

THE YANOAMA IN BRAZIL 1979



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Cover: Yanoama boy of the Tototobi river.
(Photo: Alcida R. Ramos).

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and
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T H E Y A N O A M A I N B R A Z I L
1 9 7 9

and

YANOMAMI INDIAN PARK, PROPOSAL AND JUSTIFICATION

by
The Committee for the Creation
of the Yanomami Park

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* Translator's note: "Maloca" has the meaning of communal house and can also be used with the meaning of village.

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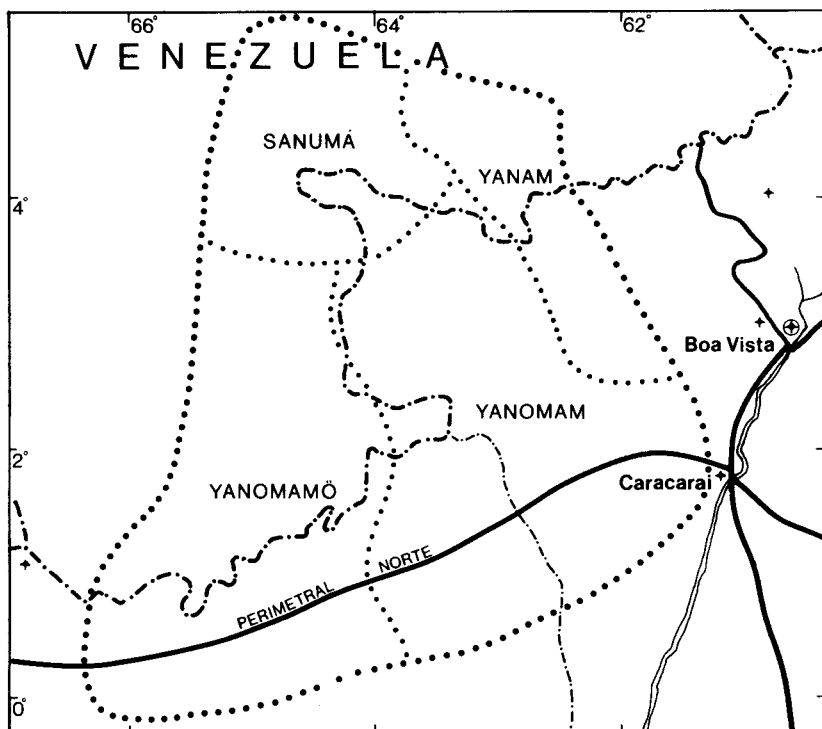


1. Ritual pose during festival at Catrimani.
(Photo: Bruce Albert)

Alcida R. Ramos

YANOAMA INDIANS IN NORTH BRAZIL THREATENED BY HIGHWAY

November 1978



Map 1-1. Linguistic sub-groups of the Yanoama (following Migliazza 1972)

INTRODUCTION

This paper is intended to first, report on the very critical situation of the Yanoama Indians in north Brazil who have been affected by the construction of the Perimetral Norte highway; second, to make public the events that led to the abrupt end of the "Yanoama Project", a plan designed by an anthropologist to assist the Yanoama Indians in Brazil, as well as describe the activities of the Project in that area; and third, to explore certain aspects touched upon in a recently published document (Migliazza 1978) about Indian groups in the Brazilian Territory of Roraima, by focussing on some crucial points mentioned in that document and also by providing recent information about the official Indian Policy and how it is affecting the Yanoama in that country.

Until the late 1973, the great majority of the Yanoama speaking groups, both in Venezuela and in Brazil, enjoyed a

situation of relative isolation from the damaging effects of massive contact with whites. Most of their contacts with non-Indians involved either individuals or small groups of whites, such as skin hunters, rubber tappers, Brazil nut gatherers, missionaries, government personnel (for example, members of the Brazilian Air Force, the Health Department, frontier-demarcating teams), and occasional scientists (anthropologists, geographers, geologists, botanists). Since the mid-1960's two small sub-groups, which are geographically separated from the rest of the Brazilian Yanoama, have had more or less continuous contact with diamond miners - these are the Yanam of the Uraricaá river, located on Map 1-1, page 2, at $62^{\circ} 40' W$, $3^{\circ} 55' N$ (see Migliazza 1978:19) - and with ranchers - the Yanam of the Mucajaí river, Map 1-1, at $62^{\circ} 00' W$, $2^{\circ} 45' N$.

It is true that some western diseases had already found their way into Yanoama territory and that certain contacts with whites have had undesirable effects (see Lizot 1976). But none of these has had the overwhelming impact on Indian life of recent massive encounters with whites, which, judging by all indications, represent the prelude to a large-scale invasion of Indian territory and an assault on their ethnic integrity and autonomy. These contacts have occurred in the context of road construction and mining activities on the Brazilian side of the frontier. The first affected those Yanoama who live about 130 kilometres to the southwest of Boa Vista, the capital of the Territory of Roraima, and the second, those who occupy the area of the Surucucu mountains (see Map 1-1, $63^{\circ} 40' W$, $2^{\circ} 50' N$).

This report focuses specifically on one of these impact situations, that which involves the Yanoama Indians located in the area crossed by the Perimetral Norte highway. It is the result of direct observations during some four months in 1975-1976¹.

NATIONAL DEVELOPMENT AND THE INDIANS

The year 1974 marks the delayed arrival in the Territory of Roraima of the Program of National Integration (PIN) that was advocated and put into practice in Brazil by the Medici government since 1971 (see Davis 1977 and Bourne 1978 for detailed and comprehensive discussions of the social and economic consequences of this Program), and which was already responsible for many miles of highway in Amazonia, including the Transamazônica. Part of this huge highway network was the Perimetral Norte, a road planned to link the east coast of Brazil, at the delta of the Amazon, with the west, on the frontier with Colombia, running roughly parallel to the Transamazônica, to the north of the Amazon river, then turning south to the State of Acre to meet the western end of the Transamazônica.

The opening up of the Perimetral brought hundreds of men and machines into an Indian area, which up until then had been largely isolated from the outside world. Where access previously had been difficult and severely limited, after the construction of the road it became easy to travel deep into the Indian area. From the town of Caracaraí to the first Indian settlements was now less than an hour's drive.

In March 1974, Medici was replaced by Geisel as President of Brazil. While Medici emphasized road building as a necessary first step for massive colonization of the Amazon basin, his successor did not pursue the same interests. Road construction was gradually de-emphasized, and greater attention given to the exploitation of mineral resources in Amazonia. Thus, between 1974 and 1976, while road building activity slowed down (the Perimetral Norte came to a halt in mid-1976), an extensive areal survey of the entire Amazonia was carried out by Project RADAM (Radar Amazonia). In



2. The Perimetral Norte Highway in Yanoama territory.
(Photo: Alcida R. Ramos)

February 1975, the discovery of radioactive materials in the Surucucu area was announced. Shortly afterwards a team of geologists of ICOMI (Brazilian Bethlehem Steel) conducted a geological survey for nearly two and a half months, and 500 miners were illegally extracting cassiterite in the heart of Yanoamaland. In September 1976, following some serious incidents which involved Indian attacks on one of their camps, the miners were removed from the area by order of the Ministry of the Interior. The government Company Vale do Rio Doce has now opened an office in Boa Vista, as a preliminary step to start mining operations on a large-scale at Surucucu. This is the most densely populated area of the whole Yanoama territory in Brazil. A recent areal survey conducted by FUNAI (June 1977) found 74 communal houses (which correspond roughly to villages) in a radius of less than 150 kilometres. The average size of these communities being 62 people, this means a population of at least 4,588 Indians, and not 300 as Migliazza has maintained (1978:20). This same reduced figure was also quoted by the governor of Roraima in a press release (5 March 1975), after he was severely criticized by journalists for stating that "an area such as this cannot afford the luxury of having a half dozen Indian tribes (meaning villages) obstruct development" (Jornal de Brasília, 1 March 1975). It was, of course, in his interest to minimize the Indian population in an area with such tempting economic prospects as Surucucu.

During the Medici administration, the official agency for the protection of the Indians, FUNAI (National Indian Foundation) did nothing to try to prevent or minimize the harmful effects of the road building. No teams were sent ahead of the highway workers to attempt a vaccination campaign that would protect the Indians against such lethal diseases as measles, whooping cough, tuberculosis and the common cold, before the arrival of the workers. Once the road had been

opened for about 50 kilometres, and had already reached three Yanoama villages in the Ajarani river area, a FUNAI outpost was established in August 1974 by the roadside on the right bank of the Ajarani river, in order to "attract" the Yanoama and provide them with medicines and trade goods.

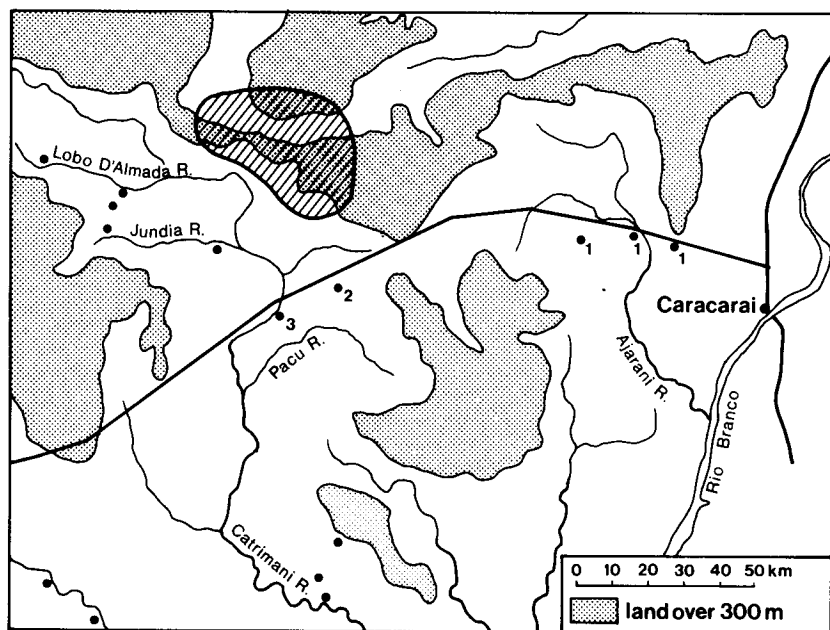
In June 1974, the anthropologist Kenneth I. Taylor who, like myself, was in the Faculty of the Department of Social Sciences at the University of Brasília, and had also done intensive fieldwork among the Sanumá sub-group of the Yanoama, presented to FUNAI (now under a new President who, for a time, welcomed the cooperation of anthropologists) a project for the assistance of the Yanoama Indians. He took leave of absence from the University and was contracted by FUNAI for a year, to begin with, in order to work on the Yanoama Project on a full time basis. This Project emphasized the control of interaction between Indians and whites, besides medical assistance and the study of the establishment of an Indian Reservation or Park. Even before the necessary and much delayed financing by FUNAI was released for the operation of the Project, Taylor (its coordinator), Nicholas Cape, a volunteer British assistant and myself began work at the Perimetral. As a preliminary phase, I was to study the Yanomam language and prepare a manual for the training of future Project personnel. From the beginning of February to the end of April 1975, I lived with the Yanomam at the Catrimani mission, where I prepared the first draft of the language manual (Ramos 1975). In the course of 1975 I returned twice to the Perimetral area. Mr. Cape provided much medical help not only at the Catrimani mission, but also at hunting camps and at other villages. He visited several Yawarib and Yanomam settlements (speaking the Indian language whenever possible), recorded their populations and general state of cultural, social and physical health. Much of the information contained in this report results from his dedicated efforts.

YANOAMA INDIANS AFFECTED BY PERIMETRAL NORTE

On arriving at km 49, the location of the FUNAI "attraction" outpost, we found that it was run by a middle-aged woman whose constant complaint was the total lack of support from the FUNAI regional headquarters (10th Regional Delegacy) in Boa Vista: no medicines, no trade goods, hardly any food for her and five or six assistants. She had had a field cleared some distance away from the road for Indian consumption, but the Indians kept going to the outpost and to the road begging for food and cigarettes and were not discouraged by her or by the other personnel.

We saw some very serious cases of influenza, and three people who had been taken to hospital in Boa Vista later died. From the beginning of the construction until the time of our arrival, 22% of the Indians living near the FUNAI outpost had died as a consequence of contagious white man's diseases.

There were also three cases of prostitution, involving girls from the Ajarani area. Two of them contracted venereal diseases and had to be taken to Boa Vista for treatment. Once cured, they were taken by FUNAI personnel to a distant FUNAI owned ranch (São Marcos) to the north of Boa Vista, as a measure to prevent their return to prostitution on the Perimetral (it was "their punishment", in the words of the Delegate at FUNAI headquarters in town). After a period of several weeks, one of the girls was sent back home but did



Reported territory of uncontacted Yawarib villages.
 Indian village
 1. Yawarib. 2. Opikteri. 3. Wakatauteri and Catrimani mission.

Map 1-2. The route of the Perimetral Norte Highway through Yanoama territory.

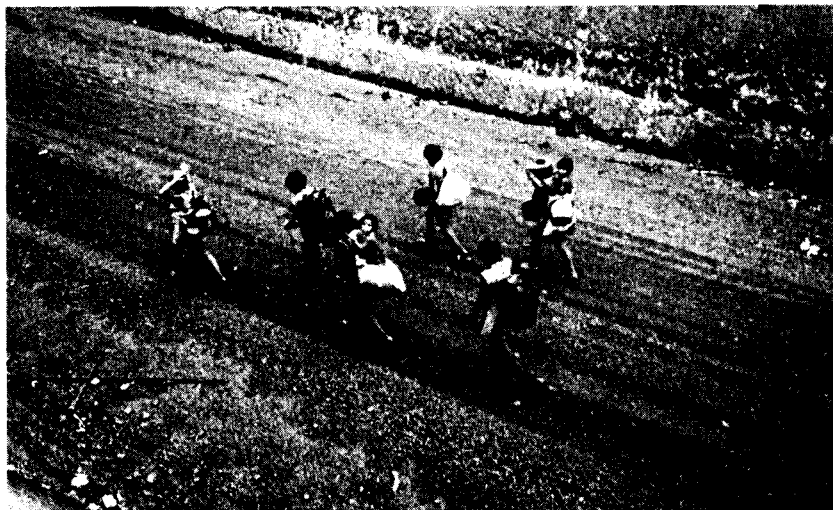
not settle down again; she suffered constant beatings and threats from her husband and the ridicule of neighboring Indians; she repeatedly ran away from her relatives or from the outpost to join either the construction camps or the sawmill that had been built by the roadside on km 45.

The Indians who live near the FUNAI outpost and closest to the border of the Indian area - to this date not demarcated and, in fact, lost to a colonization scheme - were probably the worst hit among all those exposed to the effects of the road construction. This group, known as Yawarib, speaks a language which seems to be quite different from the Yanomam of the Catrimani river valley, and they are considered by the latter to be a different people. Although the Yawarib were severely affected by the Perimetral, they were not the only group to suffer its disrupting consequences.

To facilitate description, I shall concentrate on three different groups of Yanoama, from east to west: Yawarib, at Ajarani; Opikteri, near km 130; and Wakatauteri, at the Catrimani mission, off the road on km 146 (see Map 1-2, page 10).

THE YAWARIB

In June 1968 the Catholic Prelacy of Roraima reported that on the Ajarani river, where it had a mission, there were 145 Yawarib living in four communal houses (malocas). It is not clear whether this refers to the entire river valley or only to the upper Ajarani. Migliazza gives a total of 400 Indians living in 12 villages in the Ajarani river area in 1963 (1978:17-18). Just before the highway reached Yanoama territory in Roraima, the known Yawarib population was estimated to have been 100 to 110 (Nicholas Cape, field notes 1975). I have no information on what happened to the other 290 Yawarib. They are not accounted for by the missionaries, so far as I know, nor by Cape's



3. The Yawarib who had no village, on the Perimetral Norte.
(Photo: Adinair França dos Santos)



4. Opikteri and Yawarib trading old clothes at Castanheira
(Photo: Alcida R. Ramos)

survey of 1975. There are no indications of their disappearance, whether by death, by joining other Yanoama groups, or by moving away to white settlements.

According to Cape's survey, a few years before the construction of the Perimetral Norte, the Yawarib of the lower Ajarani seem to have comprised one, possibly two, communities which later subdivided. By the time the road reached them, they numbered about 76 and lived in four settlements as much as 30 kilometres apart. Besides these Yawarib of the lower Ajarani, there was another group known to the Prelacy missionaries as the Nainashiuteri (Naitauxuteri or Raitauxuteri) who were apparently located on the upper Ajarani. In 1973 they were about 30 people (Cape's field notes 1975). In February 1974 they were raided by the Opikteri and four people were killed (information from Prelacy missionaries 1975). By mid-1975 seven more had died, and the surviving 19 joined the Opikteri village (Cape's field notes 1975). In 1975 the Indians themselves, the missionaries, FUNAI personnel, and the few Brazilians in the area who knew the Indians well, all affirmed that there were no more Yawarib living on the upper Ajarani river.

From 106 Indians known to have been alive before the road workers arrived, the Yawarib population was down to 80 by August 1975; apart from the four killed in the raid by the Opikteri, 22 (22%) had died between late 1973 and mid-1975. That was the period of the highway construction in their area. Migliazza reports that 40 Yawarib survivors were living in one village (1978:17). We found that, besides the 19 Nainashiuteri now living in the Opikteri village, the Yawarib were broken up into four tiny settlements. As well as being killed by influenza, pneumonia, etc., they had suffered serious disorganization of their social life, in part as a result of dispersal of village members following the passage of the road teams and the establishment of the FUNAI outpost. The following table shows the disintegration,

both physical and social, of the Yawarib.

TABLE 1-1. POPULATION OF YAWARIB SETTLEMENTS

Settlement	Before the road	After the road (August 1975)		
		Dead	Dispersed	Remaining
(Nainashiuteri)	26	7	---	19*
Arapishi	22	8	9	5
Castanheira	24	5	5	14
Km 33	20	2	2	16
Km 32	10	?	?	9
TOTAL	102	22/23	16/17	63
Total number of Yawarib alive in August 1975:				79 or 80
* Living at Opikteri village.				

Let us examine the meaning of these figures in terms of loss of members by each settlement.

Of the 26 Nainashiuteri who survived the raid by the Opikteri, two died after the arrival of the road and five others were missing, presumed dead.

The 22 members of the Arapishi group used to live in a location about a day's walk to the south of where the road now passes, near km 62. Since the construction, two people have died of malaria, five of pneumonia (which escalated from a common cold), and one of a stomach infection. Two families, in a total of seven individuals, in August 1975 were living in abandoned construction shacks by the roadside. A young man, having spent a whole year at a construction camp, was now living off the FUNAI outpost. A woman, having been treated for venereal disease, was at São Marcos, the FUNAI ranch up north in the Territory of Roraima. The remaining five were living by a new field, still unproductive, about five hours' walk from the road.

At Castanheira (thus named because of the many Brazil nut trees, castanheiras in Portuguese) the Yawarib who used to live one kilometre off the river bank, were now in a site on the right bank of the Ajarani, 45 minutes' walk to the south of the road. Since the beginning of construction, according to one source of information, three people have died of pneumonia (also evolved from a common cold) and two of dysentery. Another count gives figures of seven or eight dead since the establishment of the FUNAI outpost. One family was at São Marcos, after the wife had received a second treatment for venereal disease. A young man lived at the FUNAI outpost. The remaining 14 Yawarib, among whom were four unmarried men (an old man, the recently widowed headman and two bachelors), were living in three rectangular houses (in the style of rural Brazilians), hunting with shotguns and with the help of a Brazilian family who processed manioc flour before leaving the area (I shall return to this subject later).

The 16 people, under the leadership of an old woman, who in 1975 were at km 33, in an area already occupied by settlers,



5. Castanheira couple with sick child who was later hospitalized
in Boa Vista.
(Photo: Adinair França dos Santos)

used to live about two kilometres to the south of the line of the road. Since the Perimetral reached them, two have died of pneumonia, and two have gone to live with a white man who hunts jaguars for their skins. For two years no new fields had been cleared.

The nine Yawarib who are now at km 32 (living on the edge of a large field belonging to settlers) used to live about seven kilometres to the north of the line of the road and were ten at that time.

In July 1975, Nicholas Cape and I spent a week among the Yawarib at Castanheira. Our intention was to repeat what we had successfully accomplished at the Catrimani mission: learn enough of their language to be able to teach teams who were to work for the Yanoama Project, according to the philosophy that communication should be conducted in the Indian languages whenever possible, as the great majority of the Yanoama are still monolingual.

I came away from Castanheira with a very strong impression that the Yawarib had reached a lamentable state of cultural impoverishment, perhaps irrecoverable. On the 16th of July 1975, I wrote in my field diary:

"The situation is so depressing... To make things worse, these Indians here are pathetic. None of them so far is willing to admit that he/she knows his language enough to teach us. They play dumb, deaf, uninterested, anything but won't teach us their language. They have no basketry, no beiju (cassava bread), no hammocks of their own, all of them wear something (western) - from rags to real clothes".

And on the 19th:

"The only chance of recovering these people culturally is to attract them away, far away from the road, encourage the return of craftsmanship, and fields, etc., shamanism, feasts and all. If they stay around here, and if they survive physically, they'll become the most despicable beggars of the whole country"!

My emotional outburst was somewhat soothed by one

positive feature: hunting, at least, was good during those days. The headman, who had lost wife and child in a recent influenza epidemic, was very active in hunting and brought meat regularly to the village. In fact, one might say that there was too much meat for so few people. Between the 14th and 20th of July, six peccaries (four of the large size, two of the smaller size) and a spider monkey were killed for the consumption of no more than 14 Indians. This might be considered a case of overhunt, only achieved with the use of shotguns. But as far as protein requirements were concerned, the Yawarib at Castanheira were not found to be starving.

However, in terms of morale, pride and self-confidence, the image projected by these Indians could not have been worse. The situation was not ameliorated by the FUNAI employees who, most of them uneducated and indeed semi-illiterate, shared the common stereotype of the ignorant, lazy Indian that is current among the majority of local Brazilians. One of these employees had a plan to "teach" the Indians garden work, for not knowing or pretending not to know that the Yanoama had been doing it for generations, he had convinced himself that they did not know "how to work". Saddest of all was the attitude of a very young Yanoama Indian, no more than an adolescent, who had come from the Cauaboris region, to the west, with a personal history of intensive contact with whites. He had learned Portuguese and was now on the FUNAI payroll as an interpreter at the Ajarani outpost. This young fellow, boosted by the status provided him by this job in FUNAI, constantly patronized the other Indians, especially the Castanheira headman. As it turned out, claiming that the Yawarib language was too different from his own for him to understand it properly, this youth hardly fulfilled the role of interpreter for the FUNAI whites who, themselves, showed no interest in learning the Indian language. In general, FUNAI personnel clearly treated these Indians as their inferiors. Needless to say, this did nothing to improve the sense of self-

respect of the Yawarib.

At Castanheira we found a Brazilian man and his family who had had long contact with these Indians. It is worth describing the situation of this individual, because he became a focal point in the later plan to revitalize the Yawarib.

A few years before the road construction began, this man, to whom I shall refer as W, planted a manioc field downriver, five hours' walk from where the road was to cross, at a place known as Humaitá. Later, he made another field near Castanheira. At that time, the Yawarib lived about one kilometre from their present location on the bank of the Ajarani. When the road was opened and FUNAI was installed in the area, he was told by the outpost manager that he had to leave. By then the Indians had come to live near him. Later she changed her mind and allowed him to stay and even asked him to cooperate with FUNAI by becoming a kind of manager himself, who would control the entry of whites into the area by the river Ajarani. With the creation of the 10th Regional Delegacy of FUNAI in Boa Vista, the power to make such decisions went to the Delegate. This man, a retired Army Lieutenant, opposed this suggestion and again W was told to leave. When we met him at Castanheira he and his relatives were hurriedly processing manioc flour, the product of his garden, before going back to Boa Vista.

We were very favorably impressed with his manner toward the Indians, the concern he showed with their health and well-being, the empathy that seemed to exist between his family and the Indians. There was some trading of food, manioc from him, meat from the Indians, and he claimed to have given medicines to them on several occasions. His son of about 10 years of age spoke some of the Yawarib language and got along very well with the locals.

W's role was all the more crucial as he was the one person capable of attracting the Indians to live near him, and away from the road. The Yawarib who were living at

km 33 apparently declared that they would move away from the road only if W was to be with them, and this in spite of the fact that the FUNAI personnel had already prepared a field for their benefit near Castanheira. The case of W and his family shows that it is possible for positive, harmless interaction to exist between Brazilian smallholders and Indians.

The plan outlined by the Yanoama Project for the Yawarib was, then, to try to attract the Indians away from the road. Nobody seemed as capable of convincing them to do that as W, who had deservedly gained their confidence. In January 1976, W and a team of four Project members began work on a new village at Humaitá. This location was especially strategic for three reasons: 1) it was far from the road; 2) it provided a vantage point for inspection of possible intruders by river into the Indian area; and 3) it already contained one or two gardens made by the Yawarib of km 33 when W was still there. A start was made on building new houses and preparing new fields. Already by that time, members of the Project team reported a cultural recovery of the Indians, and a visible improvement in their morale, though this was hardly recognizable to me. The Castanheira Indians willingly moved to the new location and other Yawarib were expected to follow. Circumstances which will be described below put a stop to the Humaitá plan before it had a chance to establish itself and gather momentum to continue without encouragement from outsiders.

THE OPIKTERI

In late 1974 these Yanoama built a traditional style round, communal house about an hour's walk to the south of

the road at km 130, having abandoned their previous location on the Pacu river, about 10 kilometres away from the highway. In mid-1975 their population was around 58 people, including the 19 Nainashiuteri Yawarib. Because most of their young men spent the dry season of 1974 hunting jaguars for a Brazilian, they did not make new gardens at the appropriate time of the year. Their old fields, now yielding, were said to be too far away for food to be conveniently carried home.

With the arrival of the construction teams, most of the Opikteri turned to a life of what might be called "road-side nomadism". They spent their time going from one work camp to another, covering distances of 50 kilometres or more. They developed the technique of standing across the road, making a human barrier, to force drivers to stop in order to ask them for food, clothes, or just a lift.

It seems that this fascination with the road and all it represented has had the effect of splitting the leadership of the Opikteri. The old leader is still respected by the more traditionally oriented members, while the younger road-seekers follow one of the old man's sons.

Although the Opikteri were never seen naked like the Wakatauteri or other Indians of the Catrimani river valley, they wore clothes at different stages of decay, and there was even a helmet of Camargo Corrêa, the construction company, which circulated from head to head (as in the picture on the dust cover of Bourne's book, 1978).

