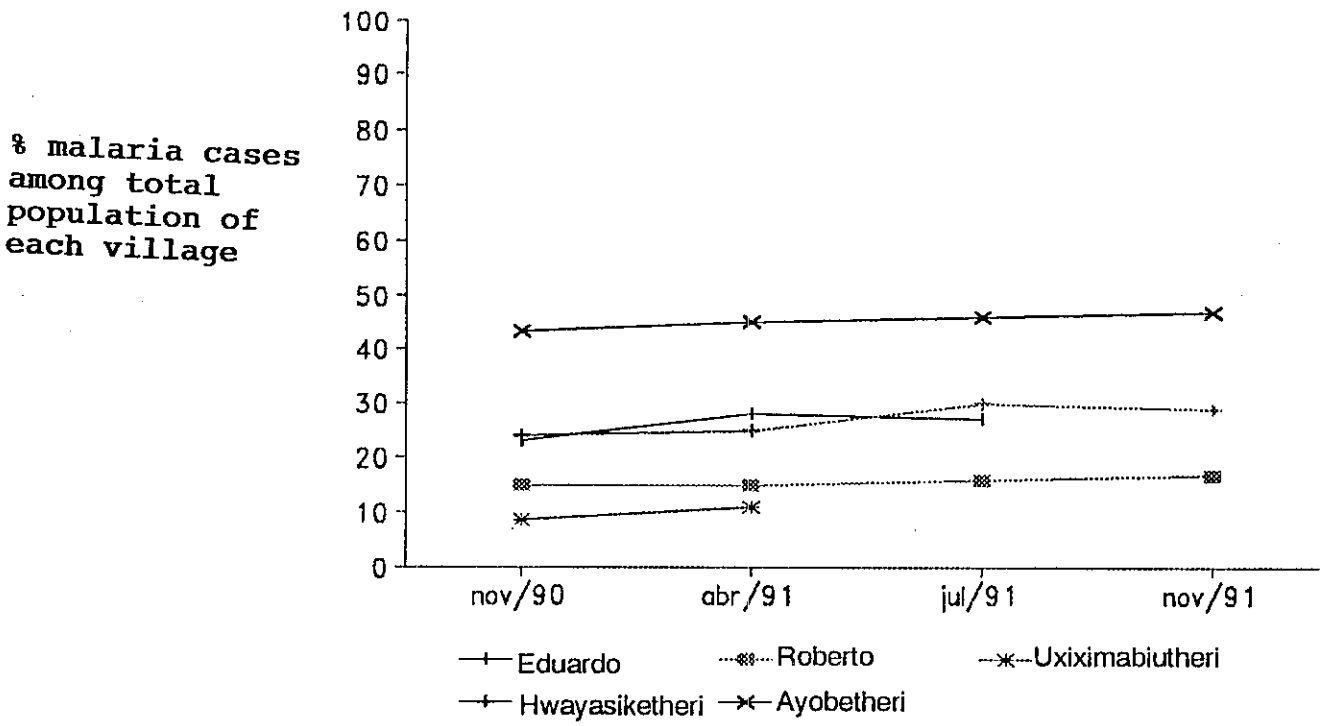
	VILLAGE	TOTAL POPUL.	NOVEMBER/90		APRIL/91		JULY/91		NOVEMBER/91		ANNUAL AVER.
			Nº of CASES	% total popul.	Nº of CASES	% total popul.	Nº of CASES	% total popul.	Nº of CASES	% of total popul.	%
TOOTOTOBI	ANTONIO	60	13	21.6	12	20.0	20	33.3	—	—	24.9
	FIALHO	43	10	23.2	4	9.3	2	4.6	5	11.6	17.7
	PLÍNIO	65	4	6.1	21	32.3	11	16.9	22	33.8	22.2
	PAULINO	38	8	21.0	16	42.1	8	21.0	13	34.2	29.5
	WAREBIUTHERI	68	12	17.6	19	27.9	—	—	—	—	22.7
BALAÚ	EDUARDO	13	3	23.0	4	30.7	4	30.7	—	—	28.1
	ROBERTO	18	3	16.6	—	—	3	16.6	3	16.6	16.6
	UXIXIMABIUTHERI	23	2	8.6	3	13.0	—	—	—	—	—
	HWAYASIKETHERI	35	6	17.1	—	—	11	31.4	10	28.5	25.6
	AYOBETHERI	76	33	43.4	—	—	—	—	37	48.6	46.0
	TOTAL	439	94	19.8	79	25.04	59	22.07	90	28.9	24.4

Obs.: The current population of Hwayasiketheri is 55 people, divided in 2 communities. The re-censored population of Ayobetheri (total 79 people-incomplete census) is currently divided in three villages: Xakibi(11), Koherebi(35), Beira do Alto Demini(20) and Aka Xekerema(13).

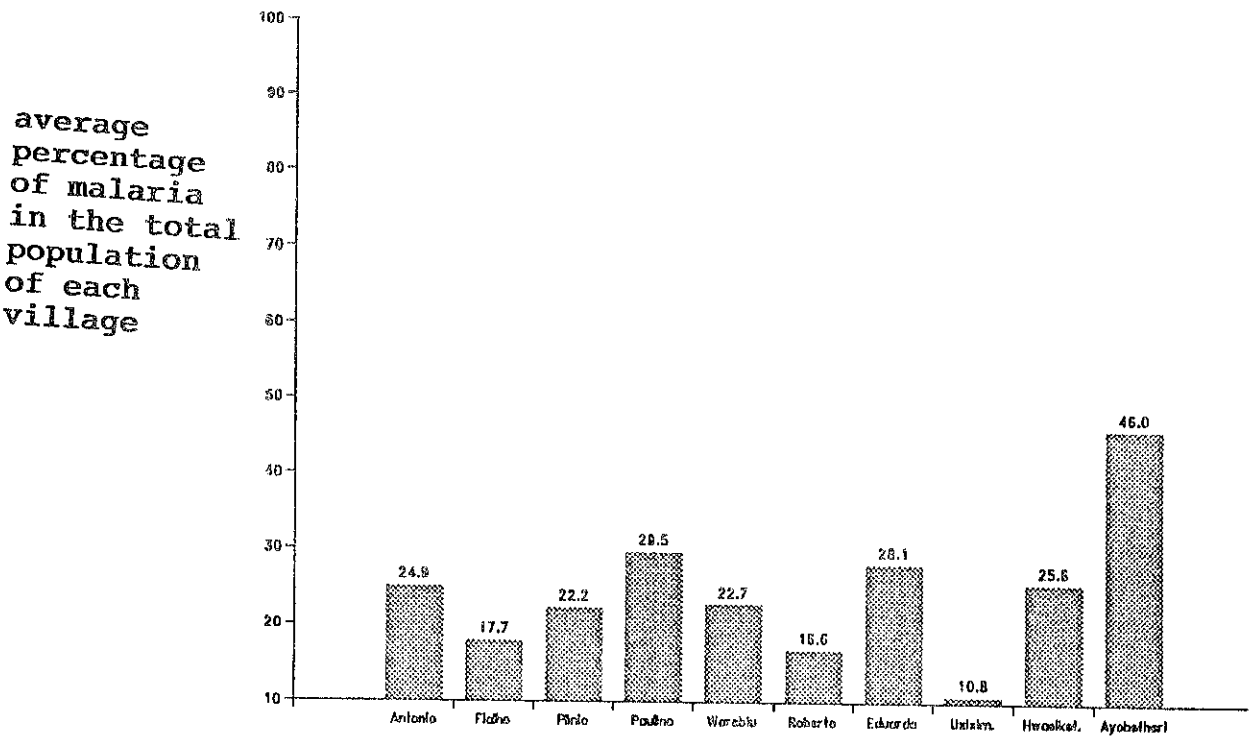
GRAPH 1: EVOLUTION OF INCIDENCE OF MALARIA IN TOOTOTOBI COMMUNITIES IN ONE YEAR



GRAPH 2: EVOLUTION OF INCIDENCE OF MALARIA IN BALAU COMMUNITIES IN ONE YEAR

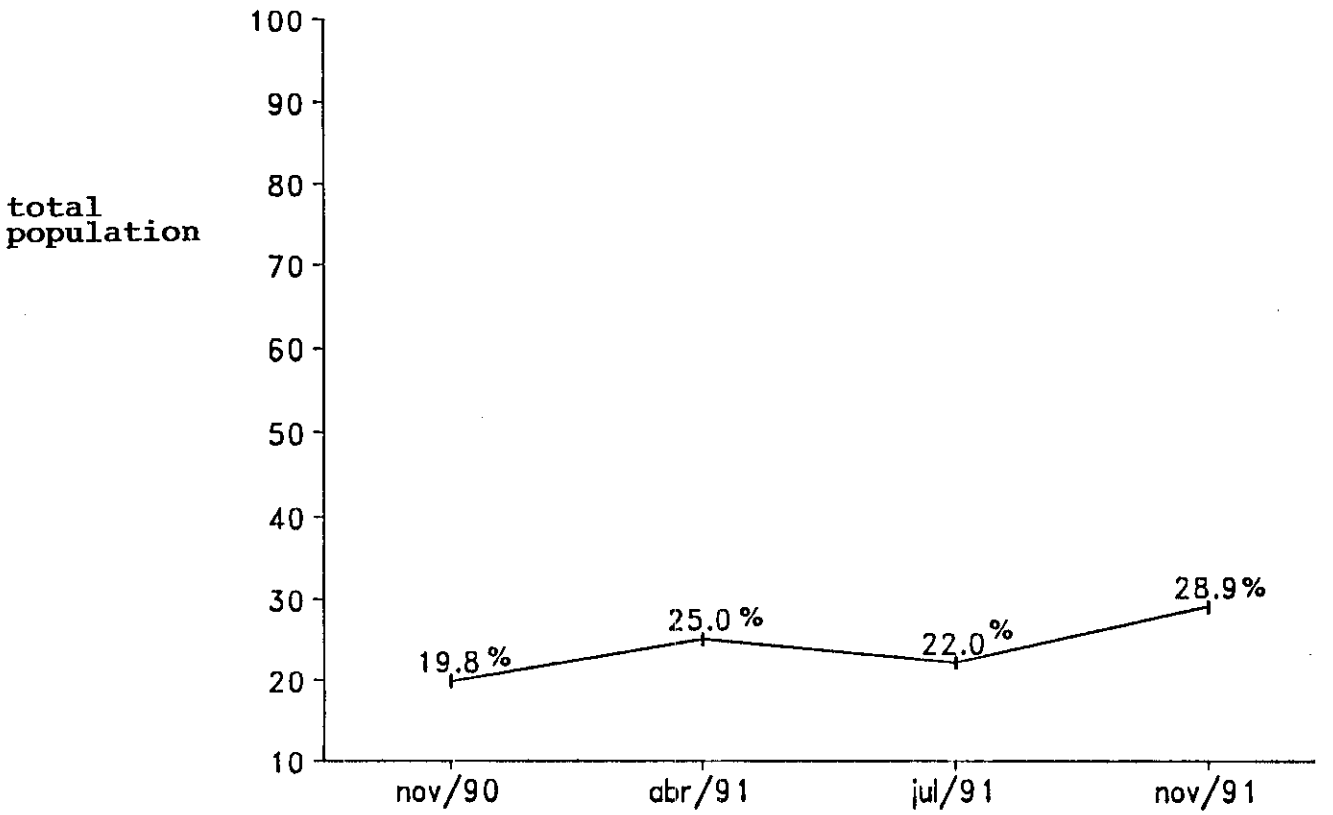


GRAPH 3: AVERAGE PERCENTAGE OF MALARIA PER VILLAGE DURING 1991



- TOTAL NUMBER OF CASES DIAGNOSED: 322
- AVERAGE PERCENTAGE FOR THE REGION ATTENDED IN ONE YEAR: 24.4

GRAPH 4: GENERAL PERCENTAGE OF MALARIA OBSERVED ON EACH VISIT BY HEALTH TEAM



FIELD TRIPS SCHEDULE
JANUARY TO MAY 1991

DEMINI PROJECT AREA

HEALTH PROFESSIONAL	FUNCTION	PERIOD	DAYS	REGION	TRAINING	TOTAL FLIGHT TIME
Maria Gorete Selau	Doctor	01/01to 15/01	15	Demini		3h15min
Maria Gorete Selau	Doctor	16/01to 26/01	10	Catrimani		3h15min
Maria Gorete Selau	Doctor	11/02to 21/02	10	Catrimani		3h50min