In March 1975, they made new fields in their new site, but it would be six months before these would produce. And so the Opikteri, always complaining of hunger, begged for food at the construction camps, on the roadside, at the Wakatauteri village, and took to stealing produce from the mission field, a short distance from the road at km 146. Game and forest products helped their food situation, but there was a serious threat of malnutrition, particularly

among the women and children.

Unlike Indians of other Yanomam villages, the Opikteri were spared by the measles epidemic of mid-1974; they also benefitted from the vaccination program carried out by the missionaries at Catrimani. There were, however, very serious health problems. Besides malnutrition which was observed in several children, the group as a whole had suffered at least one major influenza epidemic, which led to seven cases of bronchitis and two of pneumonia. The pneumonia-stricken were taken to a hospital in Boa Vista, along with a Nainashiuteri woman who had contracted tuberculosis.

I visited the three at the "Indian Ward", a FUNAI division within the main hospital in Boa Vista, and was shocked. The "Ward" was but one small room with three bare mattresses, filthy and torn, on the floor, and a Yanoama lying on each. The tuberculosis patient was so thin that the nurse, obviously inexperienced, could not get the needle into her vein for the application of blood serum. The liquid was collecting under her skin producing a big ugly lump. The woman was too weak to sit up, and, not knowing a word of Portuguese, she waited helplessly for something to be done. The other two Indians, a couple, speaking to me in Yanomam, insistently asked for hammocks, tobacco (to be used Yanoama style, not as cigarettes), and bananas. I managed to get them the bananas and tobacco, but could do nothing about hammocks because the room was not fitted with hooks (which is surprising in that part of the country where most people, even in hotels, sleep in hammocks). The door was wide open, and curious Brazilians - both patients and hospital personnel - crowded around to stare at the Indians. These were the deplorable conditions under which the woman with tuberculosis was put, instead of being given special care, isolated from other patients.

This woman, together with the Opikteri couple, was discharged after a week's treatment in Boa Vista and sent by FUNAI to the Catrimani mission to continue with two months of injections, as no one at the Ajarani outpost knew how to administer them. There had been a young woman there with the functions of a nurse, but soon she returned to Boa Vista alleging health problems. We were later informed that this woman had, indeed, worked at the hospital, but as a kitchen hand, not as a nurse.

The doctor who worked for the Camargo Corrêa company, and always showed great interest for the Indians, examined the Nainashiuteri woman and confirmed that her condition was still highly contagious. As a consequence, this poor woman was moved around from mission to outpost, back to the mission, back to the outpost. A few minutes after her first arrival at the mission, from the hospital, she tried to walk back to her village, a good 35 kilometres away. She was picked up by the FUNAI van and taken to Ajarani, where the risk of contagion of other Indians was perhaps not so great as at Catrimani. After three days she fled and returned to her village. Three days later, she was taken back to Catrimani, this time willingly, where a shelter was built for her at the mission, a short distance away from the Wakatauteri communal house. The locals were instructed to keep away from her because of her dangerous illness, and by and large our advice was taken seriously. She was being treated by the missionaries, by Nicholas Cape and by Bruce Albert, a French anthropologist in the field at that time. At the end of 1975 her treatment was continued by Yanoama Project personnel at Ajarani. The last time I saw her was in Boa Vista, where she had been sent for a medical check-up. She was evidently recovering rapidly and had put on a healthy amount of weight.

Two of her children, approximately 5 and 6 years old,

had been living with her all this time and later had to be hospitalized in Boa Vista for suspected tuberculosis. There is, of course, a great risk in taking Indians to hospital in town, as the doctor who treated the two children was quick to point out. Given their lack of resistance to contagious diseases, Indians with the immunological fragility of the Yanoama are more vulnerable than ever in the context of a hospital amidst illnesses of all kinds. Thus, this doctor was eager to have them taken away and to finish their anemia treatment back home, before they caught a worse disease. Indeed, the consequences of taking Indians to hospitals can be devastating, as we will see later in this report. The ideal solution would be, of course, to have a hospital for the Indians in their own territory, equipped with the necessary medicines and facilities but also suited to their way of life, such as the use of hammocks already mentioned (lying flat on the ground or in bed is considered by them to be non-human and uncomfortable).

THE WAKATAUTERI

These are the Indians who have benefitted most from the presence of white assistance in the area. Catrimani is a Catholic mission established in 1965 and run by the Italian Order of the Consolata. The main concern of these missionaries is to provide medical assistance and to maintain the Indian way of life as close to their traditions as possible. This they have largely achieved in spite of the intrusion of the road only three kilometres away and the tremendous strain brought about by the constant presence of outsiders during all the phases of road construction. The construction companies made intensive and practically uninterrupted use

of the mission airstrip for areal supplies of men, food and goods while the initial trail was being cut into the forest. Wakatauteri Indians were soon busy carrying loads of goods to teams spread along the yet unopened line of the future highway. In the process, they were infected with influenza and measles. In 15 months, as of the arrival of the trail, the Wakatauteri suffered 15 influenza epidemics, or one epidemic per month. As is well known, among Indians influenza tends to escalate to more serious respiratory diseases. Between the end of April and beginning of May 1975, for example, four people were treated at the mission for pneumonia, ten for bronchitis and twenty five for common cold.

In June 1974, the first symptoms of measles appeared among Indians at the mission who caught it from two infected road laborers. Eventually the entire village became ill with it before vaccines were sent to the mission. Thanks to the intensive medical care provided by the missionaries, there were no deaths among the Wakatauteri, but there were two miscarriages. Further up river, however, at Makudasihibiteri village where the Indians do not have immediate access to medical assistance, this epidemic killed at least seven people.

Malaria, which has been endemic in the area for a long time, has taken on epidemic proportions. Deforestation and the creation of large pools of stagnant water by the roadside, both the result of highway construction, have produced new breeding grounds for the vectors, thus contributing to the dramatic increase in the incidence of malaria since early 1974. Moreover, the large number of people who then circulated in the region inevitably multiplied the chances of transmission of this disease. During the week of the 2nd to the 9th of June 1975, for instance, seven cases of malaria were treated by the mission personnel. In April of that year a girl was stricken so severely that she had to be taken to hospital for treatment; it turned out to be a combination of malaria and hepatitis, a complication that also became quite



6. House construction at Wakatauteri village.
(Photo: Alcida R. Ramos)

common among whites.

The mission records show that before the road construction, a monthly average of 150 Indians were treated for various health problems by the missionaries. In June 1974, at the peak of the measles epidemic, 575 treatments were dispensed at the mission. In the months of April, May and June 1974 together, they provided 1,348 treatments, whereas before the average was 1,350 for every nine months.

When we arrived at Catrimani in February 1975, the 42 Wakatauteri were recovering from yet another flu epidemic. Their communal house was so old that it had been abandoned and they were living in temporary shelters about 200 metres from the mission houses. A new conical house was built in the following two months. Two days after our arrival, the mission grounds were packed full of tents of all shapes and sizes belonging to the 90 some members of the Project RADAM and the Brazilian Air Force. Using Catrimani as their base, for the next ten days, they flew every day to different points in the region, as part of their survey of mineral resources. Although the men by and large kept away from the Indians, the pandemonium generated by such (relatively) massive numbers in the small context of the mission, their unceremonious demands on the mission facilities, and the constant flow of five helicopters and three or four airplanes, were simply overwhelming. I had a taste of what it must have been like some months earlier, when the road builders arrived and turned the tranquil routine of the mission into complete and utter chaos.

Apart from that, few days went by without the strangest of visitors appearing at Catrimani, from military men taking a break with relatives, to young "Jesus freaks" on motorcycles bringing the gospel (in English) to the Indians. The mission is in fact relatively secluded, three kilometres away from the road. There are two large FUNAI signposts, one



7. RADAM encamped at Catrimani Mission.
(Photo: Alcida R. Ramos)



8. House construction at Wakatauteri village.
(Photo: Alcida R. Ramos)

at Ajarani and the other at the intersection of the highway and the mission access road (where the mission also has its own sign) prohibiting the entry of unauthorized persons into the Indian area. Even so, there was a constant flow of visitors. Almost every day, some of the construction workers would inevitably appear at the mission asking for bananas, for lemons, even for drinking water, and often tried to walk down to the communal house to "have a look at the Indians".

One night a Camargo Corrêa jeep appeared bringing one of the Yawarib girls who had been at São Marcos ranch after treatment for venereal disease. The driver had found her in a workers camp among drunken men, and to avoid any serious trouble, brought the girl to the safety of the mission. The missionaries happened to be away at the time and Nicholas Cape and I had to make arrangements for her to spend the night at the Wakatauteri communal house, practically against her will. There, in a mission hammock tied near ours, she endured the jokes and mockery of a local old man.

While the new house was being completed, a team of FUNAI top officials from Brasilia paid a visit at the mission. They were shown around, asked questions, and engaged in trade. A high-ranking official prompted me to get some technical information on house construction on his behalf from an Indian who was busy weaving roof leaves. I spoke, as usual, in Yanomam and was asked with some annoyance by this FUNAI man why I had spoken in their language and not in Portuguese. Considering that the official policy is to preserve the Indian languages through bilingual instruction, I found his question rather strange and alarming. On that same occasion, the official FUNAI photographer succeeded in annoying both missionaries and us by attempting to distribute rubber balloons, toy whistles and metal crucifixes as presents for the Indians, in a blatant display of the attitude that Indians are like children.

The Wakatauteri maintain their life style virtually unaltered. They made a very sharp contrast with the Yawarib as we saw them at Castanheira, and although they spent a great deal of time visiting the construction camps, they have not fallen into the undesirable situation in which the Opikteri found themselves. An indication of the healthy state of their cultural life was the way they reacted to our language learning; it was not only accepted, but indeed stimulated by the Indians. Informants were always willing to cooperate and, like all other Wakatauteri, showed great patience in teaching us their language. Living with them in their temporary shelters and later in the big communal house was a reassuring experience which can only lead to praise of the missionaries' work. In spite of the enormous pressure from outside, they have succeeded in saving the Wakatauteri from the fate that trapped the Yawarib and the Opikteri.

Less regularly the missionaries extend their medical assistance to other villages, particularly one called Kashibiuteri or Makudasihibiteri, which is located upstream on a tributary of the Catrimani river, about 9 hours' travel by canoe and foot. There is intensive contact between this village and Wakatauteri, and the visiting done by the Indians frequently results in the spread of epidemics. When that happens, the missionaries always try to get there with medicines. However, this intermittent assistance is not always sufficient to prevent serious illness or death in that and other remote villages.

THE YANOAMA PROJECT (OCTOBER 1975 - FEBRUARY 1976)

Although the Yanoama Project was approved in principle by FUNAI in early December 1974, funds were not released until September 1975. Only a fraction of the money originally budgeted was finally released. The originator and coordinator of the Project, the Scottish anthropologist Kenneth I. Taylor, had to readjust the plans as best he could, by concentrating on the top priorities as dictated by the seriousness of the problems that were being faced by the Yanoama. The Project, defined as a scheme to provide assistance for all the 6,000 (the figure taken to be correct at the time) Yanoama living in Brazil, had to focus on two specific areas: the Surucucu region, affected by mining operations, and the 200 or so kilometres of Perimetral Norte, covering the several Indian settlements discussed here. We now know, from the areal survey done by FUNAI in June 1977, that there are at least, 8,300 Yanoama in Brazil, the great majority in Roraima. Their population in this Federal Territory is thus much larger, perhaps triple the 2,800 Yanoama reported by Migliazza for Roraima (1978:8).

The original plan was to organize a mobile health team (doctor, dentist, nurse and nurse's aid, following the model dictated by FUNAI) that would provide medical care to the several villages. A vaccination program was also outlined for the two most critical areas, and this included whites who were coming in or were already there, and eight nurse's aids were to be located in key villages. At the same time, a mobile team was to maintain constant surveillance of the road, as a means of controlling Indian-white interaction. Specifically for the Yawarib group, the Humaitã plan mentioned above was to be carried out immediately.

The main obstacle for the Yanoama Project was its tight affiliation with FUNAI. Bureaucratic tangles which have been a constant feature of the Indian Foundation prevented the health team from ever materializing. The vaccination program for the Yanoama was effectively blocked by the refusal of the Regional Delegate in Boa Vista to "lend" paramedical personnel to the Project. In fact, the Project was consistently hampered in its work by complete lack of co-operation on the part of the Delegate and his staff.

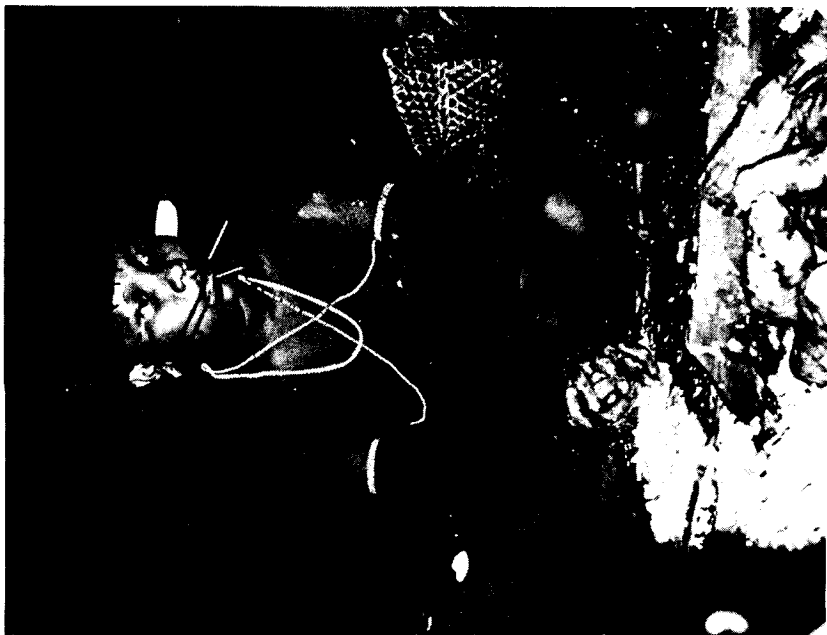
Under these limitations, Project members, recruited in Brasília, concentrated on the few lines of action still open to them. For the road, the Project had its base at the Ajarani outpost, now with a new manager selected by the Project coordinator. Where the initial policy at Ajarani sought to attract Indians to the road, the new program encouraged them to keep away from it. There was, then, the need to be mobile, if the Indians were to be protected at all. The major concern was to keep the road team active on the highway by driving up and down its finished stretch, visiting the work camps and construction teams. The Project members made a point of speaking to road workers, from engineers to laborers, giving them instruction on how to treat the Indians and what would be harmful to them. Their policy was to try to gain the goodwill of the workers, rather than antagonize them by harsh actions. As well as controlling the movements of the workers with regard to the Indians, the Project team also regularly visited the various Indian villages of the region.

Already in June 1975, a check-point, with a gate provided by Camargo Corrêa, was set up to close the road at Ajarani, allowing only authorized vehicles to pass. The managers of the construction company were increasingly nervous about several incidents that had occurred among the workers and that had been sparked off by the smuggling of alcoholic

drinks and the entry of white prostitutes into the work camps; one death had already been reported. In this way, and for different reasons, the check-point served both the interests of the company and those of the Project. But it was not until November 1975, when the Project took over the running of the Ajarani Indian Post that effective inspection began. Checks were made as to the identification of the driver and passengers and the cargo transported.

Trade goods, practically non-existent at Ajarani before the Project were now used in an attempt to discourage the Indians from begging on the road. But the most effective way in which this was accomplished was by stimulating the Indians - in this case the Yawarib - to move away from the roadside. With the collaboration of W, the Brazilian small-holder who had been at Castanheira, the Project team and some Indians selected the site for a new village at Humaitá, and began house construction and field clearing soon afterwards. For two weeks, four Project members were enthusiastically engaged in this scheme.

A sudden turn of events brought all these efforts to a halt. In Brasília, FUNAI declared that it had received orders from superior authority to stop Kenneth Taylor from working in Roraima, allegedly due to his being a foreigner in the frontier zone, by definition a "national security area". At the end of February 1976, when Taylor's one-year contract expired, FUNAI refused to renew it. Meanwhile, the Project members, both at Surucucu and at the Perimetral and Humaitá, went on working in increasing isolation and subjected to harassment by government officials, until finally they too had to leave the area. Subsequently, some of these young people made several requests to FUNAI to be allowed to continue the Project, but they were systematically denied. After four and a half months in the field, the work of the Project was forced to end.



9. Manioc grating during festival at Wakatauteri. (Photo: Bruce Albert)



10. A Wakatauteri Indian during a festival. (Photo: Alcida R. Ramos)

RECENT INDIAN POLICY AFFECTING THE YANOAMA

Since then the situation on the Perimetral has worsened considerably. The policy of "attraction" is back in full force. The Humaitá plan has been discontinued and the Indians attracted back to the road. The Yawarib now spend most of their time at the neighboring sawmill; an Indian from km 33 is said to have been induced to drink so much cachaça (a type of rum) there, that he lost control of his actions, fell on an open fire, was very seriously burnt and had to be taken to hospital for many months of treatment (Information contained in the document presented to FUNAI by Consolata missionaries submitting a proposal for the creation of Indian reserves in the Catrimani area, 10 August 1978).

A notorious FUNAI man, who had managed the Ajarani outpost for a short while in 1975, is reported to have set up an "attraction" post in the abandoned construction camp at km 211. Besides "attracting" Yanoama Indians, this post was also being used as a "Penal Colony" for Macushi and Wapishana Indians who were brought down from their villages in the open country to the north of Boa Vista (see Migliazza 1978 for a discussion of the present situation of these savanna Indians). It was reported that Indian labor on the post plantation was exploited without pay (Jornal de Brasília, 2 April 1978). It is encouraging to know that thanks to the publicity given this case by the Brazilian press this penal colony has been dismantled and the man in charge removed from the area.

In his book ASSAULT ON THE AMAZON, Richard Bourne says the following:

"Not all the effects of the road-building have been bad for the Indians, and some of the bad ones have been shortlived. Access to isolated FUNAI and Indian mission posts has improved, making it possible to get medical help to Indians more quickly. At Catrimani, in the Yanomama tribal area affected by the Perimetral Norte, it used to take three weeks to reach a mission station by river. Now it is possible to drive. In the same region, on the Ajarani river, all the Indians in one village were so overwhelmed by the arrival of the road-builders that they abandoned their slash-and-burn system, and failed to sow their crops at the right time. But, by the time the construction teams had moved on, they had recovered and were able to feed themselves again." (1978:235).

I can only disagree. For one thing, the above statements ignore the fact that 22% of the Ajarani Indians died since the beginning of road construction. And, although the road workers are no longer there, the presence of the highway continues to affect the Indians in many and most damaging ways. Since 1976 it has been known that there is an official plan to colonize an area well within Yanoama territory along the Perimetral. This plan is now under way (Jornal de Brasília, 1st October 1978). INCRA (National Institute of Colonization and Agrarian Reform) is delimiting an area of about 55 kilometres from the Ajarani westwards, extending as far north as the Apiaú river, that is, almost all the Yawarib territory north of the highway.

If the road, as Bourne points out, has provided easy access to remote Indian villages, it has also served to spread epidemics in disastrous proportions. In 1977, the

Brazilian press reported a measles epidemic among the Yanoama (Folha de São Paulo, 18 May 1977; Veja, 25 May 1977. See also Migliazza 1978:18-19). According to Veja (10 August 1977), the disease was brought into the area by a Wakatauteri Indian who, given the new facility of transportation, had been taken by a Catrimani missionary to a hospital in Boa Vista for another health problem. While in town, he was infected with measles but, without showing any outward symptoms, he was brought back home, also quickly by road. The measles soon spread from village to village, reaching Indians who had not been vaccinated; now completely out of control, 67 people eventually perished. The epidemic reached four villages in the headwaters of the Catrimani, in the Lobo D'Almada area. Of a total population of 133 people, precisely half were wiped out².

After all these years, during which the Yawarib have been decimated, the Opikteri have been turned into beggars and only the presence of the much-abused Catrimani mission saved the lives of the Wakatauteri, one would have expected FUNAI to have recognized the urgent need to guarantee the survival of the Yanoama still left both in the Perimetral area and in the rest of their territory by ensuring the effective protection of their lands, to which they are entitled by law, and by providing effective medical care. However, what we see is that not only the Perimetral area, but the entire Yanoama territory in Brazil is on the verge of being chopped up in small, discontinuous areas. By means of a series of decrees (Portarias No. 477 of December 1978; No. 505/N of May 1978; No. 512/N and No. 513/N of July 1978) FUNAI has delimited no less than 21 areas, 15 in Roraima and 6 in the State of Amazonas, for the Yanoama Indians. These areas range in size from 10,000 to about 450,000 hectares. Their common feature is that they are small islands which fragment the unity of the Indian territory, with intervening open spaces that make possible, or indeed encourage, encroachment by whites. If the intention is to protect the

Yanoama way of life - their economic system which requires large hunting grounds and sufficient good land for their slash-and-burn agriculture, their social system which includes extensive visiting between distant villages - then these 21 areas can hardly be considered a solution to Yanoama land problems. If FUNAI is to practise what it preaches, that is, the protection of the Indians and their cultures, then what is needed for the Yanoama is a continuous area (preferably on both sides of the international frontier, which would involve the cooperation of Venezuelan authorities) which will allow the Indians to lead their lives without the constant threat of being invaded from all sides by settlers, miners or agribusiness corporations (for an evaluation of these 21 areas and the suggested solution to Yanoama land problems, see Taylor 1979³).

While a few, but by no means all, of the Yanoama Indians in Brazil have been vaccinated against tuberculosis, meningitis, and measles by the health authorities and by missionaries in several parts of their territory, FUNAI itself has never carried out any vaccination program, perhaps due to lack of funds. Unless this is done immediately and thoroughly, either by FUNAI itself, or by other national or international bodies, many more Yanoama lives will be unnecessarily lost, repeating the tragic events recently reported on the Yanoama of the Maiã river in the State of Amazonas. In the month of June 1978, near a FUNAI post that has been closed down, 100 Indians died of malaria and tuberculosis before any kind of medical assistance was taken to their village (CIMI Bulletin No. 48, Brasília, July/August 1978).

Before the health and land problems of the Yanoama are adequately solved, we cannot expect to see any change in the conditions that have been consistently killing them off for nearly a decade. If decimation continues at this rate, soon the figure of 8,300 for the total population of the Yanoama will be one more historical "statistic", corresponding no longer to reality. Far too many such statistics already exist

in the history of Indian contacts with whites.

I believe, however, that pressure from abroad still has a chance to influence the authorities in Brazil (and in Venezuela) to reach an adequate and rational solution to these problems. International concern for the destiny of the Yanoama, who have the legitimate right to live as a separate ethnic group, is needed now, more than ever.

NOTES

1. I am deeply grateful to Bruce Albert, Claudia Andujar, Shelton Davis and particularly to Kenneth I. Taylor for their very important comments and contributions to this paper. However, under no circumstances should they be held responsible for what is expressed here.
2. These demographic data were provided by Bruce Albert who has spent nearly one and a half year among the Yanoama of the Catrimani region and has visited all the villages affected by this measles epidemic.
3. As a matter of clarification, I would like to correct a statement made by Ernest Migliazza in his recent IWGIA paper, which says: "The project for a Yanomama reserve (Catrimani Area) which could have probably saved some Yanomama, was initiated on December 6, 1968 by Kenneth Taylor and Alcida Ramos, University of Brasília anthropologists. In 1968, it was published by FUNAI. Later in the same year a bigger reserve for the Yanomama including the Parima area was proposed. Time passed and what seemed to be an accepted proposal by the official agencies, was forgotten. When inquiries were made, the FUNAI replied that the proposal could not be found." (1978:19). There were, indeed, those two proposals for Yanoama reserve, and at least one other, appallingly uninformed, prepared by FUNAI personnel in Brasília in 1972 (see Taylor 1978). However, the authorship and dates supplied by Migliazza are not quite correct. One proposal, submitted to FUNAI by Taylor and me on 6 December 1968, covered a much larger area than just Catrimani; the other, specifically for the Catrimani area, was submitted to FUNAI by the Consolata missionaries of the Prelazia de Roraima in mid-1969. It was the former which, so it seems, got lost, although FUNAI never responded to either of them.

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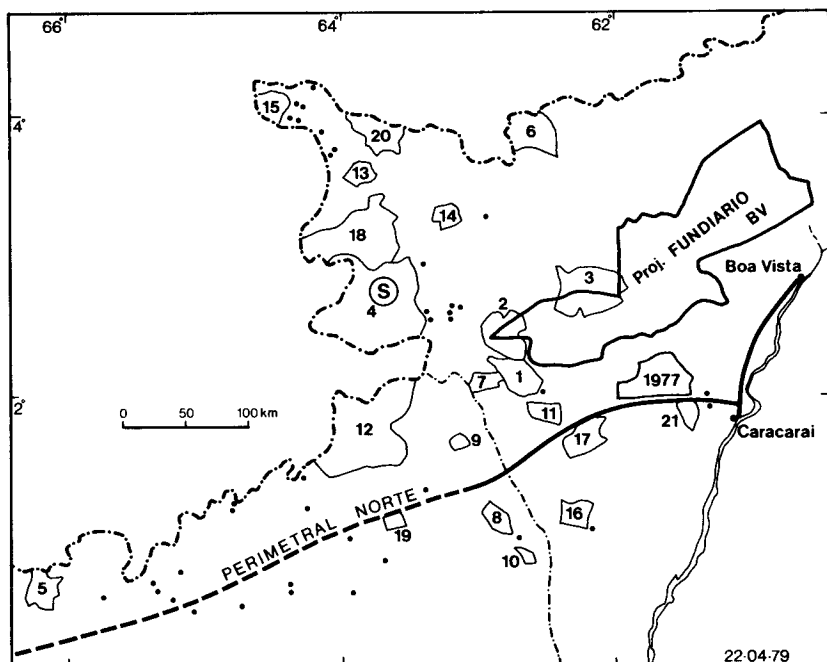


11. Forest scene, upper Catrimani area.
(Photo: Bruce Albert)

Kenneth I. Taylor

DEVELOPMENT AGAINST THE YANOAMA
The Case of Mining and Agriculture

April 1979



Map 2-1. Yanoama territory and the 21 areas of FUNAI's proposal.

FUNAI's 21 areas:

- | | |
|------------------------|---|
| 1. Lobo D'Almada (I) | 16. Pacu |
| 2. Serra da Estrutura | 17. Catrimani |
| 3. Mucajaí | 18. Parima |
| 4. Serra dos Surucucus | 19. Gurupira |
| 5. Maturacá | 20. Aracaça |
| 6. Uraricaá | 21. Ajarani |
| 7. Lobo D'Almada (II) | |
| 8. Matapi | • Maloca left outside FUNAI's 21 areas. |
| 9. Mapulaú | 'S' Surucucu plateau and cassiterite mining site. |
| 10. Ajuricaba | |
| 11. Jundiá | 1977 Area, in Ajarani valley, ceded to INCRA by FUNAI, in 1977. |
| 12. Tototobi | |
| 13. Uraricoera | |
| 14. Cutaiba | |
| 15. Auaris | |

INTRODUCTION ¹

In the early 1970's a new phase in the invasion of Yanoama territory was begun. It was the direct result of government policy encouraging especially three development activities. These are: highway construction; mineral extraction; and agribusiness. The first of these, in the case of the Yanoama area the construction of the Perimetral Norte highway, was an aspect of the massive highway programme in Amazonia which began with the better known Transamazônica highway. This was the Programme of National Integration (PIN) announced by President General Medici on the 16 June 1970. A second aspect of PIN, the RADAM Project survey of mineral and other natural resources also affected the Yanoama area. RADAM discovered radioactive minerals at Surucucu, within Yanoama territory. Further prospecting in

the area led to the discovery of cassiterite.

PIN was inherited and continued, although with lessened intensity, by Medici's successor President General Geisel. During Geisel's government (1974-1979), however, there was a change of policy regarding the agricultural colonization of Amazonia. Instead of the encouragement of settling of the sides of the new highways by smallholders, subsistence farmers, the emphasis switched to large-scale projects especially for cattle-ranching. This was the Polamazonia programme. In various parts of Amazonia, 15 areas were designated as development "poles". In Roraima, the area was to be that part of the Territory "west of the Rio Branco and north of the Catrimani River". That is where many of the Yanoama are found. Apart from a navigation improvement and hydroelectric scheme on the Rio Branco itself, the activities of the Roraima "pole" were to be mining and cattle-ranching (Jornal do Brasil, 20 September 1974 and 26 September 1974; cf. Brazilian Embassy 1976:11-13).

The impact of the Perimetral Norte highway construction programme is discussed in Ramos' article "Yanoama Indians in north Brazil threatened by highway", in this volume. Here I discuss the effects of prospecting and mining of minerals in the Surucucu area and of agricultural development projects (Projeto Fundiário Boa Vista) in the eastern half of Yanoama territory (see Map 2-1²). The scale of these operations, whether in terms of the modern technology used or the number of people involved, vastly exceeds anything known before in Yanoama territory. They are being, or will be, carried out by large companies and corporations benefiting from generous fiscal incentives or direct government financing and every kind of governmental encouragement. The impact on the Indians has been and will be correspondingly more harmful than anything seen before.

In each case, moreover, we see the violation of the rights of the Indian population by whichever developmental

agency is involved. Whether it be free-lance prospectors and placer miners, a small local mining company or a large state-owned mining corporation, the Government of the Territory, the Ministry of Agriculture, the Ministry of the Interior, the Ministry for Mines and Energy, or the Ministry of Transport (Department of Roads and Highways), invariably the Indians' rights to their land and to the exclusive use of its natural resources are ignored and their physical survival is put at risk. These rights are supposedly guaranteed to the Indians by the Federal Constitution, by the "Indian Statute", and by other laws. But, in the Yanoama case, we see that at every level of Brazilian society the Constitution and these laws are disregarded.

FUNAI (the National Indian Foundation, a division of the Ministry of the Interior) is the federal agency responsible for the protection of the Indians and of their rights. By law, FUNAI has the obligation and the power to control the course of events and to take action on behalf of the Indians. In practice, FUNAI is either unwilling or finds itself unable to help the Indians in any way. While FUNAI withdraws into the role of a mere spectator when it does not, in fact, connive at the injustices and illegalities which occur, the Indians lose their lands, their resources and their lives.

In the social and cultural disruption and in the deaths due to the transmission of Western diseases, which have already occurred, we see the first phase of the decimation of the Yanoama. We are no longer talking about a safe situation which is coming under threat. We are no longer talking about a large population occasionally suffering the effects of a disease epidemic in one or another part of its territory. Those days are past. What we now see is that the extermination of the Yanoama has already begun, they are already being wiped out.

MINING AND THE YANOAMA

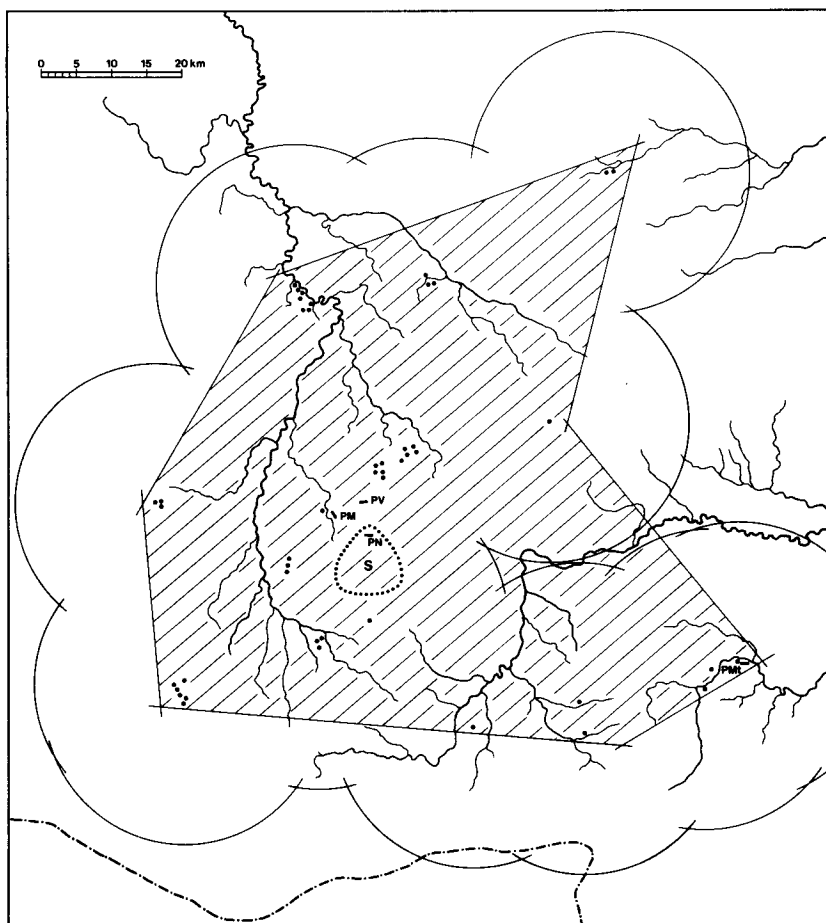
The Surucucu area, which lies close to the border with Venezuela, in the extreme west of Roraima, is the mountainous heartland of Yanoama territory. The Serra dos Surucucus itself is in fact a plateau, 20 km by 15 km approximately, 1,000 metres in altitude, bounded on the west and south by the headwaters of the Parima and Mucajaí rivers, tributaries of the Rio Branco. It is the one interruption to the continuous cover of tropical rain forest, in that part of Roraima. The top of the plateau is part open grassland and in part covered by a homogeneous growth of relatively low, bush-like trees. To leave the plateau, in any direction, is to climb down into the forest, into a most difficult terrain cut by innumerable small streams which are separated by a series of steep and narrow ridges of relatively higher land. For years it was one of the most isolated parts of Roraima.

In 1963 the Unevangelized Fields Mission and the Brazilian Air Force (FAB) arrived at Surucucu. A landing was made by small FAB plane. An airstrip was then opened and a mission established. After a year or two the mission moved to a new location and built a new airstrip down in the forested area immediately to the west of the plateau where there were, at that time, several Yanoama villages. For 12 years, under the watchful eye of FAB, the mission, its personnel and its visitors were the only outsiders in that part of Roraima.

In January and February 1975, RADAM discovered radioactive minerals on a hillside between the mission and the plateau. The Minister for Mines and Energy declared the area open to mineralogical survey. What had been a more or less closed area under the control of the Air Force was blown wide open by this discovery which, inevitably, was considered to be of national security interest and strategic importance. The Minister for Mines and Energy paid a personal visit. The German Ambassador was given a guided tour. The Governor of Roraima, Col. Fernando Ramos Pereira, made enthusiastic pronouncements about the wealth that was waiting to be mined in the mountains of Surucucu. Not only uranium, he said, but gold and diamonds and who knew what else besides.

When he was interviewed in Brasília, on the 28 February 1975, the Governor also said that, in his opinion, "an area such as that cannot afford the luxury of half a dozen Indian villages holding up development" (Jornal de Brasília, 1 March 1975, my translation). He was speaking of the Surucucu area where 4,500 Yanoama Indians live. In his Official Note of the 4 March 1975, published following the predictable outrage of the press and of FUNAI, the Governor stated that in an area around Surucucu, "of radius of approximately 150 km, within this area... four or five villages were located, which yields a population estimate of 300 to 500 Indians" (Jornal do Brasil, 5 March 1975, my translation).

In fact, the Surucucu area is much smaller than that referred to by the Governor. It is of a radius of only 65 km and in that area FUNAI's aerial survey of June 1977 located 74 malocas³. Apart from the fact that one third of it would be in Venezuela, an area of 150 km radius would, in fact, take in Yanoama occupied territory of the Upper Demini and Tototobi river valleys, the Lobo D'Almada in the Catrimani valley, the Uraricoera, Aracaçá and lower Auaris



Map 2-2. The Surucucu area.

pv	Pista velha	= old airstrip
pn	Pista nova	= new airstrip
pm	Pista da missão	= mission airstrip
pMt	Pista Marashiteri	= Marashiteri airstrip

dotted line	= mining site
hatched lines	= area surveyed
arcs of circles	= 20 km radius around outermost malocas of the 46 plotted (was an estimate of the minimum area required by these malocas).

river valleys, as well as the Surucucu area itself. According to FUNAI's 1977 aerial survey, there are no less than 113 malocas in this area! The figure of 150 km cited by the Governor is recognizable as the radius of action (of "flight autonomy" in Brazilian Air Force jargon) of the larger of the two kinds of helicopter used by RADAM. But RADAM knew that there were numerous Indian villages in the area. Later in 1975 it published its map showing these villages. The Governor, moreover, knew Migliazza's map of 1970 (I saw it in his office in February 1975) which shows at least 39 villages (or maloca clusters) in the Surucucu area.

One curious fact may have contributed to the Governor's thinking that he could get away with this misrepresentation of the facts. In 1942, according to the Boundary Commission map, there was an Indian maloca some 35 km due east of the Surucucu plateau. But in 1975 it was possible to fly from Boa Vista, west to Surucucu, without passing over a single one of the 74 malocas of the area. To the north, the west, and the south there were Indian malocas in large numbers and in some places in dense concentrations. Only 5 km (just over one minute's flying time) to the northeast of the principal airstrip on Surucucu plateau, there was a concentration of 10 malocas. The Surucucu plateau and the mission some 5 km to the west are almost exactly in the middle of the area occupied by the Indians, but on the direct line of flight from Boa Vista to Surucucu there is not a single maloca (see Map 2-2). On that flight, by small, single-propeller aircraft, after some 20 minutes you cross the beginning of the forest. Some 45 minutes from Boa Vista you pass over the Mucajaí mission and probably see two or three of the nearby malocas. But from there to the Surucucu airstrip it is 45 minutes of uninterrupted forest without a sign of Indians. When the Minister for Mines and Energy and the German Ambassador were taken there, it is quite possible that they landed and took off from Surucucu without seeing a single Indian maloca.



12. The first cassette tape at Surucucu, 23 March 1975.
(Photo: Kenneth I. Taylor)

The Governor, however, was in a position to know better. He went there, himself, more than once, so he must have seen at least some of the Indian villages. He had, moreover, a statutory obligation to act in protection and for the benefit of the Indians of his Territory. Article 2 of the Indian Statute (Law 6001 of 19 December 1973) states:

"It is the duty of the Union, the States and the Counties (municípios), as well as the agencies of the respective indirect administrations, within the limits of their competence, for the protection of the native communities and preservation of their rights, to: ...

II - Furnish assistance to the Indians and native communities, even though they are not integrated in the national communion. ...

IX - Guarantee the Indians and native communities, in the terms of the Constitution, permanent possession of the land they inhabit, recognizing their right to exclusive usufruct of the natural wealth and all the utilities existing on that land. ..." (FUNAI's official translation, March 1974).

While his reasons were obvious enough and, in a very definite sense, understandable, the Governor of Roraima would seem to have been in defiance of the law when he persisted in denying the presence of thousands of Yanoama Indians in the Surucucu area.

Four weeks after the announcement of RADAM's discovery the first six garimpeiros⁴ were already at work in the Surucucu area. They found cassiterite, a kind of tin. On 23 March 1975, Alcida Ramos and I, as members of a FUNAI work-group, met these prospectors at Surucucu mission. They showed us their samples of cassiterite. They were warned by the work-group that they were in an Indian area and should stay at the mission in order to speak with the President of FUNAI, General Ismarth de Araújo Oliveira, who was due there

the following day. FUNAI Portaria 120/N of 5 July 1973 makes entry to an Indian area dependent on authorization by the President of FUNAI and specifies the conditions for such authorization. Article 44 of the Indian Statute makes it illegal, for anyone other than the Indians themselves, to carry out placer mining (the garimpeiro's technique) on Indian lands.

On 24 March 1975, General Ismarth met the six garimpeiros. That same day, when I expressed my astonishment that he had done nothing to have these prospectors removed from Surucucu, he excused himself by pointing out that it was still not formally defined as an Indian area.

On 31 March 1975, I submitted a series of recommendations to the Presidency of FUNAI. Included in these recommendations was the delimiting of one large Indian area, to take in the Yanoama lands of Auaris, Surucucu, Cauaboris, Padauari, Demini, Catrimani and Ajarani, and of two smaller areas in the Mucajaí and Uraricaá river valleys. By that date, however, the President of FUNAI was taking the position that only when provided with detailed information showing the location of each and every village and of the hunting territories of every village, would he be able to delimit the Indian area. I did not have information in that much detail (to this day nobody does) and there was no reaction to my recommendations.

Between April and October 1975, news reached me in Brasília of an increasing number of garimpeiros (over 200) placer mining the cassiterite at Surucucu, and of the considerable anxiety of the missionaries at Surucucu mission.

That, then, was the situation when the Yanoama Project began work in the area. This Project was for the medical and economic assistance of the Indians and the control of white-Indian interaction on the highway, at Surucucu, and wherever else an invasion of Yanoama territory might occur. I first proposed it to FUNAI in June 1974. It was approved in

principle in early December 1974 but, for lack of available funds, was not formally launched until September 1975. From March 1975 to February 1976 I was on leave from the University of Brasília and working under contract to FUNAI to prepare and eventually coordinate the activities of the Project. On 15 October 1975 I arrived in Boa Vista with four university students and graduates and two young FUNAI Indian Post managers. We began work at Ajarani, on the Perimetral Norte highway, following an eighteen day stay at the Wakatauteri village, close to the Catrimani mission, to introduce the Project staff to the Yanoama and their life-style. At the beginning of November we learnt that a mineralogical survey was to begin that month in the Surucucu area. The company involved was ICOMI which had been in contact with FUNAI about authorization, in June.

At that point, with the illegal cassiterite mining by then a serious problem, I again raised with the President of FUNAI the question of this illegal presence of garimpeiros in the Indian area. I knew that I would be able to use ICOMI's chartered helicopters to visit at least some of the villages of the area. General Ismarth gave me his personal guarantee that if I could provide him with a map simply locating the villages in the immediate vicinity of the mining operation, that would give him the information he would need to declare it an Indian area and arrange for the evacuation of the garimpeiros.

The cassiterite mining was being carried out under the control of a locally formed company which called itself Mineração Além-Ecuador. Its members were various businessmen of Boa Vista and one was a key figure in the whole story, Sr. Brito, the leader of the original group of six garimpeiros who first found the cassiterite. Due to the illegality of their presence - no one ever saw proof of their being a legally registered company and quite apart from having no authorization from FUNAI, throughout most of the period

they had no authorization from the Ministry for Mines and Energy - other companies also sent representatives to look over the situation. On 14 December 1975, at the new airstrip which had been built by the garimpeiros at the mining site, I met a representative of Companhia Estanífera do Brasil (CESBRA) which is owned in part by Compagnie Française d'Entreprises Minières Métallurgiques et d'Investissements (COFREMMI), a French affiliate of the Bolivian Patiño Tin Syndicate (Davis 1977:82). On 13 December 1975 two geologists of the Companhia Industrial Amazonense (CIA) arrived at the site and I met them two days later at the old airstrip at the other end of the plateau. Sr. Brito was with them. By September 1976, this same individual was, in fact, responsible for buying cassiterite from the garimpeiros for this company (Roger Martins Gonçalves, personal communication, September 1976).

Soon after members of the Yanoama Project first went to Surucucu, I was contacted by two members of the Mineração Além-Ecuador company to discuss the question of their unauthorized presence (and unauthorized mining) in an Indian area. I was invited to a meeting with the members of the company to discuss the situation, on 8 December 1975. At this meeting I explained that, according to Articles 44 and 45 of the Indian Statute (Law 6001 of 19 December 1973), mining by the garimpeiro technique, in Indian areas, was illegal and that only sub-soil resources could be mined (presumably by mechanized techniques) in these areas. In other words, that what they were doing was illegal and would only be regularized if they changed to mechanized sub-soil mining of the cassiterite. Although the President of FUNAI had not yet defined Surucucu as an "Indian area", they readily agreed that the situation could best be brought under control if we all proceeded on the assumption that the area was de facto Indian and would soon be officially declared an "Indian area". They knew better than anyone else of the

constant presence of Indians at the mining site. We all agreed that an exaggerated influx of garimpeiros was already occurring, causing problems of all kinds for all concerned. In particular, they were faced with the problem of transporting (by air) sufficient food for a number of men greatly in excess, they said, of those the company itself had made arrangements for. The Project was, obviously, faced with problems of uncontrolled white-Indian contacts and the considerable risk of the transmission of disease. At my suggestion, it was agreed to call a further meeting, for the following day, with representatives of the military, police and governmental authorities of Boa Vista.

At this second meeting, besides Além-Ecuador and the Yanoama Project, the Government of Roraima Territory and the Federal Police were represented. The Air Force sent an observer. The Army explained that its duties did not allow its representation at the meeting but wanted to be kept informed of the results of this and any further such meetings.

The agreements of the previous meeting were confirmed and all parties expressed their willingness to cooperate in efforts to bring under control and to reduce the influx of garimpeiros to Surucucu. Além-Ecuador informed the meeting that, according to its records, no more than 77 garimpeiros had entered the area under the responsibility of the company. We knew that, by that date, there were some 350-400 garimpeiros at the mining site (the company admitted to 200). The problem had to do, it was clear to everyone, with additional flights by planes not authorized by the Air Force, taking in independent garimpeiros. The Air Force representative told the meeting of the limited number of authorizations to local planes for flights to the area and promised to provide me with this information. Minutes were kept of both meetings, and a copy of the minutes of the second meeting was submitted to the President of FUNAI on 27 January 1976.

The sergeant in charge of the Air Force detachment in Boa Vista provided me, by document (Ofício) No. 19/DBV of 10 December 1975, with the information that, apart from the plane and helicopters chartered by ICOMI and the Missionary Aviation Fellowship plane, only three planes (specified by prefix number) were authorized by the 1.^o Comando Aéreo Regional, in Belém, to fly to Surucucu. In mid-December 1975 a member of the Yanoama Project went to the new airstrip at the mining site and another was stationed at the old airstrip near the ICOMI camp, to begin a register of the planes using the Surucucu airstrips.

On 8 January 1976, in document (Ofício) No. 005/76/PY, we informed the Air Force of 16 unauthorized flights to Surucucu by three different planes, which we specified by prefix number, between 21 December 1975 and 3 January 1976. On 16 January I was informed that, as a result, these planes had been banned from Surucucu by the authorities. Nevertheless, six days later the news was that the number of garimpeiros at Surucucu was still increasing and was now over 500.

By helicopter flights on 12 and 16 December 1975 and plane flights on 5 and 9 January 1976, I carried out the aerial survey mentioned above. The area surveyed was approximately 70 kms by 80 kms in extent. Forty-six Indian malocas were located.

In November 1975, Lieutenant Adolfo Kilian Kesselring, then Delegate of FUNAI's 10th Regional Delegacy, in Boa Vista, had told me that, so far as he knew there were only five Yanoama villages in the Surucucu area. This was the same figure given by the Governor in his Official Note of 4 March 1975. On 4 January 1976, Col. Mesquita, recently appointed manager of the Além-Ecuador company which was running the cassiterite mining at Surucucu, told me that a few days before the Governor had said that Surucucu "is not an Indian area." Concerned by these indications that the

Governor was still affirming that Surucucu was virtually empty of Indians, and having been told that he would be visiting that area the following day, I paid him a visit on 9 January 1976. It turned out that his trip of the following day was to be at the invitation of MEVA and that the missionaries had provided him with copies of their maps, submitted to FUNAI in March 1975. The MEVA map of the Surucucu area shows the approximate location of 19 maloca clusters (a total of 45 malocas, as I checked with them at Surucucu in March 1975), with a population of 2,665 Indians. I showed him my aerial survey data with the position of the 46 villages I had located, representing a population of over 2,800 Indians. On 26 January 1976, in a telex to the Director of DNPM (National Department of Mineral Production), forwarded to the President of FUNAI, the Governor recognized Surucucu as being a "region inhabited by forest Indians" (FUNAI file no. FUNAI/BSB/0347/76).

On 14 January 1976, a fair copy map of the results of the aerial survey (reproduced here as Map 2-2), with a formal request that the necessary steps be taken to declare Surucucu an "Indian area", were submitted to the Legal Department of FUNAI in Brasília (a copy of this map was also sent to the Governor on 18 February 1976). Following this and receipt of the Governor's telex, the President of FUNAI ordered the Delegate to arrange, with the Federal Police, for the removal of the garimpeiros from Surucucu. For this purpose a team of FUNAI personnel and Police went to Surucucu on 1 February 1976.

The following day General Ismarth informed me that the whole operation was at a halt because, in the meantime, Além-Ecuador had received authorization from the Ministry for Mines and Energy (this may have been a misunderstanding on his part since on 26 May 1976 FUNAI's senior lawyer told me that no such authorization had ever been received). It was reported that the FUNAI/Federal Police team discovered cases

of tuberculosis and venereal diseases among the garimpeiros. No evacuation was carried out.

On 24 and 26 May 1976 FUNAI's senior lawyer requested my assistance (I was no longer working for FUNAI, but was back at the University of Brasília) in preparing historical information on the time depth of Yanoama occupation of their territory. He was leaving that same week to argue FUNAI's case for the removal of the garimpeiros before a judge in Boa Vista. He was also interested to know quite how long the garimpeiros had been at Surucucu since, if they had been there for more than a year and a day, so he informed me, then by Braxilian law it was going to be much more difficult to remove them! By May 1976 they had been there for a year and two months. If action had been taken in January, following my presentation of the survey data, the period would have been of only 10 months. In fact, the judge recognized that FUNAI's case was valid and conclusive but, alleging that the evacuation of the garimpeiros would cause a serious "social problem"⁵, he said that he could not grant the order requested.

For a number of reasons the garimpeiros, in their own way, treated the Indians well. At first, anyway, that was the case. For one thing, provisions, including food, were in short supply and expensive, since transport to Surucucu was all by plane (one group of 11 garimpeiros are said to have gone there on foot, through the forest, but it took them 44 days - Roger Martins Gonçalves, personal communication, September 1976). One crisis was reached on 1 January 1976 when one of the Yanoama Project members told me, on ICOMI's radio, that there were 60 starving garimpeiros camped at the old airstrip, eating bracken roots while they waited in desperation for food to arrive by plane. In the words of one garimpeiro, "at first there was great confusion. The food would run out and there were even threats of an up-rising". Another garimpeiro said, "from January to March (1976) some 435 garimpeiros arrived here. The food ran out

and we would go back to our bivouacs with empty backpacks..." (Manchete No. 1266:71, 1976). There were rumours of a plan to steal food from the fields of an Indian village.

The Indians traded bananas and yams to the garimpeiros. In December 1975 it was said that one village had completely exhausted its fields in this way. One group of Indians began the preparation of a new field close to the mining site, especially to grow bananas for trade to the garimpeiros. The Indians received various items in trade for their bananas, etc., but what they especially wanted was firearms.

Around September 1975, an Indian of the Amokoapteri village beside the Pico Redondo mountain, 32 kms to the south-east, was killed, by shotgun, by Indians of the Aikamteri village near the mission and the mining site. These Indians had been given a shotgun, by garimpeiros, in April or May 1975 (missionary Robert Cable, personal communication, 11 December 1975). On 11 December 1975, in a counter-attack, an Aikamteri Indian was hit in the arm by a home-made "bullet" fired from a shotgun. It lodged in the muscle of his upper arm and he was taken to Boa Vista to have it removed.

In approximately April 1976, the Yanoama of nearby villages began the practice of attacking and sacking the garimpeiros' camps, taking clothes, hammocks, cooking pots and, especially, firearms. On 30 August 1976, in an attack of this kind, an Indian who was trying to take a shotgun from a garimpeiro was knifed, twice in the chest and once in the thigh. Two garimpeiros were shot with firearms, one in the arm, the other in the back above the kidneys. The latter was also shot with several arrows. The Indian and the more seriously wounded of the two garimpeiros had to be taken to hospital in Boa Vista. The Indians threatened further attacks (they had taken four more shotguns and a revolver that day) and some 50 garimpeiros left of their own accord (Roger Martins Gonçalves, personal communication, September 1976). The Minister of the Interior finally ordered

the evacuation of the garimpeiros. They had been mining illegally, in Yanoama territory for well over 12 months.

In June 1975, the Ministry for Mines and Energy had sent on to FUNAI a request for authorization to carry out a geological survey in the Surucucu area (File No. FUNAI/BSB/1785/75). This was from the company Indústria e Comércio de Minérios (ICOMI) which operates a manganese mine in the Territory of Amapá. Their plan was to prospect for manganese near Surucucu. ICOMI is a joint company formed by Bethlehem Steel and Companhia Auxiliar de Empresas de Mineração (CAEMI), "one of the largest and most powerful holding companies in Brazil" (Davis 1977:131).