Maria Gorete Selau	Doctor	22/02to 01/03	10	Demini		3h21min
Davi Yanomami/ Missionaries	Interpreter	01/01to 01/03				
Luci Mara M. Montejano	Nurse		13	São Paulo	04/02 à 17/02	
Luci Mara M. Montejano	Nurse	21/02to 30/05	98	Demini		
Transportation of Health material		06/03		Demini		2h59min
Gale Gomez	Linguist	24/03to 02/04	09	Demini		2h59min
Bruce Albert	Anthropologist/Interpreter					
Deise Alves Francisco	Doctor	02/04to 03/04	01	Demini		
Deise Alves Francisco	Doctor	04/04to 25/04	21	Toototobi		15h35min
Bruce Albert	Anthropologist/Interpreter	04/04to 25/04				
Gale Gomez	Linguist	04/04to 05/04				
Maria Aparecida de Oliveira	Dentist	12/04to 25/04	13	Catrimani		
José Luiz Vianna da Silva	Nurse	02/04to 03/04		Demini		
José Luiz Vianna da Silva	Nurse	04/04to 25/04		Toototobi		
José Luiz Vianna da Silva	Nurse	26/04to 10/08	106	Demini		
Maria Aparecida de Oliveira	Dentist	26/04to 02/05	06	Aracá		4h05min
Maria Aparecida de Oliveira	Dentist	03/05to 12/05	09	Demini		3h10min
Ricardo Verdum	Lab.Technician		10	Manaus	11/04 à 21/04 [1]	
Ricardo Verdum	Lab.Technician	25/04to 02/05	08	Aracá		