From the point of view of protecting the Indians the obvious reaction, of course, was to recommend against authorization. Surucucu is the area of greatest Yanoama population density, with numerous villages as yet uncontacted by whites. It had never been possible to carry out any effective vaccination programme in the area and this large Yanoama population (3,000 we thought at that time; 4,500 as we now know) was extremely vulnerable to the risk of epidemic disease. The possibility of refusing authorization was, in fact, raised by one lower echelon, but important, member of FUNAI's Brasília hierarchy but it soon became common knowledge that FUNAI did not have that option. The word from "above" FUNAI was that, no matter what, ICOMI was to receive authorization.

In that context I prepared a written opinion pointing out the difficulties and recommending that ICOMI be allowed to carry out its survey only if certain conditions were met. These included: limiting their work to just over half the area they originally proposed, that is avoiding areas where I had reason to believe there were Yanoama villages; rigorous control of the health of all personnel; the avoidance of contact with Indian groups; the presence of Yanoama Project staff, at ICOMI expense, to supervise the actions of ICOMI personnel; further discussion with the Yanoama Project

to plan detailed work procedures. The FUNAI authorization, No. 083/85, was granted on 2 July 1975.

The final details were decided on in due course, including: the list of diseases for which ICOMI personnel should be vaccinated; the observation of a quarantine period on arrival in the area; assistance, with plane and helicopter transport, in the vaccination programme the Yanoama Project hoped to carry out among the Indians; protection of and compensation for damage to the flora and fauna of the area; compensation to the Surucucu mission (MEVA) for use of their airstrip and mission facilities.

I cannot say, unfortunately, that the whole thing went off as neatly as provided for. Nevertheless, the Project had two, at times three or four, of its staff in constant attendance and able to supervise and orient ICOMI's work in a satisfactory way. Most of the health precautions were duly observed (it proved impractical to observe the quarantine plan) and, I believe it is true to say, the ICOMI survey did not have any harmful effects on the Indian population not, at any rate, during the ten weeks (22 November 1975 to 2 February 1976) of its being in operation.

The contrast with the uncontrolled and uncontrollable tin-mining operation is obvious. The difference seems to have been that ICOMI was a large, rich and powerful multinational, operating in a perfectly legal way, duly authorized by the Ministry for Mines and Energy and by FUNAI and quite willing and readily able to afford the slight additional expense which our conditions imposed. Of the two evils, ICOMI was certainly the lesser.

I have mentioned the plan to take advantage of the availability of the ICOMI chartered planes and helicopters as the necessary means of transport for a vaccination programme in the Surucucu area. As I have also said, transport has always been a major problem in this area, so this chance to gain access to the villages by helicopter was a unique

opportunity which may never be repeated. Unfortunately, the Yanoama Project did not have any medical staff of its own to carry out the vaccinations. The FUNAI Mobile Health Team (EVS) which was to have been at the disposal of the Project was never recruited and never came into existence (there was a nurse, when we arrived in October, but she had flat feet and a heart condition so was not of much use for work in Yanoama territory). The eight nurse's aides approved for the Project and to be recruited by FUNAI's Division of Health never materialized. The one possibility was to make use of one of two nurse's aides on the Delegacy staff in Boa Vista who had, moreover, been trained in the application of the BCG (anti-tuberculosis) vaccine. I made this request to the Delegate, Lieutenant Adolfo. He refused, saying that the Delegacy (whose area of responsibility is the whole of Roraima) "has nothing to do with those Yanoama Indians." It should be noted that, by Law No. 5371, which establishes FUNAI, and Decree No. 58824, which promulgates Convention 107 of the International Labour Organization, FUNAI has a statutory obligation to provide health care for the Indian population.

The Brazilian Army, the 2nd Battalion of the Frontier Army (2^o BEF), based in Boa Vista, also arrived at Surucucu. They decided to conduct a training manoeuvre, during the period of ICOMI's (and the Yanoama Project's) presence there, close to the illegal tin-mining area. When I heard of this plan, I went to see the Colonel in charge, Col. Ayres. He was busy, on the first occasion, but had Captain Romero, who attended to me, transmit the message that I was not going to remove the garimpeiros from Surucucu. I pointed out that I had not gone there to talk about the garimpeiros but about protecting the health of the Indians, during the Army manoeuvre. I eventually saw the Colonel once, the Captain twice and Lieutenant Odailton (who was to be in charge at Surucucu) some two or three times. With each of these officers I spoke of the need to take special precautions to

safeguard the Indians' health. I emphasized that even a common cold could kill Indians.

When the Army squad went to Surucucu they took at least one man, perhaps three men, with colds. On arrival at the airstrip they encountered some 30 Yanoama on the trail from one village to another. I requested the removal of these men and one soldier was sent home to Boa Vista. Two visits were made to the Aikamteri village, near the mission, in the company of the missionary Robert Cable and myself. To the best of my knowledge there was no other contact with Indians but I have no way of knowing whether or not colds were transmitted to any of the group of 30 Indians.

When I expressed my disappointment to Colonel Ayres, he said that, most unfortunately, he had been too busy to give the necessary orders to his men regarding the health precautions I had recommended.

The first mention of the Companhia Vale do Rio Doce (CVRD) was in a statement by the sub-Delegate following the FUNAI/Federal Police visit to the mining site in February 1976. "If at least it was a company like the CVRD, a Brazilian firm, duly authorized, which would mine the cassiterite in a rational way and in cooperation with FUNAI, we could accept the idea..." (Manchete No. 1266:72, 1976).

In September 1976, at the time of the final closing of the garimpeiro mining, both the Minister of the Interior and the President of FUNAI spoke favourably of the possibility of CVRD taking over the mining operation. In fact, the Minister referred to studies by the National Department of Mineral Production (DNPM) of exactly this possibility (Jornal de Brasília, 3 September 1976). The President of FUNAI was quoted as saying, "What interests FUNAI is that the area should be exploited in a rational way, by a company such as CVRD; that would benefit the Indians themselves who would have the right to receive part of the proceeds..." (Jornal de Brasília, 15 September 1976, my translation).

Companhia Vale do Rio Doce is a state-owned company but, as Davis has pointed out, one of the factors which "explain the large amount of mineral-exploration activities that have taken place in the northwestern part of the Amazon Basin in recent years..." is that "from 1970 onward, the state-owned ... CVRD expressed its willingness to join with foreign companies in order to finance large-scale mining projects in the Amazon Basin" (1977:90). Two examples of this procedure are: the formation in 1969, together with U.S. Steel, of the company *Amazônia Mineração* to mine the iron ore of the Serra dos Carajás, in the State of Pará; the formation in 1973, together with Alcan Aluminium Co. (and Swedish, Norwegian, Spanish, American, British and Brazilian companies), of *Mineração Rio do Norte* to mine bauxite on the Trombetas river, also in the State of Pará (Davis 1977:90-91).

By April 1978, CVRD had opened an office in Boa Vista, In the Counter-Proposal (see pages 107-108, this volume) it is reported that FUNAI sertanista Apoena Meirelles in his comments after an inspection trip to the Yanoama area refers to the "very premature" authorization for CVRD to work in the Surucucu, Mucajaí and Catrimani Yanoama areas (O Estado de São Paulo, 18 November 1978). According to T.V. Roraima (November 1978), 300 CVRD workers and technicians were expected to enter the Surucucu area in 1979.

It is reported in the Counter-Proposal (see page 108, below) that on 4 March 1979, the Brazilian television station Rede Globo documented the arrival of the first installations of the CVRD at Surucucu.

FUNAI'S 21 AREAS PROPOSAL

In June 1977, with the greatest urgency, FUNAI made plans for an aerial survey of virtually all of Yanoama territory in Brazil. I was asked my opinion of the idea and pointed out that it was rainy season in the area and that the job could be done more easily, more completely and more safely at the end of the year, in the dry season. But the matter was considered too urgent to wait. When one Brasília bureaucrat excused himself from the task, another, with more field experience, was immediately given the job and left within the week. In charge of the survey, which of course was to include the Surucucu area, was General Demócrito Soares de Oliveira, head of COAMA (Coordenação da Amazônia) the branch of FUNAI set up and financed by PIN, the Plano de Integração Nacional, whose main activity was the highway construction programme in Amazonia (see page 45, above).

The survey produced very uneven results, highly detailed for some areas but a complete blank for at least two (the middle Auaris river valley and the Padauari and Araçá river valleys) where other sources have recorded the presence of Indians. Over 160 malocas were located, with reasonable accuracy in most cases, and 21 areas in Roraima and the State of Amazonas have been "declared as areas of Yanoama Indian occupation" in a series of decrees by the President of FUNAI (details are given in Appendix A, item 6 of the Counter-Proposal, pages 140-141, below).

The numerous inadequacies of these 21 small, discontinuous areas are discussed in detail in the Counter-Proposal, in this volume and in Taylor (1979). One major inadequacy is that, by my count, some 38 malocas (approximately 23% of the Yanoama population) were left outside any of the 21 areas (four other malocas have since moved outside, see Counter-Proposal, page 143, below). These malocas are shown by the black dots on Map 2-1⁶). Of these 38 malocas, 20 are registered in FUNAI's own aerial survey report and an earlier survey of the Ajarani river valley (FUNAI 1977a and 1977b). The other 18 malocas or villages, not registered by FUNAI, are the following. According to fairly recent information, there are some 8 villages of the Sanumá sub-group in the mid-Auaris river valley (shown, on Map 2-1, between FUNAI areas Nos. 15 and 13). These include the Sabuli, Kalioko, Lalawa, Kadimani and Sogosi villages, which Ramos and I knew at their 1970 and 1974 locations. They are shown, at their 1970 locations, on a map in Taylor (1974:22). (Comparison of their locations, with reference to the river system, with FUNAI's mapping of the mission and nearby Indian settlements suggests that these have been incorrectly registered by FUNAI at points over 20 kms too far to the northwest). Two other villages of the Auaris valley are those of the Sikoi group, visited by MEVA missionaries in the late 1960's and known to some of the Maiongong and Sanumá Indians of Auaris, in 1970. Immediately to the northeast of FUNAI area No. 4 is a small maloca I located by aerial survey in December 1975 (see Map 2-2). To the east of FUNAI area No. 4 are six malocas, four of which are of the Marashiteri group. As discussed below, these are all registered by FUNAI but with inaccurate coordinates. While according to FUNAI they would be inside area No. 4, they are in fact outside it to the east. To the northeast of FUNAI area No. 19 there is a maloca on the Jutai tributary of the Demini river. It is shown on Migliazza (1970), in Becher (1974) and Ramos was informed of its continued existence by missionaries and Indians at Tototobi mission, 55 km

to the north (Ramos 1975). Five of eight malocas to the west of FUNAI area No. 19, in the Araça and Padauari river valleys were shown by Migliazza in 1970. Becher in 1974 refers to one of these malocas. While RADAM's 1975 data cited in the Counter-Proposal do not seem to be entirely independent of Migliazza's earlier map, the fact that RADAM shows 8 malocas where Migliazza had 5 indicates the continued existence of several malocas in this area where the FUNAI survey reports nothing at all.

SURUCUCU AND THE 21 AREAS

One outcome of FUNAI's aerial survey, as can be seen on Map 2-1, is that the Surucucu mining site is included in "Área Indígena Surucucu". This area, as delimited by FUNAI, has some 3,600 Indians, in 58 villages (calculating 62 people per maloca, on the basis of the information from the mission at Surucucu, in March 1975, of 2,665 Indians in 43 malocas), and is the second smallest of FUNAI's 21 areas, in terms of size per person. Compared to the 765 hectares per person which are necessary for Yanoama subsistence in accordance with their semi-nomadic system of tropical forest horticulture, hunting and gathering (cf. Counter-Proposal, page 103, below; and Smole 1976:78, 234), this area, as proposed by FUNAI, would provide only 123 hectares per person. It cannot, then, be said to provide for the needs of the Indians. It does, however, include the site of the cassiterite mining.

FUNAI's handling of the different phases of the mining at Surucucu is interesting. During the phase of garimpeiro placer mining, FUNAI refused to recognize that Surucucu was

an Indian area and made no response to my four recommendations (March 1975, May 1976, January 1976, May 1976) that it should be delimited as an Indian area. Since the evacuation of September/October 1976, there have been no garimpeiros there and the current plan seems to be for the Companhia Vale do Rio Doce to re-open the mining as a mechanized operation. By Article 45 of the Indian Statute, sub-soil mining of this kind is permitted in Indian areas provided that a part of the proceeds is received by FUNAI, on behalf of the Indians (cf. statement by General Ismarth, quoted above, page 65). On 22 December 1977, on General Demócrito's recommendation, Surucucu was declared an Indian area and is now one of the 21 areas of FUNAI delimitation proposal. We see then that when declaring it an Indian area would have made explicit the illegality of the garimpeiro tin-mining, FUNAI did nothing. Now, when its being an Indian area will not interfere with CVRD's operation and will, in fact, ensure FUNAI a share of the proceeds, Surucucu has been declared an Indian area.

FUNAI has thus ensured its own benefit from any future large-scale mining of the cassiterite. It has not, however, taken the steps necessary to protect the Indians from further invasions of garimpeiros. As I warned FUNAI in a report submitted in 1976, there are, over and above the old and new airstrips on Surucucu plateau and the mission airstrip immediately to the west, three other airstrips so located as to provide possible clandestine access to the area. These are: (1) the airstrip of the abandoned Waikã mission, on the south bank of the Uraricoera river, some 98 km to the NNE of Surucucu, still maintained in serviceable condition by the missionaries as an emergency landing site; (2) the airstrip, which was almost ready for use in early 1976, near the mouth of the Tinoro stream, tributary of the Uraricoera, some 93 km to the NE of Surucucu; (3) the airstrip at the Marashiteri village, already operational at the end of 1975, on the Couto de Magalhães river (headwater tributary of the Mucajaí),

some 60 km to the ESE of Surucucu (see Map 2-2). In FUNAI's report on their 1977 aerial survey, the first two are not mentioned at all, while the third is given, incorrectly, at a location some 40 km to the east (that is, further from Surucucu) of its true position.

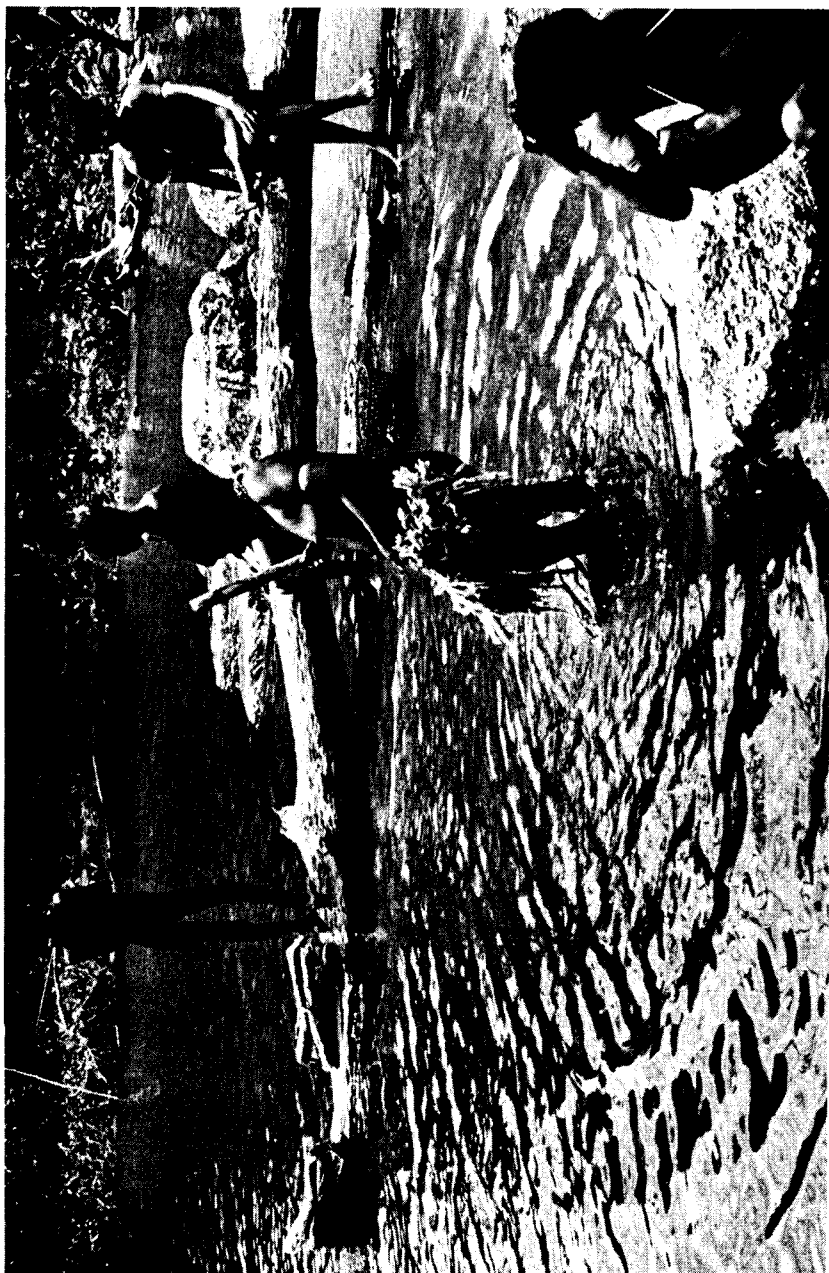
This airstrip is located beside one of a cluster of Marashiteri malocas (3 in late 1975, apparently 4 in mid 1977), and has been visited and used by the MEVA missionaries from Mucajaí. I visited it, by ICOMI helicopter, on 12 December 1975. On 22 February 1975, the director of MEVA, in Boa Vista, had first told me of this "Marashiteri airstrip" and gave its position as: $63^{\circ} 10' W$; $02^{\circ} 40' N$. As can be seen on Map 2-2, I later confirmed its position as: $63^{\circ} 10' W$; $02^{\circ} 38' N$. As mentioned, FUNAI gives the airstrip as being some 40 km further east, at $62^{\circ} 52' 20'' W$; $02^{\circ} 30' 20'' N$. What would appear to be the four Marashiteri malocas and the three Amokoapteri malocas immediately to the west of these (Map 2-2), are all shown by FUNAI as being some 10' to 17' of longitude further west than they were in late 1975. Since it is unlikely that the Marashiteri would build the airstrip only to abandon it a few months later and since the description given by FUNAI of the locations of the other three malocas agrees with my observations of late 1975, these would seem to be further errors in the FUNAI report. The result is that these malocas are given as all being inside FUNAI's "Surucucu" area (No. 4) and the airstrip as being inside FUNAI's "Serra da Estrutura" area (No. 2). In fact, six of the malocas and the airstrip would all seem to be between and outside these two areas (see Map 2-1).

As I stated in the report mentioned above, submitted to the President of FUNAI on 18 May 1976 and acknowledged by him on 25 May 1976, "One other extremely problematical aspect of the situation in this area must be emphasized. Apart from the two airstrips on the Serra itself, there are two other airstrips in usable condition, and a third in the final

phases of preparation, close to the Serra. Control of the use of these three airstrips will also be essential, in order to avoid the illegal entry of... miners into the area". It is worth noting that on 17 January 1976, in its report of the Governor's visit to the MEVA missions, mentioned above, the Jornal de Boa Vista published a map of the area, showing all three airstrips. It is thus common knowledge, in Boa Vista, that three points of access, by air, exist in the general vicinity of Surucucu. Once it becomes known (as must already be the case) that FUNAI has left all three outside any of the 21 areas of its proposal for the delimitations of Yanoama lands and, therefore, has no intention of controlling these airstrips, as a measure of protection to the Indians, we can expect a resumption of clandestine and illegal entry of garimpeiros and others into Yanoama territory, with all the risk of epidemic disease among the Indians which that will entail. The Counter-Proposal has the limits of the Parque Yanoama so defined as to include every one of these airstrips (and, of course, the airstrips at Surucucu itself) within the area proposed as Yanoama lands.

We see, then, that even after delaying from 24 March 1975 until 22 December 1977 before declaring Surucucu as an Indian area, FUNAI has not, in fact, provided sufficient land for the population of the area (its proposed 123 ha./person is only 16% of Yanoama requirements) nor has it taken the necessary steps to protect the area from further invasions by non-Indians. That the President of FUNAI was in dereliction of duty when he let two years and nine months go by before declaring Surucucu an Indian area is, I should think, self-evident. That he procrastinated in this way not only while surface mining in itself illegal was going on, but while hundreds of garimpeiros, predictably carriers of tuberculosis, venereal diseases, etc., were invading Indian territory without control of any kind whatsoever, is a clear indication of his inability or his unwillingness to perform his duty. It may be true to say that so long as he had no

support from the Governor and from the Minister of the Interior he was in a difficult position and unable to do what was necessary. He did interdict the Perimetral Norte area in the Catrimani and Ajarani river valleys but, to the best of my knowledge, he never even considered interdiction of the Surucucu area. In fact he did nothing and his inaction was a highly informative demonstration of the priorities of the federal government. As far as the government was concerned, the Constitution could be mocked, the laws of the land ignored, the Indians' territory could be invaded and their lives could be put at risk - all for the sake of a few tons of cassiterite.



13. Fishing scene, Catrimani area.
(Photo: Bruce Albert)

AGRICULTURAL DEVELOPMENT AND THE YANOAMA

During the same period (1975-1976) as the invasion of the Surucucu area and the illegal cassiterite mining there, yet another problem developed for the Yanoama in another part of their territory. This was the implantation of government-sponsored agricultural projects. The area directly affected is that of the Ajarani, the Apiaú and the Mucajaí river valleys.

In 1960 and 1961 Father Bindo Meldolesi of the Catholic Prelacy of Roraima established two missions, one on the upper Ajarani and one on the lower Apiaú. This was the first permanent contact with whites, that is on record, for the Indians of these two river valleys. Since 1965, when Father Bindo and Father Giovanni Calleri opened the Catrimani mission, the Prelacy maintained only intermittent contact with the Indians on the Ajarani and Apiaú.

On the Apiaú, at that time, there were five different villages with a total population of some 150 Indians (Cape 1975:47-48). The Prelacy knew of at least 145 Indians on the Ajarani but may have had no contact with the villages of at least one tributary river. Migliazza shows 12 villages on his 1970 map, based on aerial surveys he carried out, in the Ajarani area, in 1963-1965. He estimates a population of 400 (1978:18; cf. 1972:35).

In the Mucajaí area, apart from a visit by a Boundary Commission team, sometime between 1945 and 1950, the first contact that is on record between Yanoama Indians and white

Brazilians, occurred in 1957. Some 32 Indians, in seven canoes, appeared on the Mucajaí river at Fazenda Itu. Friendly contact was established and, when the Indians returned upriver, they left their canoes and paddles, as a sign of friendship, and walked home, cutting a path through the forest so that the whites could go and visit them too. In 1958, with government authorization, missionaries of the Unevangelized Fields Mission (UFM), now Missão Evangélica da Amazônia (MEVA), established the Mucajaí mission, which continues to this day. In that same year the missionaries report that the Indian population there was approximately 100 persons. In 1972, Migliazza gives a figure of 190. In July 1974, they were 208, in five villages. Information from 1978 is of close to 300 Indians, in several villages, so there has been considerable and consistent population increase (missionary Steve Anderson, personal communication of 24 March 1975; Migliazza 1972:35).

In 1967-1968, a measles epidemic hit the Yanoama in both Brazil and Venezuela. At Mucajaí, the presence of the MEVA missionaries helped contain the effects of the disease; there were 135 cases, but only one death (Neel et al. 1970:425). On the Apiaú, where the mission had apparently already been closed, Cape estimates that close to 100 Indians died (1975:47-48). By mid-1975, when Cape visited the Indians at the mouth of the Apiaú, there were only some 30 survivors in the entire river valley. By 1974, soon after the Perimetral Norte highway first penetrated the Ajarani area, the population was only 102 (Cape 1975:14-45). FUNAI established an Indian Post at the intersection of the Perimetral with the Ajarani river in 1974, but the agency's presence had little if any effect. By mid-1975, the population had been further reduced to 79 (see Ramos, page 14).

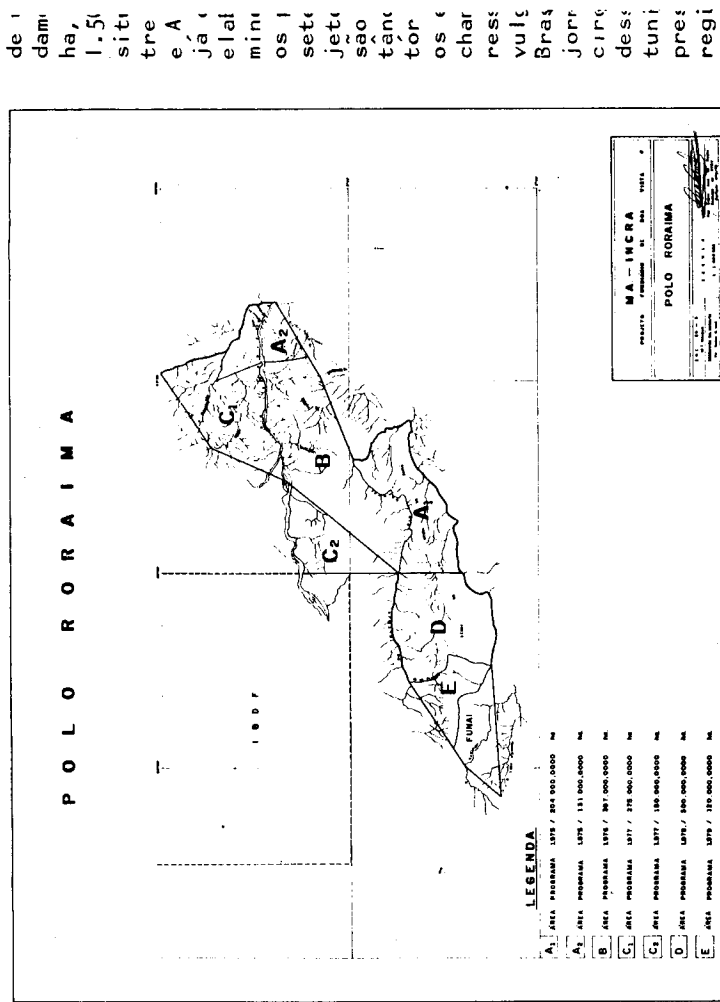
That was the situation in 1975 when plans for the introduction of farming and agribusiness in this area were first published. On the Mucajaí, a growing population, receiving effective medical assistance from the MEVA mission,

although with tuberculosis an increasing problem and other diseases, including venereal diseases, repeatedly contracted as a result of intermittent but increasing contact with the ranches of the lower Mucajaí; on the Apiaú, a remnant population unassisted by anyone other than the local small-holders and ranchers; on the Ajarani, a decimated and socially devastated remnant population suffering deculturation and death under the supposed protection of FUNAI.