Ricardo Verdum	Lab.Technician		11	Boa Vista	03/05 à 14/05 [2]	
Total			350			41h09min

OTHER AREAS (OFFICIAL PROJECT)

HEALTH PROFESSIONAL	FUNCTION	PERIODO	DAYS	REGION	TRAINING	TOTAL FLIGHT TIME
Ivone Menegola	Doctor	26/02to 08/03	10	Surucucus		Paid by government
Ivone Menegola	Doctor	08/03to 15/03	07	Olomai		Paid by government
Ivone Menegola	Doctor	18/03to 06/04	18	Auaris		Paid by government
Ivone Menegola	Doctor	07/04to 30/04	23	Boa Vista [3]		
Ivone Menegola	Doctor	12/05to 15/05	03	Paapiú		Paid by government
Carlo Zacquini	Interpreter					
Marcos Pellegrini	Doctor	28/03to 11/04	14	Surucucus		3h20min
Alvaro Braz	Doctor		10	São Paulo	12/03 à 22/03	
Alvaro Braz	Doctor	25/03to 27/03	02	Boa Vista		
Alvaro Braz	Doctor	28/03to 31/05	63	Surucucus		Paid by governmen
Antonio Wander Nardelli	Doctor	22/04to 09/05	17	Boa Vista [3]		
Antonio Wander Nardelli	Doctor	10/05to 05/07	55	Surucucus		Paid by government
Total			222			3h20min

1. Ricardo Verdum: training in Boa Vista under CCPY's responsibility.
2. Ricardo Verdum: training in Boa Vista under CCPY's responsibility.
3. Advisors to the Coordination in Boa Vista.