In February 1975, the Governor of Roraima first told me of the agricultural development plans of his government. We were discussing the question of the limits of a future Yanoama Reserve and the plans of the Yanoama Project, in preparation at that time for FUNAI. I gave as my opinion that, in the area of the Perimetral Norte highway (routed so as to cut through some 600 km of Yanoama territory) it would be best to set aside the land to the north (where more than 92% of the Yanoama are located) as Indian territory and keep the eventual settlers of the highway to the south side only. He replied that the opposite arrangement would be more to his liking as preliminary results of the RADAM survey of land use potential indicated that the better soil was to be found to the north of the highway. This can be seen in Map 3-2 of the Counter-Proposal, page 134, below). He gave me a copy of a Roraima Government document which, in fact, states: "The highest level of agricultural potential ... occurs to the west of the BR 174, to the north of Catrimani mission, where there are significant concentrations of soils which ... offer satisfactory conditions ... This means that both commercial agriculture and cattle-ranching are viable in this area" (unnumbered, undated document, received in February 1975, my translation, emphasis added).

In May 1975, however, the area of the Ajarani and Catrimani river valleys was temporarily interdicted by FUNAI. This followed the request of Father Giovanni Baptista Saffirio, then in charge of the Catrimani mission, for the

Projeto Fundiário BV entrega 30.552



O PRSV com traba- dos os títulos defi- te Território, e a parê
lhos objetivos e a- nitivos. prioritária e conse- nest
Map 2-3. The Projeto Fundiário Boa Vista, reproduced from the Jornal de Boa Vista.

creation of a Reserve for that area which was being crossed at the time by the highway construction. The area interdicted was exactly that indicated on the map which accompanied his proposal.

On 30 August 1975, the Projeto Fundiário Boa Vista (PFBV) was announced in the Jornal de Boa Vista. This Project, part of the Polamazonia Programme, will involve clear-cutting the forest for the introduction of farming and cattle-ranching. It was prepared jointly by INCRA (National Institute of Colonization and Agrarian Reform) of the Ministry of Agriculture and the Government of Roraima, a division of the Ministry of the Interior. The map of the Project, which accompanied this announcement, is reproduced here, as Map 2-3⁷). The western tip of the Project area, where the word "FUNAI" appears on the map, is that part of the total area which overlaps the interdicted area and was, accordingly, put at FUNAI's disposal by INCRA. In the Mucajaí and Apiaú river valleys, on the other hand, a considerable area of Indian land was encroached on by the PFBV (part of areas A₁, B, C₂, D and E). The Regional Delegate did not know of the presence of Yanoama Indians in these areas, in spite of the MEVA mission on the Mucajaí having been there since 1958 and in spite of the fact that Migliazza's 1970 map clearly shows Yanoama present in both river valleys. INCRA had a copy of Migliazza's map - they sent a copy of it to the Delegation in November 1975. The Governor had a copy of Migliazza's map. Various government departments had copies of the map, for example, I saw it on the wall of the Secretary for Health's office in early 1975. But FUNAI's Regional Delegate did not and he did not know that there were Yanoama on the Mucajaí and Apiaú rivers.

On Map 2-1 this Projeto Fundiário zone is shown in its relation to the 21 areas of FUNAI's proposal for Yanoama reserves. It can be seen that, although the Government of Roraima and FUNAI are both divisions of the same Ministry,

they have failed to take account of each other's plans. As a result, areas nos. 2 and 3 of the FUNAI proposal have almost a half of their area within the boundaries of the PFBV, areas C₂, D and E. These lands are, then, lost to the Indians before demarcation by FUNAI has even begun! The whole of areas D and E of the PFBV are, moreover, within the area of the Parque Yanoama of the Counter-Proposal (see its Map 3-1, page 100, below). The area in question is almost 10% of the proposed Park, in Roraima.

Information of late 1978 is that INCRA is already demarcating lands within Yanoama territory in the Mucajaí river valley, cutting tractor-wide swathes through the forest and setting concrete marking posts along the bank of the river to beyond the last Yanoama maloca. They are said to have marked lots of up to 5,000 hectares as far up as just below the area of Surucucu - well beyond the limits of the PFBV.

I have mentioned above the favourable outcome of the interdiction of the Catrimani and Ajarani river valleys as regards the western tip of the original PFBV area, which was duly set aside by INCRA, for FUNAI's purposes. In September 1975 Edmar Luiz da Costa, Director of the PFBV, further informed the FUNAI Delegate of the 10th Regional Delegacy, in Boa Vista, that the portion of the interdicted area to the north of the Perimetral Norte and the Ajarani river, located within the third (additional) area designated for the PFBV (Diário Oficial da União, 11 September 1974 - this date should presumably be 1975), had been excluded from the Projeto Fundiário plans and was "free and available" for FUNAI's purposes, including the creation and demarcation of an Indian Reserve (Document PFBV/No. 140/75, of 11 September 1975).

Meanwhile, of course, the Ajarani Indians had been reduced to a scattered and partly homeless remnant population of some 60 people (the 19 at the Opikteri village, see Ramos,

page 13, now live outside the Ajarani valley) and were no longer occupying the area in question although it was part of their traditional territory. But the fact that the PFBV had accepted that the area was under FUNAI's control gave FUNAI the opportunity it needed to guarantee at least some of the land which would eventually be necessary if and when the Indians achieved a demographic recovery sufficient to return them to their original numbers of possibly 400 people. The area in question is of 195,000 hectares, sufficient for some 250 Indians by traditional standards of Yanoama land use (see Map 2-1).

Instead, what happened was that on 23 May 1977 a FUNAI work-group recommended the return of the area to INCRA (Report of 23 May 1977, in accordance with FUNAI Decree No. 252/P of 6 May 1977). This work-group, led by Ana Maria da Paixão of the Department of Community Planning (DGPC) of the Brasília headquarters of FUNAI, appointed to this position directly by the Minister of the Interior Rangel Reis (Ministerial Decree No. 111 of 14 March 1977), gave its recommendation to the effect that "the area requested⁸ can be liberated (by FUNAI) as far as the 2° 00' line of latitude." They reported that in the area in question, "there are no Yanoama malocas. The whole area was covered by over-flights, on a fine-tooth comb basis and, also, Indians and FUNAI personnel were interviewed who said they knew of no settlement in the area in question." As was commented by journalist Memélia Moreira, "In truth there were no Indians. They were dead" (Jornal de Brasília, 10 October 1978, page 35).

One further area, "INCRA - Gleba Caracaraí", has been designated for agricultural development in the Yanoama region. This is shown on Map 3-1 of the Counter-Proposal, (page 100, in this volume). As can be seen on this map, Yanoama settlements on the roadside and at the mouth of the Apiaú are inside this area. Together with the area just discussed, it would border on the north and the east the small area FUNAI

has proposed to set aside for the surviving Ajarani Yanoama.

Together, these three areas - the original PFBV, the Ajarani River Valley Area and the Gleba Caracaraí - cover about two million hectares of tropical rain forest and are to be cleared for farming and cattle-ranching. Half of this area is traditional Yanoama territory. Although it is still too soon to see what real effects these projects will have on the Indian population, one can be certain that the result will not be very different from the precedents that already exist. In the Nambiquara area, in Mato Grosso, the effects of agricultural development have been described as follows: "Taking advantage of a federal program that offered fiscal incentives to companies willing to develop interior regions of Brazil, large commercial and financial enterprises acquired vast tracts of land in (the Guaporé River) valley, and began to develop it at a whirlwind pace. This development consisted in cutting down the forest, planting pasturage, and converting it into a cattle-raising region. All but the strongest Indians died of new diseases to which they had no resistance, and the few remaining villages rapidly became tiny, ineffectual enclaves surrounded by multimillion dollar ranches. ... Owing to the steady destruction of the forest by the ranches, it is even becoming difficult for them to acquire the raw materials necessary for (bow and basket making)" (Price 1977:603-4, 606).

As the Yanoama area is of uninterrupted tropical rain forest, the first step in the implantation of agricultural projects will be the clear-cutting of large areas of forest. This will mean the arrival of large teams of deforestation workers. There will be the inevitable transmission of disease. Deforestation workers are invariably among the poorest of the rural labour force and, therefore, always in ill-health and an invariable source of diseases. These will include not only tuberculosis and measles against which, in theory, the Indians can always be vaccinated, but also influenza and the common cold, both lethal to Indians such

as the Yanoama, and venereal diseases. And these workers will not be a few. They will arrive in teams of hundreds, perhaps thousands. "... more than 6,000 men were working eight hours a day cutting down trees along the Transamazônica Highway. At the same time, another 50,000 men were employed in land-clearance operations associated with the SUDAM cattle-raising projects in central Brazil... a German ecologist noted that he observed a single cattle company with a team of 1,000 men at work in the Amazon, cutting down the forest..." (Davis 1977:144, 146).

The cutting down of large tracts of forest adjacent to, around and in between areas of Indian occupation will have a profound effect on the ecology of the remaining Indian areas. It will inevitably affect the supply of game animals in reducing drastically the refuge areas outside the Indians' hunting areas, which have been traditionally available and ecologically necessary for the maintenance of the tropical forest fauna as a resource for the Indian population. A further problem commonly occurs: "almost all the Indian tribes in (the north of Mato Grosso) who were outside of the Xingu National Park were suffering from hunger and disease as a result of cattle invasions into their traditional hunting territories" (Davis 1977:118, citing Hanbury-Tenison 1971:26). An even more serious effect can be judged from the following information, "In recent years, cattle ranchers have begun to use chemical methods to clear lands and maintain pastures in the Amazon Basin. ... Recent reports ... indicate that chemical herbicides, such as 2,4-D and 2,4,5-T, outlawed for use on grazing lands in the United States, are actually being used by cattle ranchers in the Amazon region of Brazil. Alceo Magnanini, director of the Department of Research and Nature Conservation of the Brazilian Institute of Forestry Development (IBDF - a government agency), is quoted as saying in a recent article that the usage of the herbicide 2,4,5-T in the Amazon 'brings immediate, middle and long range threats to the human species.' The dioxin

compound in this chemical, he claims, 'contains poisonous, teratological, and possibly carcinogenic substances.' To date, Magnanini says, all attempts to control its usage have been unsuccessful in Brazil" (Davis 1977:145-6).

The expansionist character of the Brazilian cattle-ranching frontier and its customary disregard for Indian land rights is an old theme in studies of the interior of Brazil. Ribeiro has discussed the impact of the cattle-ranching frontier on the Indians of various parts of Brazil. "The impact of the European invader on the Indians takes on, in these expanding cattle-ranching frontiers the same violence ... the fulcrum of hostilities is in the possession of the land which the rancher wanted to wipe clean of its human occupants to fill it with cattle and in the problem created for the Indian with the destruction of the game animals ..." (1970:50-51, my translation). He goes on to discuss the situation in the Northeast, in the zone between this and Amazonia, in Central Brazil and in the south of Mato Grosso, showing how, in each case, the expansion of cattle-ranching led to the loss of Indian life and lands. Melatti, in his study of the Kraho Indians of northern Goiás, tells how, from the point of view of the white society, "the Indians could not be left in peace on the perimeter of the cattle-ranching society, taking no part in its activities, living according to their own traditions, because the ranchers needed the Indian lands to set up new ranches. The ranching frontier, however, had no need for the labour force of the Indians. It had, therefore, no alternative but to either eliminate them or remove them to far away" (1967:32, my translation).

The problem is, of course, aggravated when Indian lands are either not officially demarcated, or are demarcated in an unsatisfactory way. This is the case of the Shavante, "pacified" in 1946 and promised land of their own. Finally, in 1972 they were granted five small parcels of land which

are not adequately demarcated and whose limits, due to corruption on the part of FUNAI personnel, are still in dispute. As a consequence, the Shavante have been in a constant state of armed hostilities with the cattle ranchers of the area, with outbreaks of violence in 1971, 1972, 1973, 1974 and 1976. In 1973, when FUNAI sent a topographer to demarcate one of the Shavante reserves, he was prevented from doing so by a group of armed cattle-ranchers (Davis 1977:118-121). The latest news, of early 1979, is of further violence at the Shavante reserve of Pimentel Barbosa (CIMI Bulletin No. 53:3-14, 1979).

In July 1976, FUNAI began the demarcation of the Meruri Reserve of the Bororo Indians. This land has been legally theirs since at least 1918, but invaded by whites, farmers and ranchers, since the 1950's. "At 11 o'clock in the morning, on the 15th of July, the Meruri Indian Colony, in the east of Mato Grosso, was attacked by 62 armed ranchers, whose lands are found within the Bororo reserve. FUNAI had begun the demarcation of the reserve three days before. Father Rodolfo Lunkenbein, Salesian missionary, 37 years of age, and the Indian Simão Cristino were killed and four other Bororo wounded" (Movimiento No. 56, cited in CIMI Bulletin No. 30:3, 1976).

In the last few years the recognition seems to have been growing in Brazil that agricultural projects which involve heavy deforestation are doomed to failure. The idea expressed by both the Medici and the Geisel governments that "the Amazon jungle could be cleared and turned into productive farmland for peasant colonists or multinational agro-industrial projects rested on a tragically false premise" (Goodland 1978:3). The fertility of the tropical rain forest depends entirely on the forest itself which not only shades the soil from the heat and harmful ultraviolet rays of the sunlight and shelters the soil from the impact of the tropical rainfall but, in fact, retains within its

own biomass (rather than in the soil) almost all of the available nutrients. When the forest is removed, especially when on a large-scale and without provision for immediate, long-term fallowing, leaching and erosion, together with laterization of the soil, rapidly produce infertile, semi-desert conditions (Goodland and Irwin 1975:28-34; Meggers 1971:17-19). A classic example of this process is the Bragantina zone, east of Belém, which it was hoped would become the granary and garden of Belém. "Today, the Bragantina is covered by a monotonous expanse of unproductive secondary growth, lateritic sandstone, and rock. The soils in this region can no longer hold water, and droughts are much longer than they were in the past" (Davis 1977:143). The Brazilian government itself has recognized the "failure" of the Bragantina "experiment" in which intensive slash-and-burn agriculture "impoverished the soil, producing the so-called capoeiras, areas where only small trees will grow" (Brazilian Embassy 1976:30).

The sobering experience of some agribusiness companies shows that the complex realities of Amazonian ecology are finally catching up with the initial developmentalist euphoria. "Several studies have shown that ... pastures can never be sustained and that the end of lavish fiscal incentives and depletion of soils are halting the short-term profits of the cattle companies. More than 80 percent of the cattle ranches in the Paragominas area, for example, have been abandoned, and officials are now rejecting all new applications" (Goodland 1978:3).

In view of these facts, it remains to be seen whether or not the agricultural development projects planned for Roraima will continue along the lines of cattle-ranching or any other form of exploitation which involves deforestation. But, whatever happens, one thing is clear: the Yanoama who are affected by these plans are already suffering considerable reduction of their territory, as evidenced by FUNAI's recent proposal for the delimitation of Yanoama reserves.

THE AGRICULTURAL PROJECTS AND FUNAI'S 21 AREAS PROPOSAL

In the area of the PFBV and other agricultural projects we see again the problem of the small size of the areas defined in FUNAI's 21 areas proposal. Even without allowing for the loss of area due to overlap with the PFBV zone (see Map 2-1), the Mucajaí area (no. 3) provides only 547 ha./person; the Serra da Estrutura area (no. 2) only 447 ha./person; and the Ajarani area (no. 21) only 466 ha./person. These figures can be compared with reliable data for three different Yanoama populations. Migliazza's data for the Uraricaá and Paragua river valleys, the area he personally knows best, give a figure of 2,486 ha./person (1972:19). In FUNAI's aerial survey report, the Marawaca village close to the Tototobi mission is given as occupying and using an area of 900 square kilometres (Horst 1977:13-16). Taking the correct population size of approximately 70 (68 in 1975 - Ramos 1975), this yields a figure of 1,286 ha./person. Smole's detailed study of the territory of the Jorocaba-teri village, in the Parima highlands to the west of Surucucu (in Venezuela), gives a figure of 770 ha./person (Smole 1976:78, 234).

It may be suggested that, by Western standards, that is a lot of land. But we must remember that there are no "Western standards" for successful human occupation of the Amazonian tropical forest. As Meggers (1971), Goodland and Irwin (1975), Goodland (1978), Realidade (1971), and Brazilian Embassy (1976) have amply documented, all that has ever been achieved in Amazonia, by Western techniques, has

been the elimination of the forest and the destruction of the soils. The Indians, on the other hand, have lived happily and well for generations while successfully maintaining the flora and fauna of the forest and the quality of its soils. If, by Yanoama standards, that requires 700 or more hectares per person, so be it. We, as Westerners, are certainly in no position to declare the Yanoama system invalid.

Although the presence of two villages on the mid-Apiaú was indicated on Migliazza's 1970 map, although a FUNAI report of 1977 refers to their existence (FUNAI 1977a:6), although I reported Cape's August 1975 visit to the Yanoama of the mouth of the Apiaú in the first Yanoama Project report of January 1976 (Taylor 1976:3), the FUNAI proposal makes no provision for the Indians of the Apiaú river. Similarly, although their presence is reported in the same FUNAI report (1977a:2), the Ajarani Indians who live at km 32 and km 33 of the Perimetral Norte highway have had no lands provided for them (cf. Counter-Proposal, page 142, below).

Even assuming that, eventually, some land may be set aside for these three small populations, it can be seen that in the PFBV area the fragmentation of Yanoama territory which is so much a characteristic of the FUNAI proposal will be an acute problem. Although (to name only three) the Nambiquara, Shavante and Bororo precedents are all too familiar to FUNAI, the same pattern of severe fragmentation into a series of small, separated parcels of land is now proposed by FUNAI for the Yanoama. Where one large, continuous area of land is needed, FUNAI proposed 21 separate areas, only two of which (nos. 4 and 18 on Map 2-1) are truly contiguous. Open spaces are thus left between the various areas, in one case as narrow as 3 km, and in eight cases of less than 30 km. These spaces are open to the officially encouraged settlement by white smallholders, ranchers, etc., of the PFBV and other projects. We might say that, in this way, FUNAI was "setting up" the Yanoama for a maximum of



14. Fishing scene, Catrimani area.
(Photo: Bruce Albert)

contact, deculturation and disease, for inevitable reduction if not extinction of the stock of game animals and fish, and for the most possible risk of eventual encroachment by whites onto the Indian lands.

If the Yanoama of these river valleys are to survive the impact of the introduction of farming and cattle-ranching (or other economic exploitation of the forest) in the PFBV area, FUNAI will also have to vaccinate the Indians against a number of Western diseases. This is another of FUNAI's statutory obligations to the Indians. FUNAI's record among these Yanoama can hardly be said to inspire confidence. Granted that FUNAI arrived in the area too late to do anything about, for example, the measles epidemic of 1968, what has FUNAI done since it did arrive, in 1974? In the PFBV area FUNAI itself, to the best of my knowledge, has not vaccinated a single Indian against anything at all. The most that can be said is that, in collaboration with FUNAI, the national anti-tuberculosis campaign, in 1975, vaccinated some 230 of the more than 8,400 Yanoama, and the Roraima Health Department did some vaccinations against meningitis, also in 1975. According to FUNAI's own Division of Health, in Brasília, the Indians also require vaccination against: diphtheria, tetanus, whooping cough, measles, smallpox, poliomyelitis, yellow fever, and typhoid fever. The few vaccinations against some of these diseases which have been done were the work of the two missions in the PFBV area: MEVA at Mucajaí and the Catholic Prelacy of Roraima at Catrimani.

CONCLUSIONS

With these two examples, the Projeto Fundiário Boa Vista agricultural development scheme and the cassiterite mining at Surucucu, as also in the case of the Perimetral Norte highway construction discussed by Ramos, we can gauge what President General Medici's National Integration Programme (PIN) and President General Geisel's Polamazonia plan will eventually mean for the Yanoama Indians. We can also see the true nature of the participation in this process of the Government of Roraima and of FUNAI.

On the one hand, there is the legal background. The Brazilian Federal Constitution guarantees the Indians exclusive possession of their lands. And that means not some small parcel of land set aside for them by one or another government agency, but the lands in fact occupied by the Indians. The Constitution further guarantees them exclusive rights to the usufruct of the resources of these lands. Law No. 5371 establishes FUNAI to protect, defend and act as guardian of the Indians and specifies that FUNAI has police power to enforce respect for the rights of the Indians. Decree 58824 promulgates Convention 107 of the International Labour Conference of 1957, thus establishing the accepted obligation of the Brazilian authorities to defend the Indians' rights to their lands and to provide educational assistance, medical care, etc. Law 6001 further specifies the various rights of the Indians, the obligation of FUNAI to protect and defend these rights, including those specified

in Convention 107, and that, specifically for the defence of Indian lands, FUNAI may call on the Federal Police and/or the Armed Forces for any necessary assistance.

On the other hand, there is the reality. In the Surucucu area there was a massive invasion of Yanoama territory by garimpeiros. Considerable quantities of cassiterite were placer mined and FUNAI did not seek compensation for this loss, on behalf of the Indians. FUNAI refused to declare Surucucu an Indian area in spite of the fact that Article 25 of the Indian Statute specifies that the recognition of Indian lands does not depend on their prior demarcation. FUNAI did not delimit or demarcate the area nor did it seek an interdiction. FUNAI did not vaccinate the Indians against infectious diseases, although it has a legal obligation to do so, nor did it contract medical personnel to provide medical care for the Indians in spite of the presence of eventually 500 garimpeiros, notoriously a source of infectious and venereal diseases.

On the Mucajáí river, some half of the inadequate areas of land set aside for the Indians by the FUNAI 21 areas proposal are inside the limits of the PFBV.

In the Ajarani area the Indians had already been decimated by contact with the regional population. Due to the highway construction their population was further reduced by 22%. The area of land proposed for this remnant population by FUNAI represents only 12% of their original territory⁹.

On the Apiaú river, the Indians had also been decimated by contact with the regional population. The PFBV area completely covers what was once their territory. Although recently twice informed of their presence, which was also indicated on Migliazza's 1970 map, FUNAI proposes no land whatsoever for their use, has never visited them and does not recognize their existence in any way.

We see then that, in practice, the Federal Constitution and the various relevant laws are simply disregarded. The

rights of the Yanoama are violated in every possible way. Their lands are invaded and taken from them, their natural resources are exploited, reduced and destroyed, they are not given appropriate medical care and they are killed by Western diseases.

These violations are carried out by highway construction companies, mining companies, logging contractors, etc. Their workers, always poor and always in ill-health, no matter how much they may sympathize with them, inevitably transmit to the Indians tuberculosis, measles, and other infectious diseases, influenza, the common cold and gonorrhea.

The policies which lead to these violations are made at the Federal level, encouraging them financially and providing for them through planning carried out in the name of the national interest. The Ministry of Transport plans highway networks, the Ministry of Agriculture plans the colonization of the areas opened up by these, the Ministry for Mines and Energy plans and authorizes the prospecting for and mining of minerals in all parts of the country, the Ministry of the Interior offers fiscal incentives for large-scale agribusiness and other commercial ventures in newly opened up parts of the interior. The Government of Roraima Territory, itself a division of the Ministry of the Interior, further contributed to this process, as in its participation in the planning of the PFBV and in the Governor's implicit encouragement of the illegal cassiterite mining at Surucucu and his denial of the existence of thousands of Yanoama Indians in the Surucucu region.

There is one other participant in this systematic violation of Indian rights - the National Indian Foundation. As I have said, FUNAI is by law the guardian and protector of the Indians and is empowered to defend Indian lands against invasion. Since 1973 FUNAI has had clear-cut procedures for the control of entry of non-Indians into Indian areas. In practice, FUNAI's role is that of a facili-

tating agency which permits and cooperates with development projects of all kinds, in Indian areas, while in no way acting to prevent the exploitation or destruction of Indian resources, the take-over of the major part of Indian territory, and the decimation of the Indian populations.

NOTES

1. I am much indebted to Alcida R. Ramos for her help in the preparation of this article.
2. The international border, as shown on Map 2-1, is based on the Instituto Brasileiro de Geografia 1971 map of the Amazon Basin and, for the portion between 2°30'N and 3°00'N, on Smole (1976:53 and 56). The Projeto Fundiário Boa Vista is as on Map 2-3. The PFBV area in the Ajarani valley is as shown in document PFBV/140/75. The route shown for the Perimetral Norte highway is only approximate.
3. "Maloca" has the meaning of communal house and a community often consists of only one maloca. Where communities would seem to consist of two or more malocas, it is the number of malocas which is given.
4. "Garimpeiro" is the Brazilian word for prospector/diamond miner.
5. That is to say, a situation of economic hardship for considerable numbers of garimpeiros, and their families, requiring government relief and assistance. He was evidently assuming an immediate, total evacuation.
6. I take the information that there is a maloca immediately outside FUNAI area No. 1 and one immediately outside FUNAI area No. 16 from the Counter-Proposal, in this volume.
7. Area A1 of this Project can be seen to be the same as the "INCRA-GLEBA A1" of the Counter-Proposal (see its Map 3-1, page 100, below). Although the other areas (A2-E) of the original Projeto are not mentioned in the Counter-Proposal, I have not heard of their having been cancelled.
8. Exactly who had requested "liberation" of the area is not apparent in the material at my disposal.
9. On Migliazza's map they are shown as occupying the entire Ajarani river valley. Taking a figure of 765 hectares per person for the 400 Indians Migliazza estimates gives a total of which FUNAI's Área Indígena Ajarani would represent only 12%.

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YANOMAMI INDIAN PARK

PROPOSAL AND JUSTIFICATION

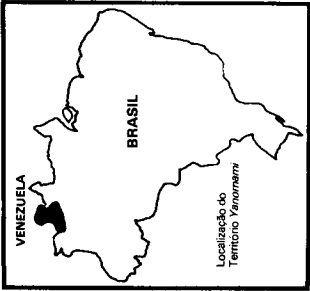
by the Committee for the Creation
of the Yanomami Park

"The Yanomami Indians are one of the last great Indian nations in Brazil which still preserves its original way of life. But this does not protect them from the threat of disintegration which looms over them with the approach of our society.

This being so, nothing is more urgent, nothing more just than to guarantee their future within the authenticity of their way of life. In order to achieve this aim, I repeat, it is urgent that a Park be created for them which will guarantee their survival and preserve their traditional values."