FIELD TRIPS SCHEDULE
JULY/91 TO JANUARY/92

DEMINI PROJECT AREA

HEALTH PROFESSIONAL	FUNCTION	PERIOD	DAYS	REGION	TOTAL FLIGHT TIME
Maria Gorete Selau	Doctor	18/07to 10/08		Demini	5h.50min
José Luiz Vianna da Silva	Nurse	18/07to 10/08		Demini	-
Rosângela Santarém	Nurse	15/07to 10/08		Demini	5h15min
Maria Gorete Selau	Doctor	23/09to 30.09	07	Ajuricaba	
Geraldo Yanomami	Interpreter	15/07to 10/08	27		
Bruce Albert	Anthropologist/Interpreter	20/09to 22/10	33	DEMINI	6.00hs
Gale Gomez	Linguist	20/09to 12/10		DEMINI	
Maria Aparecida Oliveira	Dentist	12/10to 22/10		DEMINI	
José Wander Nardelli	Doctor	22/10to 09/11	18	TOOTOTOBI	11.00hs
Maria Aparecida de Oliveira	Dentist	22/10to 09/11		TOOTOTOBI	
José Luiz V. da Silva	Nurse	22/10to 09/11		TOOTOTOBI	-
Bruce Albert	Anthropologist/Interpreter	22/10to 09/11		TOOTOTOBI	
Raimundo Yanomami	Interpreter	22/10to 09/11			
June Barreiros Freire	Doctor	05/12to 14/12	10	Novo Demini	10.45min
Luci Mara M. Montejane	Nurse	05/12to 14/12		Novo Demini	-
Funasa's Vaccinator		05/12to 14/12		Novo Demini	-
Davi Yanomami	Interpreter	05/12to 14/12			
Luzia Santa Cavalcante	Nurse	14/12to 15/01	33	Demini	
Myres Maria Cavalcanti	Doctor	23/12to 15/01	24	Demini/Balaú	8.45min
José Luiz V. da Silva	Nurse	23/12to 15/01		Balaú	
Funasa's Vaccinator		23/12to 15/01			-
Davi Yanomami/Carlo Zacquini	Interpreters	23/12to 15/01			
TOTAL			152		47h35min

OTHER AREAS (OFFICIAL PROJECT)

José Wander Nardelli	Doctor	08/07to 06/08	30	Surucucus
Alvaro C. Alves Braz	Doctor	20/09to 05/10	16	Surucucus
Maria Gorete Selau	Doctor	01/10to 15/10	15	Marauiá
TOTAL			61	

YANOMAMI INDIGENOUS PARK

SPECIAL LOCAL HEALTH SYSTEM

OPERATIONAL DIVISION OF YANOMAMI AREA BY INTERCOMMUNITY RELATIONS

International border
Inter-state border
Highway
Planned Highway

Religious Mission
FUNAI post equipped with radio
Military detachment
Probable operational base