Cláudio Villas-Boas

(Jornal de Brasília, 1 October 1978)



41. MATAPURUS

Map 3-1. YANOMAMI AREA (RODAINA AND AMAZONAS)

- ▲ Village located by FUNAI* in July 1977
- △ Village shown on RADAM map, 1:250,000, 1975
- FUNAI Indian Post
- ☒ Deactivated FUNAI Post
- ✚ Religious Mission
- Area declared by FUNAI as of Indian occupation (Decreets Nos. 477/N - 505/N - 512/N - 513/N)
- Forest Reserve or National Park
- INCRA* Project
- Area to be studied before being opened to colonization
- Minimum area proposed for the creation of a Yanomami Park

approx. scale - 1:4,500,000

* Translator's note: FUNAI - Fundação Nacional do Índio (The National Indian Foundation), a division of the Ministry of Interior. Instituto Nacional de Colonização e Reforma Agrária (The National Institute of Colonization and Agrarian Reform), a division of the Ministry of Agriculture.

BRASIL
Território Yanomami

THE YANOMAMI INDIANS AND CONTACT WITH WHITES

ETHNIC BACKGROUND¹

Location and population: The Yanomami Indians have traditionally occupied a large area of tropical rain forest in the region of the border between Brazil and Venezuela (see Map 3-1). They live in about 320 widely scattered villages. Taking both countries together, the total population of the Yanomami is of approximately 16,400 people, which makes them the largest South American Indian group with the majority of its population still isolated from white society.

In Brazil the Yanomami occupy areas of the Federal Territory of Roraima and of the State of Amazonas. There are approximately 203 houses and an estimated population of 8,400 Yanomami in this country² (see Map 3-1). The great majority of these Yanomami still lead their lives according to traditional culture patterns.

History: It is beyond any doubt that the Yanomami have continuously occupied the above mentioned territory for a very long time. Proof of this is the oral tradition of the Indians themselves (Lizot 1977:116) and the reports of various explorers and members of scientific expeditions who have passed through the area:

- In 1787 the Portuguese Boundary Commission (Gama Lobo D'Almada) registered the presence of "Oayacas" (Waika)³ on the headwaters of the Parima river (see Coudreau 1887).

- In 1838-1839 R.H. Schomburgk found Xirixana Indians³ in the regions of the Parima river, the upper Uraricoera and the Maracá Island (Schomburgk 1841).

- In 1860 A. von Humboldt registered the presence of Waika in the region of the Orinoco river (Humboldt 1860).

- In 1912 T. Koch-Grünberg found Waika in the region of the Uraricoera, Araçá, Marari, Marauia and Cauaburis rivers (Koch-Grünberg 1912-1922).

- In 1919-1920 A. Hamilton Rice reported the presence of Waika in the region of the Orinoco, Parima and Uraricoera rivers (Hamilton Rice 1921-1928).

- In 1929-1930 G. Salathé found Karimé Indians (a Yanomami local group) in the region of the middle Catrimani river (Salathé 1932).

- In 1930 D. Holdridge found Waika in the region of the Catrimani and Demini rivers (Holdridge 1930).

- In 1944 A.C. Ferreira Reis flew over the area and noted the presence of Waika malocas in the region of the Lobo D'Almada, Toototobi, Mucajaí, Mapulaú and Catrimani rivers (Ferreira Reis 1944).

- Also in 1944 Brás Dias de Aguiar registered the presence of Waika in the region of the Catrimani, Lobo D'Almada, Toototobi, Mucajaí and Mapulaú rivers (Brás Dias de Aguiar 1944).

The last two authors were members of the Brazilian-Venezuelan Boundary Commission.

From the 1950s onwards there are numerous references to Yanomami territory (see bibliographies in Zerries 1974 and in Migliazza 1972). Around that time the first protestant and catholic missions began to install themselves in the area.

Society and ecological adaptation: Each Yanomami village (maloca) consists of one single dwelling of large proportions and usually conical in shape which shelters various extended families which are interrelated by marriage. The total number of residents varies from 30 to 100 people. Villages which are geographically close to each other maintain constant social and ritual relations and, together, they form sets of local groups linked to one another by means of frequent interchanges which involve especially exchange of goods and marriage alliances (Lizot 1971; Chagnon 1968a).

Movement between villages or sets of villages is therefore intense and is fundamental to the maintenance of the social dynamics and cohesion of Yanomami communities.

The Indians use an average area of about 900 square meters per person around the village site. This area is for fields where they plant bitter and sweet manioc, several kinds of potatoes, bananas, sugar cane, papaya, tobacco and various kinds of plants which are used to make ornamental and magical artifacts (Lizot 1977:127). In addition, a concentric and much more extensive area is used in the acquisition of indispensably necessary resources of a sparse and/or random distribution, such as game animals, fish and forest products. This larger area has an approximate radius of 15 km, which represents a three and a half hour walk from the village (Lizot 1977:132). We can say that, for a village of average size, this area is of about 707 square km. To understand the importance of this larger area, it is enough to note, for example, that although gathering supplies only 20% of the food (Zerries 1974), it is an indispensable source of vegetable protein (Lizot 1977) which compensates for the deficiency of protein in garden produce (tubers and bananas) and for the inherent irregularity of hunting and fishing. The forest also provides most of the raw materials used in the manufacture of Yanomami artifacts (fibers, bark, wood, bamboo, resins, leaves, clay, etc.).

For reasons that have to do with the very character and conditions of their lives, Yanomami local groups change location periodically. These movements are basically of two kinds: 1. micro-movements within a 3 km radius due to their need to make new fields every two years on average; 2. macro-movements within a 10 to 30 km radius due either to soil exhaustion and depletion of hunting and gathering potential in the area previously occupied, or to deaths and epidemics, or to possible hostility between communities as a result of changes in inter-community marriage strategies (Chagnon 1968b).

Old fields which have been abandoned due to traditional movements continue, however, to be harvested for many years thereafter for certain kinds of produce that have a long cycle (Pupunha: Guilielma gasipaes Bailey and Bactris gasipaes. Tubers: Xanthosoma and Dioscorea and several varieties of

bananas). After the necessary period of ecological recuperation, the area can be occupied again by the same or by another residence group (Chagnon 1968a and Lizot 1977).

The areas between villages or between sets of villages and the zones of economic utilization are cut by a wide network of trails on the edges of which one can find numerous hunting and travelling camps as well as old fields. Every patch of forest is used, has a name, is intimately known and impressed upon the memory of the group by means of historic and mythologic accounts told since times long past. These are precisely the facts which must always be associated with the concept of territory among the Yanomami which cannot be thought of as just the site and immediate surroundings of the villages without completely distorting the understanding of Yanomami life and culture.

THE CONTACT SITUATION

Until late 1973, contacts between Yanomami and white society at large had been sporadic with, for example, scientific expeditions, Boundary Commission teams, missionaries, members of the Brazilian Air Force or the first whites to exploit the resources of the Indian territory: hunters, rubber-tappers, Brazil nut-gatherers... (see Ramos in this volume and O Estado de São Paulo, 1 March 1975).

The Road: In 1974 the BR-210, known as the Perimetral Norte Highway, in its Caracaraí-Içana stretch both in Roraima and in Amazonas, cut through the southern part of Yanomami territory which resulted in serious disruption of the groups affected. Deforestation teams (sub-contractors of the construction company Camargo Corrêa), contracted without any attempt at controlling the health of the workers, entered the Indian area in massive numbers and brought with them the first occurrence of influenza and measles which are lethal to the Yanomami (O Estado de São Paulo, 2 March 1975). According to Orlando Sampaio Silva (Professor at the University of Pará), the consequences of this massive penetration could be seen two

years later:

"To worsen the problems of the Yanomama brought about by the construction of the BR-210 road - the Perimetral Norte - some of their villages recently became disorganized and about half of their population died stricken by flu, measles, tuberculosis, venereal diseases (...) Indians became prostitutes, and today there are only a few remnants who wander about on the roadside, psychologically degraded and socially alienated. (...)

Some groups in the region of the Ajarani river have been scattered, their villages abandoned and many of the Indians died. These are the "Yauari" (a Yanomami group), those remnants who wander along the Perimetral Norte. Some Indians (Yanomami) have been used as unskilled labor in sawmills that were established on the stretch of the road east of the Repartimento river" (Sampaio Silva 1978:6-8).

This dramatic situation is also documented by Taylor (1976:4), Ramos (in this volume) and O Estado de São Paulo, 12 December 1975.

The consequences of the construction of the Perimetral Norte highway for the health of the Yanomami, as a result of their contact with members of the national society, can be duly evaluated from the following facts:

a) In the region of the Repartimiento stream and of the Ajarani and Pacu rivers (near km 40 to 105 of the Perimetral Norte in Roraima) contact with road workers caused numerous deaths, reducing 13 villages to eight small family groups (FUNAI Report 1977a:1-2) that live in ragged clothes and dispersed on the roadside (between km 29 and 50)⁴. The health conditions of these remaining Indians are appalling, some suffering from pneumonia, tuberculosis and venereal diseases (O Estado de São Paulo, 12 December 1975).

b) At km 145 of the Perimetral Norte, Indian groups were also struck by various influenza, pharyngitis and measles epidemics. Between 1971 and 1977, during the 38 months which preceded the arrival of the first road workers, the missionaries in the region had dispensed medicines to Indians 4,596 times; during the 38 months which followed, this number

jumped to 18,488 (see Appendix C, page 144); the population of some groups about 60 km to the north of the mission was reduced to less than half. On 3 May 1977 the mission (of the Catrimani river) reported to the 10th Regional Delegation of FUNAI that 68 Indians had died in a measles epidemic (FUNAI Report 1977a and O Estado de São Paulo, 12 May 1977). It was the second measles epidemic in the Catrimani region since the arrival of the highway in 1974 (O Estado de São Paulo, 12 December 1975).

Mining operations: In 1975 after the results of the geological research done by the RADAMBRASIL Project were made public, there was a great "rush" to exploit minerals in the Territory of Roraima (O Estado de São Paulo, 30 August 1975).

The Yanomami territory became a target for the governor himself, F. Ramos Pereira:

"It is my opinion that an area as rich as this, with gold, diamonds and uranium, cannot afford the luxury of preserving half a dozen Indian villages obstructing development" (O Estado de São Paulo, 1 March 1975).

Soon afterwards, in the Serra dos Surucucus in Roraima, exactly where there is the greatest concentration of Yanomami villages, miners camps were established to extract cassiterite, producing the same disastrous situation that existed on the Perimetral Norte:

"In the last few months the invasion of the area has caused serious problems for the Indians. Flu and measles epidemics have already been reported, putting at risk the survival of the Yanomami communities." (O Estado de São Paulo, 6 February 1976).

In a report by Dr. Kenneth I. Taylor, at the time coordinator of the Yanoama Project for FUNAI, we read (1976:5-6):

"Immunization of the Indian population has still not been carried out, for several months now it has been an extremely urgent necessity, as the miners are coming into the Indian area without the least control of the state of their health. They are taking flu, venereal diseases, etc., to the Indian population."

The presence of miners in the area eventually resulted in physical confrontation between Indians and miners. North American missionaries who operated in the area denounced "the murder of Indians who insisted on remaining in the mining region" (O Estado de São Paulo, 2 September 1976).

These outbreaks of violence finally led the federal authorities to intervene. Decree No. 0422 of 3 September 1976 of the Ministry of the Interior, and the unnumbered Decree of 3 September 1976 of the Governor of Roraima ordered that placer mining be stopped in the Yanomami Indian area of Serra dos Surucucus, and that the miners be evacuated from the region (O Estado de São Paulo, 3 September 1976).

Having at last ordered the closing down of the mining, the Minister of the Interior, Sr. Rangel Reis, declared to the press, however, that the National Department of Mineral Production was studying the request for permission to research for and extract minerals submitted by the Vale do Rio Doce Mining Company and by private companies interested in starting operations in the region. They would be able to do so only after they secure authorization from the General Secretariat of the National Security Council and from FUNAI because, by law, surface mining on Indian lands is reserved to the Indians themselves⁵ (Folha de São Paulo, 3 September 1976 and O Estado de São Paulo, 3 September 1976).

On the other hand, already in 1975, General Ismarth de Oliveira, President of FUNAI, had declared that the discovery of minerals would not harm the Yanomami who "will have all their rights protected." (O Estado de São Paulo, 8 February 1975). Before legal measures were taken by the authorities, however, at least 150 tons of cassiterite had been illegally extracted by the miners (O Jornal de Brasília, 1 October 1978).

Two years later, after the closing down of the mining operations, the Yanomami of the Surucucu region were again threatened with mining projects in their territory. The FUNAI fieldworker (sertanista) Apoena Meirelles, during an inspection trip to Roraima, mentioned the disturbing situation of the

Yanomami areas in the Serra dos Surucucus and on the Mucajaí and Catrimani rivers where the Mineral Resources Research Company (CPRM) was already operating and the Vale do Rio Doce Company was about to begin work:

"He considers that the authorization given to these companies was very premature, and may have disastrous consequences for the Indian communities whose lands have not yet even been demarcated." (O Estado de São Paulo, 18 November 1978).

According to statements of technicians of the Vale do Rio Doce Company, it is expected that in 1979 300 technicians and workers will enter the area of the Serra dos Surucucus (TV Roraima November 1978). This news is alarming because within a 80 km radius of the mining project there are approximately 76 Yanomami villages, a total of 3,800 Indians, most of them still not in contact with whites.

Legislation (Indian Statute - Article 20) provides for the temporary displacement or removal of tribal groups to another area, in the case of exploitation of sub-soil resources in an Indian area, which is of relevant interest to national development. It should be pointed out, however, that this exploitation will only occur exceptionally and not as a rule, and that in the concrete case of the Yanomami, various reasons - demographic density, extreme difficulty of access and degree of isolation of the Indians, besides the obvious ethical reasons - make such displacement or removal totally impracticable. The very physical survival of these Yanomami will be immediately threatened if the implantation of any mining projects is not preceded by a systematic vaccination program⁶.

Recently, on 4 March 1979, the television program of Amaral Neto (Globo Television Network) documented the establishment of the first camp of the Vale do Rio Doce Mining Company at Surucucu. We do not know of any agreement between the Company and FUNAI for the carrying out of a large-scale vaccination scheme. To simply establish a center for medical assistance, as the only measure, would be disastrous, because

it is well known how easily epidemics spread among Indian groups due to their constant movements and to the traditional reaction of the Yanomami to isolate themselves in inaccessible places when struck by epidemics. Effective medical measures cannot be postponed, if the progressive decimation of the 3,800 Indians in the region is to be prevented.

Colonization: The "Cattle raising District of Roraima", planned in 1977 to the West of the Rio Branco as far as the 62° W Meridian in the County of Caracarái, consists of two lots (Gleba A 1 and Gleba Caracarái; see Map 3-1 and References Cited). It covers an area of 600,000 hectares divided into 146 lots of 2,000 to 23,000 hectares (according to the Report of Government Activities - Roraima 1978). The work of demarcating the lots has been under way since early 1978.

The delimitation of this cattle raising area represents a grave violation of the rights the Yanomami Indians have to the possession of the lands they occupy:

a) Gleba A 1 (see Map 3-1) partially overlaps (approximately 800 hectares in the "Cachoeira da Lata" region) the Mucajái area which was declared to be "occupied by Yanomami Indians" by FUNAI itself (Decree 477/N; see page 115, Appendix A, page 141 and Map 3-1).

b) In the southwestern portion of the Gleba Caracarái (see Map 3-1) there are five Yanomami residential groups that, although known to FUNAI, have not had their lands delimited⁷.

c) In the northwest portions of Gleba A 1 and Gleba Caracarái (see Map 3-1), near the Apiaú river, there are Yanomami Indians. Their presence has been reported by missionaries of the Roraima Prelacy. Other sources establish the presence of these Indians (see Zerries 1974:28-29; Silvestri 1953 and Forno 1965, 1966a and 1966b). These Indians live amidst settlements and cattle ranches already established in the area. Their lands are neither delimited, nor do they even appear in the FUNAI Report of its survey of the Yanomami population (FUNAI 1977b).

d) In the northwest portions of Gleba A 1 and Gleba Caracarái (see Map 3-1: INCRA - liberated by FUNAI, 1977) in the upper Apiaú region, an area which has been known to belong to the Indians was released for colonization even before it was properly surveyed by FUNAI. See FUNAI Report (1977a:6) which says:

"However there are supposedly some Yanoama villages between the Apiaú and Mucajái rivers; due to bad weather (rainy season) and for lack of people in the area who might have helped us locate them, we were not able to confirm this information."

Another fact should be mentioned. In the region between the Ajarani and Apiaú rivers in Roraima, 195,000 hectares of lands previously occupied by Yanomami groups that were decimated by contact with whites during construction of the Perimetral Norte (FUNAI 1977a:8) have been included in the agricultural projects mentioned above after having been released by FUNAI (1977a). Part of the remnant of these Indians has been given an area of 35,400 hectares (Ajarani Area, see Appendix A, page 141).

However, this area is surrounded by a huge area set aside for cattle raising projects. This situation will obviously put the Indians in an extremely vulnerable position, not only with regard to the defence of the boundaries of their territory, but also with regard to the maintenance of the environment and the ecological balance necessary for their survival (see Map 3-1).

It should be noted that the "cattle-raising District of Roraima" was planned around the same time (1977) as FUNAI was carrying out its survey of Yanomami villages. There was apparently a complete lack of the necessary coordination between the two agencies, that belong to the same Ministry, which has led to infringement of Yanomami territorial rights.

It is possible that, due to the expansion of the colonization program, new projects will eventually be established in the region. Given this prospect, it is imperative that the lands which are occupied in fact by the Yanomami be correctly demarcated as soon as possible. Otherwise these communities

will not survive the massive entry of colonists onto their lands.

Future cattle raising projects in Roraima should be preceded by careful examination and planning in order to prevent the occupation of lands to the west of the 62°W Meridian and to the north of the 1° 30' N line of latitude. These lands are "occupied in fact" by Yanomami Indians as documented in this report⁸.

FUNAI AND RELIGIOUS MISSIONS

FUNAI: FUNAI has installed seven Indian Posts (P.I.) in the region, as follows:

- POSTO CAUABURIS in the Cauaburis river region (Amazonas). According to FUNAI there are no malocas in the vicinity of the post. The nearest ones are 60 km away. However, the FUNAI Report (1977b:1) mentions that a Yanomami group uses the area between the post and the Maiã river. CIMI Bulletin (1978:5) reports that this post is now totally abandoned.

- POSTO ALIANÇA in the Padauari river region (Amazonas). On the RADAMBRASIL map (1975, sheet NA-20-Y-D) seven villages appear within a 60 km radius of the post. FUNAI Report (1977b) does not, however, make any mention of either the post or the malocas.

- POSTO AJURICABA in the Demini river region (Amazonas). According to FUNAI, "there are no Indians at the P.I." (FUNAI 1977b:5).

- POST AT KM 211 of the BR-210 Highway (Amazonas). It was opened in late 1976 (Jornal de Brasília, 2 April 1978). It is not on the map of the RADAMBRASIL Project because their survey preceded its establishment, nor does it appear in the FUNAI Report (1977b), except as one of the three support bases which were used for the FUNAI aerial survey. It was established in an area which is not traditionally Indian. A Yanomami group has moved from its traditional area to near the Post in May 1978. It must be pointed out that the Yanomami only move within the areas traditionally occupied by them. It can, therefore,

be supposed that this group has been induced to move in order to justify the presence of the post in that location. This post was also used as a clandestine prison camp for partially acculturated Indians (Macuxi/Wapixana) of Roraima (Jornal de Brasília, 2 April 1978). According to declarations made by employees of the Vale do Rio Doce Company, this post, which has a good landing strip opened up by the road construction company (Camargo Corrêa), will be used as a base for the transportation of cassiterite to be extracted from Serra dos Surucucus.

- SUB-POSTO MAPULAŨ in the Mapulaŭ river region (Amazonas). According to FUNAI, it has been "burnt down by the Indians, put out of use" (FUNAI 1977b:5). The Indians did indeed burn down the post because they were revolted by some deaths caused by yet another epidemic.

- POSTO AJARANI in the Ajarani river region (Roraima). It is not mentioned in the FUNAI Report (1977b), but it is referred to in Taylor (1976:3), as a post for control of the entry of whites into the Indian area by the BR-210 highway. The post is located on the edge of the cattle raising project which INCRA is demarcating in the Ajarani, Apiaŭ and Macajaŭ river areas.

- POSTO SURUCUCU, Serra dos Surucucus (Roraima). It is located close to where the Vale do Rio Doce Company is expected to have its base camp for the extraction of cassiterite. A nearby mission of MEVA (Missão Evangélica da Amazonia) which appears on the map of the RADAMBRASIL Project (sheet NA-20-V-B) has been abandoned.

The Missions: The Missions maintain eight stations among the Yanomami:

- MISSÃO MATURACA (Salesian Order) in the Cauaburis river region (Amazonas). There are 500 Indians at the mission and some 200 more on the Maiá river who maintain intermittent contact (FUNAI Report 1977b).

- MISSÃO MARAUIÁ (Salesian Order) in the Marauiá river region (Amazonas). "Large malocas with an enormous Indian population" (FUNAI Report 1977b).

- MISSÃO MARARI (New Tribes Mission of Brazil) in the Marari river region (Amazonas). There are two malocas in its immediate vicinity.

- MISSÃO TOOTOTOBÍ (New Tribes Mission of Brazil) in the Toototobi river region (Amazonas). There are three malocas in its immediate vicinity.

- MISSÃO CATRIMANI (Roraima Prelacy) in the Catrimani river region (Roraima). There are three malocas in its immediate vicinity.

- MISSÃO MUCAJAI (Missão Evangélica da Amazônia) in the Mucajai river region (Roraima). There are three malocas in its immediate vicinity.

- MISSÃO PARIMIU (Missão Evangélica da Amazônia) in the Uraricoera river region. It has been recently installed, following the closing down of the Surucucu Mission (1976). It does not appear in the FUNAI Report 1977b.

- MISSÃO AUARIS (Missão Evangélica da Amazônia) in the Auaris river region. It has 41 small Yanomami dwellings and three large Maiongong malocas in its immediate vicinity.

The work of the missions can be better evaluated by reference to Brooks et al. (1972:60-62) on the Catrimani and Toototobi missions.

HISTORY OF PROPOSALS AND DECLARATIONS FOR THE DELIMITATION OF YANOMAMI TERRITORY (1968-1978).

The prospect of rapid economic occupation of the region and the consequent threat that this would represent for the Yanomami Indians led to several proposals and declarations regarding delimitation of Yanomami lands whose aim was the guarantee of the rights of these Indians to the possession and occupation of their lands. Between 1968 and 1978, eleven proposals and/or declarations were produced to no avail - the problem has not been resolved:

- In the FUNAI document no. 94/68 of 12 June 1968 the Head of the 1st Regional Inspectorate of FUNAI recognized as Indian area the territory between the Piranteira Falls on

the lower Catrimani, and the headwaters of the Catrimani and its tributaries.

- In December 1968 a proposal for the creation of a Yanomami Indian Park was submitted to the Presidency of FUNAI by the anthropologists Kenneth I. Taylor and Alcida R. Ramos.

- Later, on 13 and 14 July 1969, these anthropologists supplemented their initial proposal with information acquired from the missionaries of Catrimani mission.

- On 1 March 1969, in document no. 15/69 addressed to the Head of the 1st Regional Inspectorate of FUNAI, the Bishop of Roraima requested the creation of a Yanomami Indian Park.

- In 1969 a draft of a decree intended to create a Yanomami Indian Park was submitted by the then Minister of the Interior, General José Costa Cavalcanti to be signed by the President of the Republic, General Arthur da Costa e Silva. It was published, as a draft, unsigned, by the Ministry of the Interior - National Indian Foundation.

- On 18 November 1972 the Bishop of Roraima requested of the Indigenous Council of FUNAI that steps be taken for the creation of a Yanomami Indian Park.

- On 15 April 1974 yet another proposal for a Yanomami Park, with an appended map, was sent to the Presidency of FUNAI by the missionary Father João Batista Saffirio, who was then in charge of the Catrimani mission.

- In 1975 the Yanoama Project prepared and directed by the anthropologist Kenneth I. Taylor, under contract to FUNAI, provided for study of the creation of a Yanomami Park (O Estado de São Paulo, 26 February 1975).

- On 10 May 1976, the anthropologist Kenneth I. Taylor, former coordinator of the Yanoama Project, sent to FUNAI a "proposal for the correct and appropriate demarcation" of Yanomami lands (Projeto Terras Yanoama, section 4, page 6).

- In April 1978 the Roraima Prelacy, at the request of the President of FUNAI, of the Delegate of the 10th Regional Delegation of FUNAI and of Sr. Juliano Escóssia of COAMA-FUNAI, sent another proposal for the delimitation of an Indian

Reserve in the Catrimani river area.

- On 11 August 1978 the Roraima Prelacy, following contact with FUNAI personnel, presented yet another proposal designed to clarify and complete the previous one, mentioned above.

THE SITUATION OF YANOMAMI LANDS IN 1978

Between 1968 and 1978 several organizations and researchers who have dealt with Indian problems and with the Yanomami question, not only alerted FUNAI to the need to delimit the Yanomami lands in one single, continuous area (reserve or park), but also emphasized the urgency of the measures to be taken.

It should be noted that the seriousness of the situation regarding the Yanomami lands was known to FUNAI itself, as we see in the FUNAI Report (1977a:6):

"We would like to make clear that there are cattle raising, industrial and mining exploitation projects for the entire (Roraima) Territory, and that they involve areas which are known to be Indian areas. In some of these, the Indian groups have little or no contact with members of the national society."

In spite of this information, the Presidency of FUNAI in its Decree 477/N of 22 December 1977 declared as "occupied by Yanomami Indians" four separate areas which do not take into consideration the recommendations that had been made regarding the need to protect the Yanomami lands in one continuous area. This Decree also ignored the intercession of the Bishop of Roraima:

"The possibility of the creation of an Indian Reserve in Roraima in order to guarantee the survival of about 10,000 Yanomami Indians was dismissed by the President of FUNAI, General Ismarth de

Oliveira, in response to the Bishop of the Territory, Don Aldo Mongiano" (Folha de São Paulo, 11 May 1978).

A constant feature of all the FUNAI proposals to this date has been the creation of discontinuous areas:

- on 29 May 1978 Decree No. 505/N declared 16 more areas as "occupied by Yanomami Indians";
- on 7 July 1978 another Decree, No. 512/N, declares one further area as "occupied by Yanomami Indians";
- on 10 July 1978, Decree No. 513/N replaced one of the areas, formerly declared "as occupied by Yanomami Indians" by decree No. 505/N, with a new area.

(see Appendix A, page 141).

To sum up, FUNAI's initiative has resulted in the delimitation of discontinuous areas, leaving between them open corridors of 5 to 30 km on average. These represent an extremely grave threat to the integrity of traditional Yanomami territory and to the fundamental right of the Indians which is guaranteed by the Federal Constitution and by the Indian Statute: the possession of the lands which they effectively occupy.

These open corridors will obviously permit encroachment by colonists into Indian areas, thus increasing the possibility of conflicts and creating a situation which the appropriate agencies would find difficult to control.

The above mentioned FUNAI Decrees not only do not protect the Indian lands, but, what is more serious, seem to prepare the ground for the future exploitation of the traditional Yanomami territory by breaking it up into minute islands of land, which will be highly vulnerable to this process.

TECHNICAL DISCUSSION OF THE FUNAI AERIAL SURVEY (1977) OF YANOMAMI TERRITORY.

The delimitation of the 21 areas recognized by FUNAI as being occupied by the Yanomami Indians was done on the basis of the aerial survey carried out by this agency in accordance

with (internal) Decree No. 304/P of 17 June 1977 (FUNAI Report 1977b)⁹.

The aerial survey carried out in July 1977 by FUNAI personnel suffers from serious technical shortcomings and even contradicts (see items "a" and "c" below) the very delimitation of the areas which was based on it. In fact, an evaluation of the results of this survey, checked against other documents¹⁰ and against the present situation of the Indian villages, allows us to point out the following inaccuracies:

a) 12 villages located by the FUNAI aerial survey are nevertheless left outside the areas that have been declared as occupied by the Indians (Appendix B, page 142);

b) 42 villages not included in the FUNAI Decrees have, however, been mapped by the RADAMBRASIL Project (1975) (see Map 3-1). Therefore, either there were faults in the FUNAI survey, or significant movement of malocas, by the Indians, in the period of five years¹¹. Either alternative confirms the inadequacy of the areas declared by FUNAI to be "occupied by Yanomami Indians" (Appendix B, page 142);

c) 2 areas were declared (by the Decrees mentioned above) to be occupied by Indians without any villages having been registered at these locations by the FUNAI aerial survey (Appendix B, page 142);

d) 3 areas known to be Indian areas were not surveyed and/or declared to be occupied by Indians (Appendix B, page 142);

e) 4 villages have moved following the FUNAI aerial survey and are now outside the areas declared to be occupied by Indians (information provided by the missions) (Appendix B, page 143);

f) 3 FUNAI Posts were not mentioned in its own aerial survey of the area (Appendix B, page 143).

To conclude, the area of at least 16 Yanomami villages have not been declared by FUNAI as being "occupied by Indians" (Appendix B, items "a" and "e"). This represents, based on the

estimate adopted above, page 117, note 2, 800 Indians, or approximately 9.52% of the population. Adding these 16 villages to the 42 surveyed by the RADAMBRASIL Project and which were missed out by the FUNAI Decrees, and without taking into consideration those areas known to be Indian but not surveyed by FUNAI, the number of Yanomami left outside the areas declared to be occupied by these Indians represents about 2,900 Indians, that is, 34.52% of the population. Even though this is an approximation (taking into account the possibility that the figure of 42 villages may mean, in part, movements by the Indians rather than survey errors), it raises doubts about the credibility of the survey carried out which, given the fundamental importance of the matter, is sufficient to call for a carefully considered revision.

The aerial survey of the Yanomami settlements suffers from such technical shortcomings as to invalidate the project of demarcation of their lands, for which it was the basis. This situation is aggravated by the fact of its having been the only basis for the delimitation carried out. In this sense, the islands of land defined by the Decrees 477/N, 505/N, 512/N and 513/N are nothing but an arbitrary dismembering of traditional Yanomami territory produced by mere bureaucratic geometry.

ECOLOGICAL, ANTHROPOLOGICAL, MEDICAL AND LEGAL CONSIDERATIONS REGARDING THE DELIMITATION (FUNAI 1978) OF YANOMAMI TERRITORY.

A model of discontinuous delimitation of Yanomami territory is undeniably inviable. What follows is a more detailed analysis of the main points which underlie this assertion.

Ecological considerations: The delimitation of the areas occupied by the Yanomami, according to the above mentioned Decrees, ignores the most fundamental necessities for the ecological adaptation of an Indian group in the Amazon Forest. To simply circumscribe the Indians in the area of their village and its immediate surroundings is to deny them access

to the extensive area which provides the Yanomami with not only 50% of their indispensable food sources (hunting, gathering, fishing), but also with 80% of their necessary raw materials, in blatant disrespect of the Indian Statute which, in Article 23, provides for the following:

"Possession by the Indian is held to mean effective occupation of the land he holds in accordance with tribal usages, customs and traditions and on which he lives or exercises activities indispensable to his subsistence or of economic benefit." (our emphasis).

As has already been said, a series of researches carried out among the Yanomami have demonstrated that these Indians utilize an area with an approximate radius of 15 km for their hunting, fishing, gathering and horticultural activities. After 4 or 5 years the members of a given village move to another area of equivalent size, thus allowing for the natural restoration of fauna and flora.

The Yanomami practise a kind of intermittent nomadism and their socio-economic activities involve very large areas. Thus, although some of the areas between villages or sets of villages appear to be "empty", according to the FUNAI aerial survey - areas which partially correspond to the corridors left open between villages by the FUNAI Decrees - they are used by the Indians as an indispensable area of economic utilization:

- in hunting and fishing and particularly in collective hunts in more distant areas;
- in the gathering and collecting of raw materials, given that the plant potential immediately surrounding the malocas is quickly exhausted by the daily needs of groups of 30 to 100 individuals;
- in the use of a network of old fields to which the communities periodically return for long cycle agricultural produce;
- in the periodic movement of the villages to allow for the regeneration of fauna and flora, following prolonged ecological utilization of a given area.

To give an idea of how underestimated the basic needs of



15 and 16. Visitors at festival on the upper Catrimani.
(Photos: Bruce Albert)

Yanomami communities really are, it is enough to point out that the biggest of the areas recognized by FUNAI to be "occupied by Yanomami Indians" (Surucucu in Roraima) has a diameter of approximately 60 km and includes 53 malocas (FUNAI 1977b), thus producing a demographic concentration which is incompatible with the balanced regeneration of natural resources and such as to provoke the rapid and definitive destruction of the subsistence base of the Yanomami.

Should this policy be maintained, in 10 years time, surrounded by colonists and confined to minute islands of ecologically exhausted forest, the Yanomami will have their autonomous economic system destroyed for lack of appropriate eco-zones and will be reduced to a few starving individuals, entirely dependent on the guardian agency (FUNAI). If, on the contrary, they are maintained in an area of adequate size, it will be possible to preserve a reasonable degree of economic autonomy of these Indian communities and the national economy will be spared the need to create and enlarge an unproductive human contingent, dependent on the national community.

Anthropological considerations: Besides producing serious ecological disturbances, the delimitation spelled out in the FUNAI Decrees would also result in a drastic social and cultural disorganization of the Yanomami communities which would threaten in a definitive way the cohesion of these communities.

In fact, the intervening corridors formed around the Indian areas, open to the economic activities of the white society at large, would create a critical obstacle to the traditional social relationships between Yanomami villages and groupings of villages since, as the anthropologists Kenneth I. Taylor and Alcida R. Ramos have said,

"The Yanoama live according to a social dynamic in which the renewal of alliances between communities depends on constant ceremonial and political exchanges between villages, requiring constant movement throughout extensive areas" (Jornal de Brasília, 1 Oct. 1978).

Therefore, to dismember Yanomami territory would have immediate consequences for the normal process of inter-

community activities. In the first place it would make it difficult or even impossible for the Indians to put into practice their inter-community marriage strategies, thus threatening the reproduction of the group and eventually producing uncontrollable intra- and inter-community tensions by reducing the availability of potential spouses.

Furthermore, dispersing the Indian communities and surrounding them by colonists would make it impossible to sustain the reciprocity between communities, which is one of the chief mechanisms of Indian socio-economic solidarity, thus leading to the rapid disorganization of the groupings of communities. It should also be remembered that, with the proximity of white settlers, there will be the risk of the Indians being attracted as labor force and transformed into itinerant rural laborers ("bóias-frias").

Finally, the funerary ceremonies which are fundamental in Yanomami culture and which by their very nature require the participation of several communities, would also suffer and might in fact be prevented. The result would be a psychological collapse and demoralization capable of rapidly destroying their cultural life and contributing further to the disorganization and extinction of this ethnic group.

The fragmentation of Yanomami territory disrespects the provisions expressed in the Indian Statute (Article 2, VI), which states:

"It is the duty of the Union, the States and the Counties, as well as the agencies of the respective indirect administrations... to respect, in the process of integrating the Indians in the national community, the cohesion of the native communities and of their cultural values, traditions, usages and customs." (our emphasis).

This fragmentation also conflicts with Decree No. 58,824 of 14 July 1966 which promulgates Convention 107 of the International Labor Organization, concerning Indian tribes and populations and which in Article 4, item "a" states that, on the part of the signatory countries:

"Due account shall be taken of the cultural and religious values and of the forms of social control existing among these populations, and of the nature of the problems which face them both as groups and as individuals when they undergo social and economic change."

Medical considerations:

Contact and Health

"As is well known, such relatively mild ailments of whites, as colds, influenza, measles and chicken pox are lethal to the unresistant Amerindian. Pneumonia, tuberculosis, and smallpox can become exaggeratedly virulent epidemics among aboriginals... Mere fleeting exchanges with ostensibly healthy white laborers can thus annihilate whole villages ..." (Goodland and Irwin 1975:63-64).

The fragmentation of the Indian territory into 21 discontinuous areas will create more extensive borders, thus multiplying the points of contact with whites and putting the Indians in a particularly vulnerable position as regards transmission of infectious diseases. To make the situation even worse, the greater concentration and increasingly sedentary life of an Indian population in minute areas would result in the following:

a) due to the ecological depletion of the Indian habitat, a drastic decline in the quality of their diet would follow, resulting in a chronic state of undernourishment of the Indian population (especially with regard to protein requirements); and

b) due to prolonged residence in the same area, contamination of water and soil by parasites (helminths, amoebas, etc.) would be intensified, leading to chronic over-infestation of the Indian population with parasites.

(See Dr.J.V. Neel, a medical doctor, expert in genetics, author of various papers on the Yanomami, 1971:584 and 1977: 163).

All these factors which are directly related to the fragmented delimitation of the Yanomami territory, clearly demonstrate that the 21 areas proposed by FUNAI will cause great damage to the Indians, not only by intensifying their

exposure to Western diseases, but also by drastically weakening their physical resistance, which is precarious in the most "favorable" of contact situations.

The dispersal of the Indian areas would also make it far more difficult to establish a scheme of adequate medical assistance, thus disrespecting the very legislation of Brazil, which, by means of Decree No. 58,824/66 (which promulgates Convention 107 about Indian and tribal populations), Article 20, items 1 and 2, not only stipulates that "Governments shall assume the responsibility for providing adequate health services for the populations concerned", but also that "the organization of such services shall be based on systematic studies of the social, economic and cultural conditions of the populations concerned".

Vaccinations: The program of medical assistance to the Indians has been deficient and can be evaluated from the following information:

Dr. Kenneth I. Taylor of the University of Brasília, then coordinator of the Yanoama Project, reported (Taylor 1975) that only some Yanomami Indians of the P.I. Ajarani and of the Catrimani mission were vaccinated against meningitis and measles. Everywhere else in the Yanomami area there were no vaccinations, which is all the more serious when it is known that more than two years have gone by since the opening of the BR-210 highway and that there were cases of tuberculosis in the regions of the lower Catrimani (Taylor 1975:4) and of the P.I. Cauaburis (Taylor 1975:10). A measles epidemic had spread through the latter area in September 1975.

In the Mucajaí and Apiaú river areas several cases of tuberculosis have recently been diagnosed. These include cases of intestinal, ganglial and peritoneal tuberculosis among the Indians (information from Missão MEVA) and there have already been several deaths. Until January 1976, when the Yanoama Project was suspended, never to be reactivated, there had been no vaccination program whatsoever, except for what is described in the FUNAI Report (1977a:5):

"We were informed that in late 1976 the EVS (Mobile Health Team) of the 1st Regional Delegation tried to vaccinate various Yanoama groups of the Mapulaú, Demini and other rivers against measles but they were prevented from doing so with the excuse that the Indians' arms hurt and they could not work in their fields. The children were vaccinated, but very few adults allowed it."

This failure to vaccinate the Indians must however be attributed to the lack of experience of the team, unaccustomed to these Indians, rather than to the latter's resistance.

Endemic diseases: Over and above their threat to the health of the Indians, those settlers and miners who are penetrating into this area may in turn be affected by certain endemic diseases which already seriously afflict the Indians.

Uncontrolled contact and increase in population density may lead to a rapid spread of these diseases and cause extremely serious problems for the entire regional population, putting the future development of the region at considerable risk.

- Onchocerciasis One of these endemic diseases is onchocerciasis,

"the name given to the disease caused in man by infestation with Onchocerca volvulus, a filarium whose adult forms are generally found in subcutaneous nodules. The micro-filaria, after leaving the organism of the adult female, move away from these nodules and tend to spread through the conjunctiva of the entire body surface. Through proximity they invade the tissues of the front part of the eye, the choroid, the retina and the optic nerve, causing keratitis - conjunctivitis, corneal opacities, iridocyclitis, cataracts and back uveitis which often lead to blindness." (Belfort, R. and M. Moraes n.d.:1).

This disease has already been registered in Yanomami territory in the regions of the Toototobi, Auari, Mucajaí, Marauíá rivers and in the Serra dos Surucucus, in a number of research surveys carried out by medical teams in these areas (See Rassi et al. 1976; Moraes and Dias 1972; Moraes, Fraiha and Chaves 1974 and Moraes and Chaves 1974).

Also with regard to onchocerciasis, we find in Goodland and Irwin's book on the Amazonian forest (1975:52, 55):

"The vectors of onchocerciasis are blackflies of the Simuliid family ... which increases with intensifying human activity"

and

"The only hope for containing this disease is immediate and effective isolation of the few foci in the short time remaining while such action is still possible. If the road (BR-210) now planned to pierce the main focus is not realigned, disaster as rife as in Africa ... must be expected ... Although the epidemiology of onchocerciasis is reasonably well known ... immunization has not been developed, treatment is not particularly effective, and is actually hazardous in some cases."

- Malaria The entire Yanomami area is recognized as having a high incidence of malaria, including medication resistant varieties which have recently caused several deaths among the Indians in the Auaris river region in Roraima (information from Missão Evangélica da Amazônia) and the Maiã river region in Amazonas where 100 Indians have died (see CIMI Bulletin 1978:5, Folha de São Paulo, 16 August 1978 and O Estado de São Paulo, 8 June 1978).

With regard to malaria in Amazonia, a group of researchers from the National Institute for Amazonian Research (INPA) recently observed two disturbing factors:

a) the Plasmodium Vivax as well as the Plasmodium Falciparum are becoming resistant to chloroquine;

b) the Anopheles mosquito is becoming resistant to DDT, according to observations in areas of higher population density (O Estado de São Paulo, 19 January 1979. See also Dr. J.M. May 1961).

- Other endemic diseases It should also be noted that in 1974/1975 several cases of leishmaniasis were registered among construction workers on the BR-210 (information from the Catrimani mission) in the camps of the Camargo Corrêa construction company. Salesian missionaries have also noted several cases of leishmaniasis among the Indians of the

Marauíá river area and of "Fogo selvagem" among the Indians of the Maiá river area in Amazonas. Also on record is the high incidence of yellow fever in the Mucajaí river region in Roraima.

Legal considerations: By means of its President's Decrees no. 477/N (of 22 December 1977), 505/N (of 29 May 1978), 512/N (of 7 July 1978) and 513/N (of 10 July 1978) FUNAI has defined as areas occupied by the Yanomami Indians what corresponds to only 1/3 of the territory occupied in fact by these Indians, therefore disregarding 2/3 of this territory which means taking away from them areas which are absolutely necessary to their physical and cultural survival, as described above. The loss for the Indians is not, however, limited to the physical reduction of their territory, but also to its fragmentation and consequent vulnerability to uncontrolled entry of the expanding periphery of white society.

It should be remembered that the Federal Constitution (Constitutional Amendment no. 1/69, Article 198)¹² guarantees the Indians the permanent possession of the lands where they live, recognizing their "right to the exclusive usufruct of the natural wealth and all the resources of these lands".

Law no. 6001 of 19 December 1973, called the Indian Statute, in regulating the legal situation of the Indians and of the Indian communities, defines as obligation of the Administration:

"To guarantee the Indians the right to remain, if they wish, permanently in their habitat, providing them there with resources for their development and progress." (Article 2, V);

and

"To respect, in the process of integrating the Indians in the national community, the cohesion of the native communities, and their cultural values, traditions, usages and customs." (Article 2, VI).

The Indian Statute itself in Article 23, in referring to effective occupation, does not limit itself to the physical area immediately inhabited by the Indians, but recognizes the

socio-economic reality of the Indian community, stating:

"Possession by the Indian is held to mean effective occupation of the land he holds in accordance with tribal usages, customs and traditions and on which he lives or exercises activities indispensable to his subsistence or of economic benefit." (our emphasis).

The demarcation of Indian lands, referred to in Article 19¹³ of the Indian Statute, is a measure for the protection of the Indians. Nevertheless, it is not the only such measure provided for nor, for that matter, a "sine qua non" for the recognition of Indian rights to the lands which they occupy. Article 25 of the Statute in fact states:

"The recognition of the rights of Indians and tribal groups to the permanent possession of the lands where they live, in the terms of Article 198 of the Federal Constitution, does not depend on their demarcation. This recognition shall be guaranteed by the federal agency of assistance to the Indians, in accordance with both the present situation and historical consensus regarding the antiquity of the presence of the Indians, without detriment to the appropriate measures that the Powers of the Republic may take in the case of omission or error of the said agency." (our emphasis).

Brazilian law, therefore, guarantees to the Indians, and this is a Constitutional guarantee, the possession of the lands necessary to their physical survival and the continuance of their cultural values, traditions, practices and customs.

In Article 26¹⁴ the Indian Statute provides for the establishing of "areas for the possession and use of the Indians", in various forms, one of which is the "Indian Park" defined as:

"that area of land occupied by Indians at a stage of integration which permits economic, educational and public health assistance by agencies of the Union, in which shall be preserved the flora, the fauna and the scenic resources of the region" (Article 28).

The creation of a Yanomami Indian Park is, therefore, a measure provided for in Brazilian law and represents a concrete form of guarantee of the rights ensured for the Indians by the Federal Constitution and the Indian Statute.

PROPOSAL FOR THE CREATION OF A YANOMAMI PARK

For all the reasons presented:

- the ethnic characteristics of the Yanomami people (page 101);
- the disturbing situation of present contact (page 104);
- the delay in providing for the measures requested in a series of proposals (page 113);
- the technical inadequacy of the aerial survey and of the areas declared to be occupied by the Indians, by FUNAI (page 116);
- the inadequacy, from an ecological, anthropological, medical and legal point of view, of these areas (page 118).

it is necessary that immediate measures should be taken, which will be capable of protecting the Yanomami Indians from the harmful consequences of uncontrolled contact.

These measures, in order of urgency, are the following:

a) The creation of a Yanomami Indian Park, in accordance with Articles 26 and 28 of the Indian Statute, for the possession and occupation of the majority of the Yanomami Indians who are semi-isolated or only in intermittent contact with the Brazilians of the region, in a continuous area which reaches from the Serra do Padre (Amazonas), following the line of the Brazil-Venezuela international border, to the upper Uraricaá river and its tributaries (Roraima). (For the boundary and detailed characteristics of the proposed Park, see Map 3-1, the Draft Decree, and the boundary description, appended).

b) The creation of Indian Reserves, in accordance with Articles 26 and 27 of the Indian Statute, for the possession and occupation of those few Indians who have in the recent past moved to locations not traditionally occupied by the Yanomami and are in permanent contact with white settlers along the length of rivers or highways, and whose areas correspond to those already recognized by FUNAI as being "of Yanomami Indian occupation" (Gurupira, Matapi, Ajuricaba, Pacu, Ajarani).

It will also be necessary, following an appropriate survey, that other areas of this type should be set aside on the Apiaú river and at km points 29 and 33 of the BR-210 highway, in order to restore to the Yanomami lands which were incorrectly included within the area of the cattle-ranching projects of the Federal Territory of Roraima (see Map 3-1 and pages 125-127).

c) The survey of a 70 km strip on each side of the BR-210, between the rivers Demini and Marauiá, in order to establish the actual existence and location of the seven villages registered on the RADAMBRASIL map (1975). According to the results of this survey, the further inclusion of this area in the proposed Park, or the delimitation of a separate Reserve, would have to be considered (see Map 3-1).

d) Following the adequate guarantee of the protection of the Yanomami lands by means of the measures outlined above, we propose, in an initial emergency period, that a campaign of preventive medical care be carried out which will include the vaccination of all Indians situated in a zone 80 km in width along the length of the boundary of the proposed Park and around the centers of contact with Brazilian society (Highway, Mining Project and Cattle-raising Projects mentioned above).

THE YANOMAMI PARK - GENERAL REMARKS

International Boundary The legal standing of an Indian Park, as provided for in the Indian Statute (Article 28)¹⁵ is particularly appropriate not only for the protection of the Yanomami ethnic group, but also to safeguard the national interest, given that these are Indian lands located in an international border zone. In fact, a Park would provide not only for the assistance of the Indians, but also for the control of entry into the area.

This point is made in the preamble to the Draft Decree for the creation of a Yanomami Indian Park, submitted by the then Minister of the Interior, José Costa Cavalcanti to the President of the Republic, General Arthur da Costa e Silva in 1969 (see page 114), which states:

"On the other hand, as regards those Indian groups located near the border with Venezuela, the measure is also called for since individuals or groups interested in attracting these Indians to the other side of the border, in order to engage them as cheap or even slave labor, are already active in their process of persuasion. The creation of a Park, to be administered by the National Indian Foundation, would be an effective way of putting an end to this situation. And finally, the creation of this Park is of National Security interest since it involves an international border zone." (FUNAI 1969:73).

At least 140 Yanomami villages have been located by anthropologists and geographers along the length of the border with Venezuela (see Appendix D, page 146). In the extreme north of the area of the proposed Indian Park, in the region of the Auaris river, the attraction presented by the

Venezuelan national society is already bringing about the movement of Maiongong (Makiritare) Indian villages across the border (see Yanomami Park proposal - K.I. Taylor and A.R. Ramos, addendum no.1, 13 July 1969, page 114 of this document).

This could also very likely happen in the near future with Brazilian Yanomami who maintain intense social interaction with Yanomami communities in Venezuela and would involve an irreparable loss to the Nation.

Protection of the Environment The special interest of preserving the ecology of the region has motivated the carrying out of studies and the publishing of decrees for the creation of areas of environmental protection, including significant portions of Yanomami territory:

a) In the north of the Territory of Roraima, the proposed Indian Park has an extensive area which overlaps the Parima Forest Reserve created in 1961.

Decree No. 51,042/61, creating the Reserve, stated in Article 4:

"Within the area comprised by the Forest Reserve, Indian lands will be respected so as to preserve the aboriginal populations in conformity with the provisions of the Constitution and relevant current legislation as well as the principles of protection and assistance to the Indians which are followed by the Indian Protection Service.

Sole paragraph - The Indian Protection Service will be in charge of assisting the Indians in the areas set aside for them and in conformity with the contents of this article."

b) Similarly, the Brazilian Institute for Forestry Development (IBDF) recently (27 November 1978) proposed to the Ministry of Agriculture the creation in the State of Amazonas of the Pico da Neblina National Park, the area of which also coincides with a significant part of the proposed Yanomami Indian Park 755,000 hectares - 11.71% of the proposed Yanomami Indian Park).

c) Over and above these areas of environmental protection, a large part of the area of the proposed Indian Park (2,165,000 hectares - 33.58%) is considered in the studies of the RADAMBRASIL Project to be covered by the Forestry Code Law (Law no. 4,771 of 15 September 1965) and therefore an area of permanent preservation, not open to economic utilization:

"The forested areas of permanent preservation with which this law is concerned should not be included in the distribution of land for agricultural purposes, in settlement or agrarian reform projects." (Article 8).

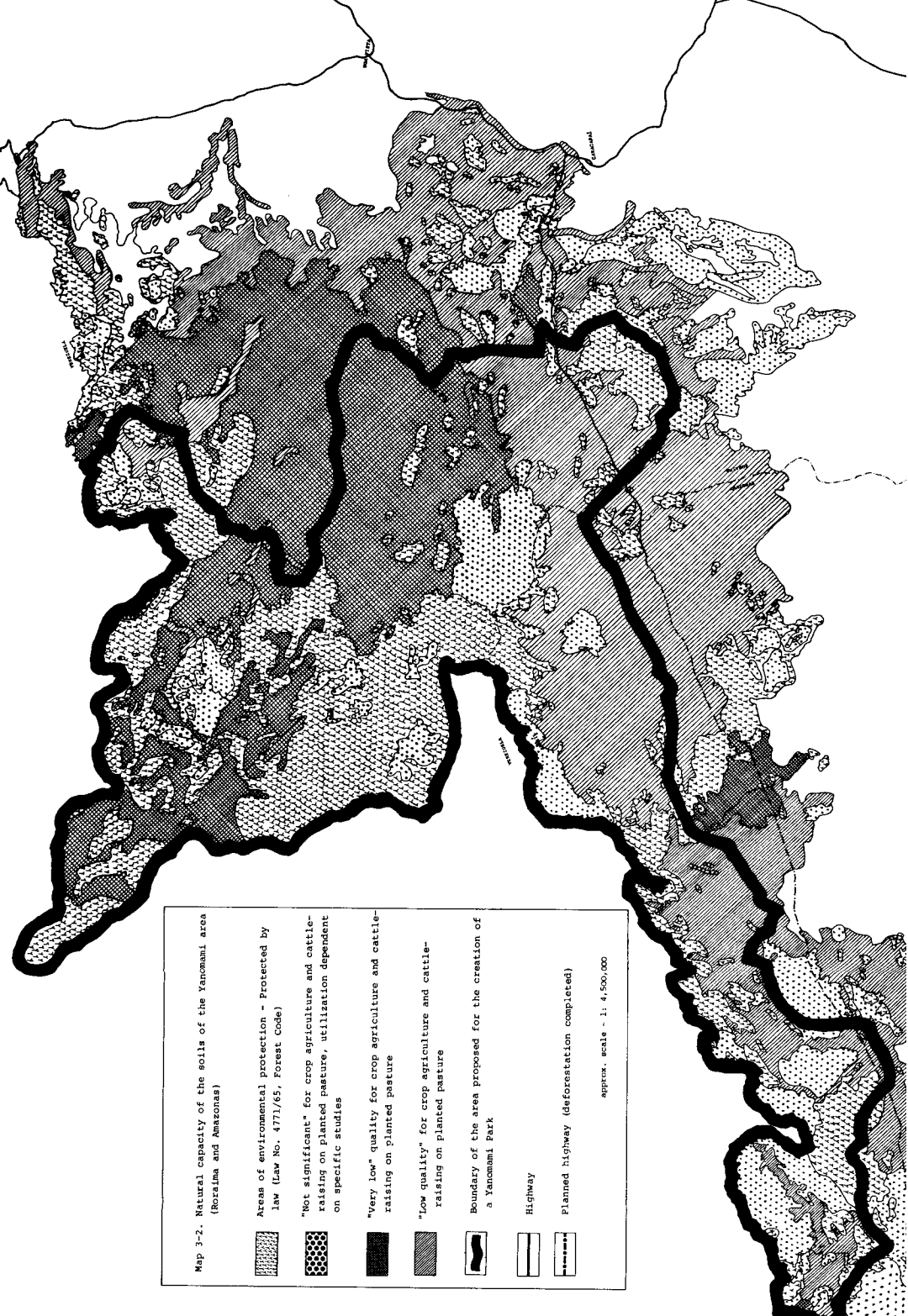
Article 3, item g, of the above mentioned Law 4,771/65, provides further that these areas may be set aside to preserve the environment which is necessary to the life of Indian populations.

d) Apart from the areas of permanent preservation, the lands which make up the area of the proposed Indian Park are declared to have a natural capacity¹⁶, for purposes of crop agriculture and cattle raising on planted pastures as follows:








not significant: 1,030,800 hectares, that is, 15.99% of the proposed Yanomami Indian Park, "of minimal conditions for utilization for economic purposes..." "this classification represents a danger signal for areas the average capacity of which can be taken as indicating low productivity." (RADAMBRASIL 1975:417-420).

very low: 1,584,000 hectares, that is, 24.57% of the proposed Yanomami Indian Park; "areas where red yellow podzolic soils predominate, clay-like in texture, of hilly or very hilly relief, with steep inclines that encourage the processes of erosion." (Idem:418).

low: 1,666,400 hectares, that is, 25.85% of the proposed Yanomami Indian Park. "In practically all of this class the soil is the major limiting factor, due to its low natural fertility." (Idem:418).