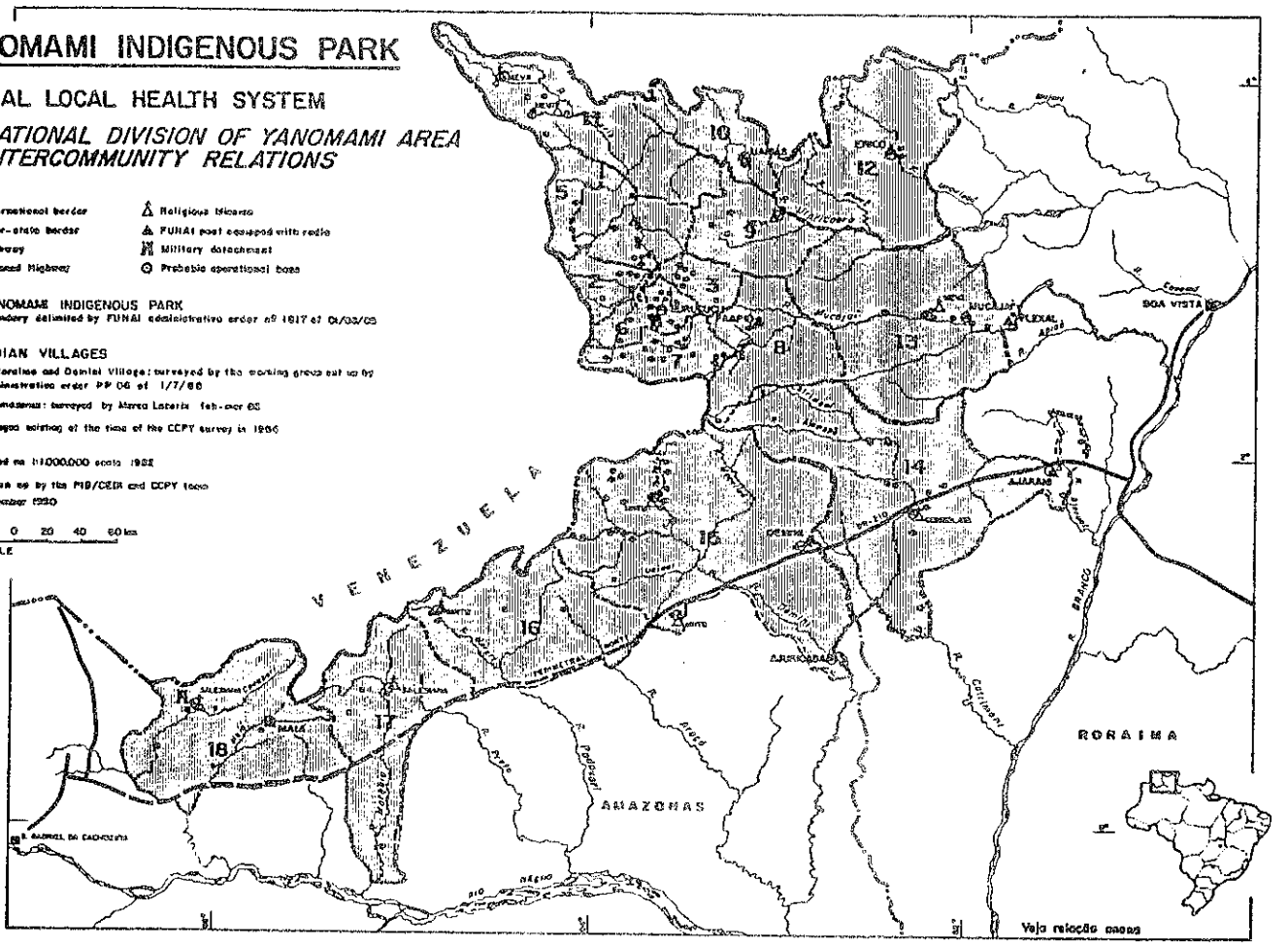
YANOMAME INDIGENOUS PARK
Boundary delimited by FUNAI administrative order nº 1817 of 04/03/05

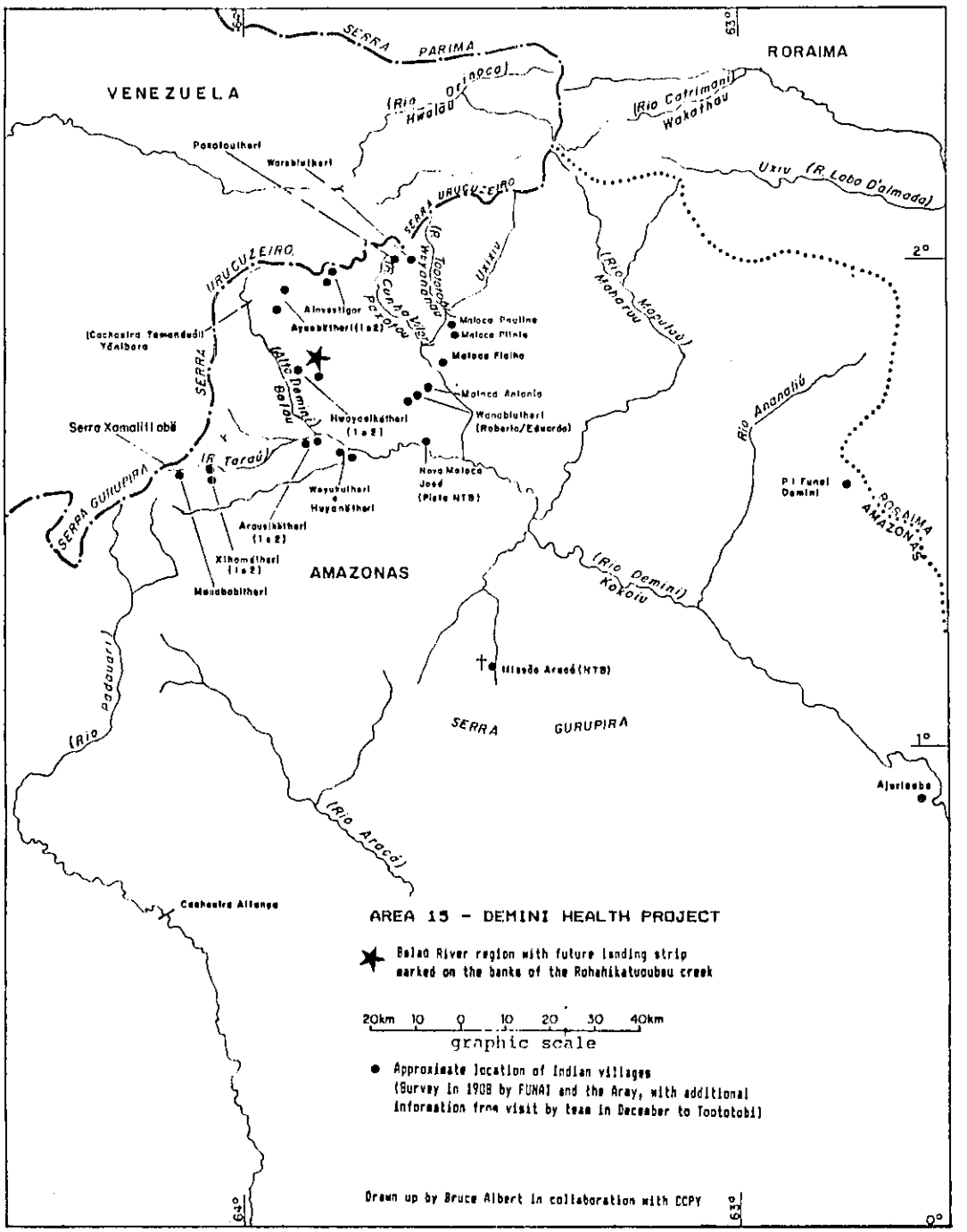
INDIAN VILLAGES

- In Roraima and Demini Villages: surveyed by the working group set up by administrative order PP 06 of 1/7/88
- In Amazonas: surveyed by Marco Lacerda feb-mar 88
- Villages existing at the time of the CCPY survey in 1986

based on 1:1000.000 scale 1982
drawn up by the MIB/CEDI and CCPY team
december 1990

20 0 20 40 60 km
SCALE




SERRA PARIMA
VENEZUELA
RORAIMA
(Rio Orinoco)
(Rio Cotrimani)
Wakaihau
Uxiu (R. Lobo D'almada)
Posotouthari
Worabiuthari
SERRA URUCUZEIRO
URUCUZEIRO
(R. Toototobi)
Uxiu
(Rio Mapulubú)
Alnvestigor
Agoabitheri (1 a 2)
(Cachoeira Tamanduá)
Ydaibore
Maloca Pauline
Maloca Pitinia
Maloca Fleiho
Maloca Antonio
Wanabiutheri (Roberto/Eduardo)
SERRA
(Alto Demini)
Hwayoalkitheri (1 a 2)
Serra Xamalitiobli
(R. Taraú)
Nova Maloca José (Piste NTB)
Wayuiutheri
Huyanitheri
SERRA GURUPIRA
Arouiskitheri (1 a 2)
Xihomitheri (1 a 2)
Mandobolitheri
AMAZONAS
(Rio Demini)
Kokoiu
Rio Anauhá
P.I. Funai Demini
RORAIMA
AMAZONAS
Missão Araçá (NTB)
SERRA GURUPIRA
(Rio Padauari)
(Rio Araçá)
Ajuricaba
Cachoeira Aliança
AREA 15 - DEMINI HEALTH PROJECT
Balao River region with future landing strip marked on the banks of the Rohahikatucubau creek
20km 10 0 10 20 30 40km
graphic scale
Approximate location of Indian villages (Survey in 1988 by FUNAI and the Army, with additional information from visit by team in December to Toototobi)
Drawn up by Bruce Albert in collaboration with CCPY
2°
1°
0°
63°
64°