Map 3-2. Natural capacity of the soils of the Yanomami area (Boraine and Amazonas)

-  Area of environmental protection - Protected by law (Law No. 4771/65, Forest Code)
-  "Not significant" for crop agriculture and cattle-raising on planted pasture, utilization dependent on specific studies
-  "Very low" quality for crop agriculture and cattle-raising on planted pasture
-  "Low quality" for crop agriculture and cattle-raising on planted pasture
-  Boundary of the area proposed for the creation of a Yanomami Park
-  Highway
-  Planned highway (deforestation completed)

approx. scale - 1: 4,500,000

e) Technicians of the RADAMBRASIL Project recommended to the authorities that areas of environmental protection (in Roraima and Amazonas) should be created in areas of not significant and very low natural capacity (which would apply in the case of most of Yanomami territory outside the areas of permanent protection). The recommendation was for seven ecological stations and two National Parks with a total area of 3,270,800 hectares, most of which is contained within the proposed Indian Park (See Appendix A, page 139).

"These are areas for which the evaluation of average natural capacity; the botanical, zoological and ecological bibliography consulted; and fieldwork results, all three lead to the conclusion that, at the present time, they are most suitable for purposes of basic and applied research activities..." (RADAMBRASIL 1975:420, paragraph 4.5.2.)

Technicians of the RADAMBRASIL Project and of the Brazilian Institute for Forestry Development affirmed, moreover, that the areas covered by National Parks, Forest Reserves, Ecological Stations and areas of permanent preservation "must be preserved as soon as possible, on account of their special ecosystems." (O Estado de São Paulo, 28 November 1978). The President of the Brazilian Institute for Forestry Development (IBDF) in fact recently alerted the later Minister of Agriculture, Sr. Delfim Neto, about the "importance of quickly creating National Parks and Biological Reserves in areas which may be as large as 5 to 20 million hectares, in order to protect the Amazonian ecosystems, threatened as they are by the accelerated occupation of the region" (O Estado de São Paulo, 10 February 1979).

In conclusion, we see that, on the one hand, 35.58% of the lands of the Yanomami Indian Park proposed here are not suitable for economic utilization, by force of the protection defined by the Forestry Code; and, on the other hand, 40.56% of these lands have been classified as having minimal economic value, with natural capacity either not significant or of very low use for agriculture and cattle raising, they

have been indicated as of particular interest for protection of the ecology.

It is thus evident that to protect the traditional habitat of the Yanomami with the creation of an Indian Park, 74.14% of which show the characteristics of an environmental protection area, will not adversely affect the development of the region.

Furthermore, it is important to note the uniformity of the data on the population and area of occupation of both the Indians and regional Brazilians. In the Territory of Roraima there are 7,100 Yanomami representing 13.42% of the Territory's population, occupying 18.54% of its area. In the State of Amazonas there are 1,300 Yanomami, 0.10% of the State's population, occupying 1.39% of its area (see Appendix A, pages 137-138 and Map 3-2)¹⁷.

This being so, the area of the proposed Yanomami Park is particularly suitable not only for the preservation of an ecologically noteworthy region, but also for the protection of the last large nation of Brazilian Indians, with no detriment to regional development. In preserving Yanomami lands and creating conditions which would favor assistance to the Indian population, the proposed Park will permit the gradual and harmonious preparation of these Indians for successful contact with the national society.

Such a project would be a practical demonstration of Brazil's capacity to carry out a large-scale humanitarian endeavor, while having extremely favorable repercussions both nationally and internationally.

APPENDIX A:TECHNICAL DATA ON THE PROPOSED YANOMAMI NATIONAL INDIAN PARKPopulation

Roraima Territory (IBGE - Brazilian Institute of Geography and Statistics - 1977:85).....	52,900 inhabitants (population estimate for 1978)
Amazonas State (IBGE 1977:85).....	1,184,000 inhabitants (population estimate for 1978)
Total population, Roraima and Amazonas.....	1,236,900 inhabitants
Yanomami population in Roraima	7,100 inhabitants (84.52% of total Yanomami population)
Yanomami population in Amazonas	1,300 inhabitants (15.47% of total Yanomami population)
Total Yanomami population Roraima and Amazonas	8,400 inhabitants ¹⁸
Proportion of Yanomami to Brazilians in Roraima	13.42%
Proportion of Yanomami to Brazilians in Amazonas	0.10%

Lands

Area of Roraima (IBGE 1977:26).....	23,010,400 hectares
Area of Amazonas (IBGE 1977:26).....	156,444,500 hectares
Total area, Roraima and Amazonas	179,454,900 hectares
Area proposed for Yanomami Park in Roraima	4,268,200 hectares
Area proposed for Yanomami Park in Amazonas	2,178,000 hectares
<u>Total area of Yanomami Park</u> <u>Roraima and Amazonas</u>	<u>6,446,200 hectares</u>

<u>Proportion of Yanomami Park</u> <u>to area of Roraima</u>	18.54%
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<u>Proportion of Yanomami Park</u> <u>to area of Amazonas</u>	1.39%
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Areas of environmental protection (decreed or proposed¹⁹) in the Yanomami area.

Parima Forest Reserve (Roraima)	1,764,000 hectares
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Pico da Neblina National Park (Amazonas)	2,200,000 hectares (IBDF)
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Yanomami Park contained in Parima Forest Reserve	805,907 hectares (12.50%).
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Yanomami Park contained in Pico da Neblina National Park	755,000 hectares (11.71%).
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Natural capacity of lands of the Yanomami Park²⁰

Yanomami Park (Roraima)

Areas of permanent protection (Forestry Code)	1,712,500 hectares (40.12%)
--	--------------------------------

Areas of not significant natural capacity	482,300 hectares (11.29%)
--	------------------------------

Areas of very low natural capacity	1,581,000 hectares (37.04%)
--	--------------------------------

Areas of low natural capacity	492,400 hectares (11.53%)
-------------------------------------	------------------------------

Yanomami Park (Amazonas)

Areas of permanent protection (Forestry Code)	452,500 hectares (20.77%)
--	------------------------------

Areas of not significant natural capacity	548,500 hectares (25.18%)
--	------------------------------

Areas of very low natural capacity	3,000 hectares (0.13%)
--	---------------------------

Areas of low natural capacity	1,174,000 hectares (53.90%)
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Yanomami Park (Roraima and Amazonas)

Areas of Permanent protection 2,165,000 hectares
(33.58%)

Areas of not significant natural capacity 1,030,800 hectares
(15.99%)

Areas of very low natural capacity 1,584,000 hectares
(24.57%)

Areas of low natural capacity 1,666,400 hectares
(25.85%)

Areas of environmental protection recommended for the lands of not significant and very low natural capacity (Roraima and Amazonas) (RADAMBRASIL 1975:420, paragraph 4.5.2.)

Two National Parks, due to particular ecological conditons:

The Serra Parima National Park 2,506,000 hectares

The Pico da Neblina National Park 247,300 hectares

2,753,300 hectares

Seven Ecological Stations, for the preservation of the flora and fauna:

The Serra Urutanin ecological station 104,900 hectares
(Roraima)

The Serra Uafaranda ecological station ... 196,800 hectares
(Roraima)

The Serra dos Surucucus ecological station .17,100 hectares
(Roraima)

The Serra Pacaraima ecological station 6,000 hectares
(Roraima)

The Serra do Melo Nunes ecological station . 5,000 hectares
(Roraima)

The Serra Imeri ecological station 161,500 hectares
(Amazonas)

The Serra da Neblina ecological station ... 26,200 hectares
(Amazonas)

517,500 hectares

The total area covered by these areas of environmental protection is of..... 3,270,800 hectares

The Yanomami Park and the 21 areas delimited by FUNAI (1977-1978) as "occupied by Yanomami Indians."

Total area covered by the 21 areas
(FUNAI) 2,228,270 hectares

Proportion of these (FUNAI) areas
included in the proposed Yanomami
Park 2,082,170 hectares
(32.30% of the
proposed Yanomami
Park)

Proportion of these (FUNAI) areas
excluded from the proposed Yanoma-
mi Park (see "Creation of Indian
Reserves", page 130). 146,100 hectares

The 21 areas declared as occupied by Yanomami Indians by the FUNAI Decrees.

1. Indian Area Lobo D'Almada or Aiampô (1)	(Roraima)	94,000 hectares
2. Indian Area Serra da Estrutura	(Roraima)	107,220 hectares
3. Indian Area Mucajaí	(Roraima)	197,600 hectares
4. Indian Area Serra dos Surucucus	(Roraima)	442,500 hectares
5. Indian Area Maturacá	(Amazonas)	58,700 hectares
6. Indian Area Uraricaá (Surubai)	(Roraima)	130,400 hectares
7. Indian Area Lobo D'Almada (2)	(Roraima)	33,500 hectares (replaced by area 22)
8. Indian Area Matapí	(Amazonas)	32,500 hectares
9. Indian Area Mapulaú	(Amazonas)	10,900 hectares
10. Indian Area Ajuricaba	(Amazonas)	17,700 hectares
11. Indian Area Jundiá	(Roraima)	42,900 hectares
12. Indian Area Toototobi	(Amazonas)	438,000 hectares
13. Indian Area Uraricoera	(Roraima)	29,500 hectares
14. Indian Area Cutaíba	(Roraima)	31,500 hectares
15. Indian Area Auaris	(Roraima)	59,500 hectares
16. Indian Area Pacu	(Roraima)	46,000 hectares
17. Indian Area Catrimani	(Roraima)	61,050 hectares
18. Indian Area Parima	(Roraima)	268,900 hectares
19. Indian Area Gurupira	(Roraima)	14,500 hectares
20. Indian Area Aracaçá	(Roraima)	81,300 hectares
21. Indian Area Ajaraní	(Roraima)	35,400 hectares
22. Indian Area Lobo D'Almada (2)	(Roraima)	28,200 hectares (replaces area 7)
<u>TOTAL</u>		<u>2,228,270 hectares</u>

Areas 1 to 4 are defined in Decree 477/N (22 December 1977)

Areas 5 to 20 are defined in Decree 505/N (29 May 1978)

Area 21 is defined in Decree 512/N (7 July 1978)

Area 22 is defined in Decree 513/N, replacing area 7 (10 July 1978).

APPENDIX B:INACCURACIES IN THE AERIAL SURVEY (FUNAI-1977) OF YANOMAMI
TERRITORY

(See "Technical discussion of the FUNAI aerial survey (1977) of Yanomami territory", page 116).

- a) Malocas left outside FUNAI's 21 areas in spite of having been registered in the survey:
 - . Villages nos. 3 to 10²¹ of the headwaters of the rivers Maiã, Marauia, Pukimabuei and Marari (Padauari) in Amazonas;
 - . Village no. 28 on the left bank of the Castanho stream, at its mouth, in Roraima;
 - . Village no. 36 near the headwaters of one of the tributaries of the Jundiã river, in Roraima;
 - . Villages nos. 70 and 71 on the right bank of the Uraricoera river, Roraima; village 71 was declared abandoned, which is unlikely, as abandoned villages are burnt by the Yanomami, and as an aerial view of the area would not permit deductions of this kind.
- b) Malocas registered by the RADAMBRASIL Project but not by FUNAI:
 - . 63 villages, 42 of which are located outside the areas given by FUNAI as occupied by the Indians (see Map 3-1).
- c) Areas given as "occupied by Yanomami Indians" although no villages are officially registered within their boundaries:
 - . Mapulaú and Ajuricaba Areas (see pages 111-112).
- d) Areas known to be Indian which were not surveyed:

This is the case of the areas:

 - . of the Yanomami of the upper Apiaú river (see page 110);
 - . of the Yanomami of the mouth of the Apiaú (see page 109);
 - . of the Yanomami of km 29 and km 33 of the BR-210 highway (see page 109 and note 7).

e) Malocas which have already moved to locations outside the Indian areas:

- . Villages nos. 37, 38 and 39 of the middle Lobo D'Almada river in Roraima;
- . Village no. 33 formerly located between the Pacu river and the BR-210 highway (see page 105) - FUNAI Post at km 211 of the BR-210 highway in Roraima.

f) FUNAI Posts not mentioned in its own aerial survey:

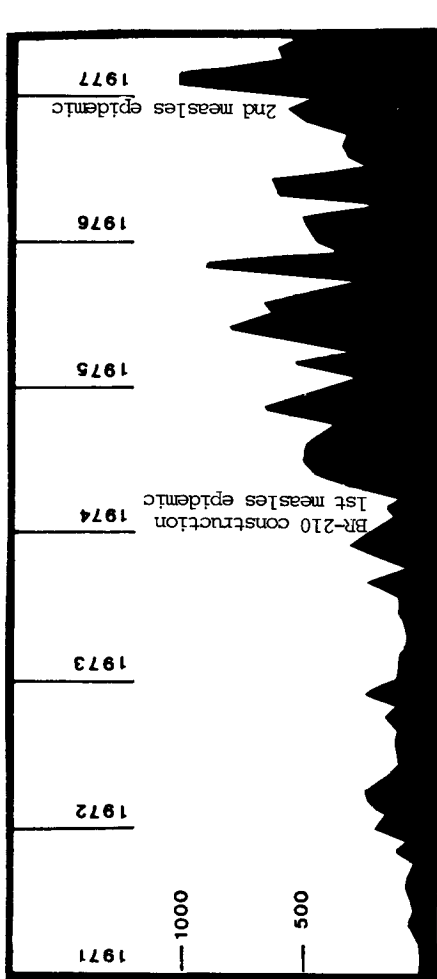
- . Aliança Post (see page 111);
- . Surucucu Post (see page 112);
- . Control Post on the Ajarani river (see page 112).
(It should be noted, however, that the Ajarani Post was included in the FUNAI Report 1977a:1 and "four dwellings in tribal style" were reported in its immediate vicinity, these also absent in the FUNAI 1977b aerial survey, but finally included in the "Ajarani area of Yanomami Indian occupation").

APPENDIX C:

MEDICAL TREATMENT OF YANOMAMI BEFORE AND AFTER THE CONSTRUCTION OF THE PERIMETRAL NORTE

HIGHWAY (BR-210)

FIGURE 3-1: NUMBER OF TREATMENTS



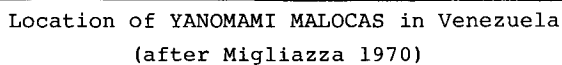
LIST OF THE MORE SIGNIFICANT CASES

	TREATMENTS BEFORE THE HIGHWAY (Feb. '71-Mar. '74)	TREATMENTS AFTER THE HIGHWAY (Apr. '74-May '77)
Viral diseases	1,239	7,437
Complications of above	36	1,960
Diarrhela or dysentery	618	1,928
Skin diseases	106	260
Malaria	486	944
TOTAL	2,485	12,529

Notes to Appendix C

- 1 - Certain treatments are not included in the list on page 144 because they are of lesser importance (cuts and bruises, anemias, etc.) or of rare incidence (fractures, snake bites, etc.).
- 2 - There has been no increase in Mission personnel or improvement in its medical facilities which could contribute to the increase in number of treatments during the time period in question.
- 3 - The viral problems referred to include influenza, measles, pharyngitis, etc.; from an average of 26.95% of the total number of treatments before the road to 40.22% in the following 3 years.
- 4 - The complications of viral problems referred to include pneumonia, bronchitis, otitis, etc.; from an average of 0.78% of the total number of treatments before the road to 10.60% in the following 3 years.
- 5 - Diarrheias and dysenteries are registered regardless of their etiology (intestinal infection, ameobiasis, intestinal worms).
- 6 - Malaria is endemic in the region, with irregular cycles in its incidence apparently not related, as yet, to contact with whites.
- 7 - Skin diseases include micosis, dermatitis, escabiosis, etc.

The data in Appendix C have been provided by the Catrimani Mission of the Roraima Prelacy.



Location of YANOMAMI MALOCAS in Venezuela
(after Migliazza 1970)

NOTES

1. Given the nature and objectives of this report, we shall necessarily limit ourselves to only a brief presentation of Yanomami culture. There are, however, several publications which demonstrate in detail the great originality, wealth and vitality of Yanomami culture (see references, page 151).
2. According to the aerial survey carried out by FUNAI personnel (FUNAI Report 1977b), there are 162 malocas and 41 small dwellings. An average of 50 people per maloca and a total of 300 Indians in the 41 small dwellings are estimated. The survey also registered three large Maiongong malocas on the Auaris river, with a population of 120 Indians.
3. Waika, Guaika, Xirixana, are all names given by outsiders before this ethnic group became well known. Their auto-denominations vary from one dialect group to another: Yānomam, Sanima, Yanam, Yanōmami. The term Yanomami will be used here to refer to the ethnic group as a whole. It is interesting to note that to this day it has not been possible to establish any precise genetic relationship between the Yanomami language and any other Amerindian languages or language families. (Lizot 1975:viii).
4. See RADAMBRASIL Map (1975) and the 1970 aerial survey by the linguist E. Migliazza. The date of publication of the RADAMBRASIL planimetric Map was 1975, but the actual aerial survey was done in 1972, thus before the construction of the Perimetral Norte. For this reason, see sheet NA-20 PARIMA of the Radar Photo Index - 1:1,000,000 (RADAMBRASIL Project - 1972) which covers the region in question. For the location of the 13 villages mentioned, see Map 3-1 of this report.
5. The Minister of the Interior was referring to the Indian Statute, Articles 44 and 45:

"Article 44 - Surface mineral resources in Indian areas can only be exploited by the Indians themselves, who have the exclusive right to practice placer mining, panning and screening for minerals, precious and semiprecious stones in the areas in question.

Article 45 - Exploitation of subsoil resources in the areas belonging to the Indians, or in the domain of the Union, but in the possession of Indian communities, shall be effected in the terms of the legislation in force, with due observations of the provisions of this law.

Paragraph 1. The Ministry of the Interior, through the competent agency of assistance to the Indians, shall represent the interests of the Union, as owner of the soil, but the share in the results of exploitation, indemnities and royalties for the occupation of the land, shall revert to the benefit of the Indians and constitute a source of native income.

Paragraph 2. In order to safeguard the interest of the Indian Estate and the well-being of the Indians the granting of authorization to third parties for prospecting or mining on tribal possessions shall be conditioned to prior understanding with the Indian assistance agency."

6. In spite of the prohibition mentioned, another mining operation remains active in Yanomami territory. This is the surface mining at Surubai (Uraricaá river, Roraima). Within a 15 km radius of its operations there are 10 Yanomami villages (FUNAI 1977b:9).
7. In fact, the FUNAI Report (1977a) refers to two dwellings in the regional Brazilian style by km 29 of the BR-210 highway and three further local groups by km 33 of the same road, the latter being on the "property" of Sr. Manoel Dantas who has a provisional land title from the National Institute of Colonization and Agrarian Reform (INCRA).
8. In the State of Amazonas the lands of the Yanomami Indians are located approximately to the west of the 63°W Meridian as far as the 66°30'W Meridian and to the north of the 0°30'N line of latitude as far as the border with Venezuela. So far they have not been affected by problems of land ownership.
9. In the FUNAI Report the Yanomami malocas and small dwellings were numbered from 1 to 203. Whenever necessary this numbering will be used in this text, especially in Appendix B.
10. In the preparation of the technical discussion above we have used the planimetric map of the area by the RADAMBRASIL Project to the scale of 1:250,000 (1975), volumes 8 and 11 of this Project related to their survey of natural resources, and also the maps of "Land Use Potential" in these two volumes. We also used the 4 FUNAI Decrees, the FUNAI Report (1977a) and surveys carried out by the Missions in the area.

11. As stated in note 4, above, 1975 is the publication date of the planimetric map. The survey was carried out in 1972.
12. Constitutional Amendment 1/69 - Article 198:

"Article 198 - The lands inhabited by the Indians are inalienable in the terms spelled out by Federal law, they have the right to permanent possession of these lands and recognition is made of their right to the exclusive usufruct of the natural wealth and of all the resources of these lands.

Paragraph 1. Legal acts of whatever kind which have as their object the control, possession or occupation of lands inhabited by Indians are declared null and void.

Paragraph 2. The previous paragraph in declaring null and void the specified legal acts does not confer on occupiers of land any right to legal action or claim of indemnification against the Union or the National Indian Foundation."
13. Indian Statute - Article 19: "By the initiative and under the guidance of the federal agency of assistance to the Indians, Indian lands shall be demarcated as an administrative act, in accordance with procedures established in Executive decree."
14. Indian Statute - Article 26: "The Union shall establish, in any part of the national territory, areas intended for the possession and use of the Indians, where they may live and obtain their means of subsistence, with rights of usufruct and use of the natural resources there present, always respected any restrictions established by law.

Sole paragraph. The areas set aside in the terms of this article are distinct from those of immemorial possession of Indian tribes, and can take one of the following forms:

 - a) Indian Reserve;
 - b) Indian Park;
 - c) Indian Agricultural Colony;
 - d) Indian Federal Territory."
15. Indian Statute - Article 28: "An Indian Park is an area contained within land in the possession of Indians, whose degree of integration is sufficient to allow of economic, educational and sanitary assistance being supplied to them by the agencies of the Union, wherein the flora, fauna and natural scenery of the region are to be preserved.

Paragraph 1. In the administration of the parks, the freedom, usages, customs and traditions of the Indians shall be respected.

Paragraph 2. The police measures necessary to keep order and preserve the existing natural wealth in the area of the park must be taken with the use of persuasive means and in accordance with the interests of the Indians living there.

Paragraph 3. The subdivision of land in the Indian parks shall comply with the tribal system of property, usages and customs, and likewise with the national norms of administration, which must be adapted to the interests of the native communities."

16. Natural capacity should be understood as the result of the interaction of physical and biotic factors as expressed in the potential for economic utilization.
17. See Appendix A, page 137 and Map 3-2 for further information which supplements these data.
18. For the calculation of this estimate see above, page 147, note no. 2.
19. These calculations were made with planimeter on the RADAMBRASIL 1975 maps (scale 1:250,000) reduced to 1:1,000,000.
20. These calculations were made with planimeter on the maps of land use potential, RADAMBRASIL 1975, scale 1:1,000,000.
21. The numbers given for the malocas follow the numbering system of the FUNAI Report 1977b.
22. These studies describe in detail not only the originality of Yanomami day-to-day life but also the richness of their spiritual world. The first four books are on the Yanōmami linguistic sub-group, in Venezuela, the last is on the Sanāma sub-group, in Brazil.

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DECREE No. of of 197..

Establishes, in the State of Amazonas
and in the Federal Territory of Roraima
the Yanomami Indian Park, with boundaries
as specified, and makes further provisions.

The President of the Republic exercising the
functions conferred upon him by Article 81, items I
and III, of the Constitution of the Republic, and
in accordance with the provisions of Articles 26
and 28, and paragraphs thereof, of Law No. 6001, of
the 19th of December 1973, decrees as follows:

Article 1. The Yanomami Indian Park is established in the
State of Amazonas and in the Federal Territory of
Roraima, with the principal characteristic of area
reserved for the Yanomami Indians (in terms of
Article 198 of the Constitution).

Sole

paragraph The area of the Park is delimited as follows:
- on the East, beginning at point no. 1 with the
approximate coordinates 04°02'18"N and 62°32'00"W
located at the highest source of the Tucutoi river
in the Serra Pacaraima, international border between
Brazil and Venezuela; from this point down the
Tucutoi river along its right bank to its confluence
with the Coimin river, up the Coimin river, along
its left bank, to its confluence with the Ericó
river, up the Ericó river, along its left bank, to
its confluence with an unnamed stream, its right
bank tributary, point no. 2 with the approximate
coordinates 03°35'58"N and 62°39'34"W, from there
up this stream along its left bank to its highest

source, point no.3 with approximate coordinates 03°31'58"N and 62°42'35"W, from there by a straight line to the source of the unnamed stream, left bank tributary of another unnamed stream, left bank tributary of the Puruê river, point no.4 with approximate coordinates 03°32'00"N and 62°44'05"W; from there down the unnamed stream along its right bank to its confluence with the unnamed stream of which it is a tributary and down this stream, along its right bank, to its confluence with the Puruê river; from there up the Puruê river, along its left bank, to point no.5 with approximate coordinates 03°27'47"N and 62°50'22"W; from there by a straight line to the source of the unnamed stream, left bank tributary of the Auara stream, point no.6 with approximate coordinates 03°23'34"N and 62°50'03"W; from there down the unnamed stream along its right bank, to its confluence with the Auara stream and from there down the Auara stream along its right bank to its confluence with the Uraricoera river; from there down the Uraricoera river along its right bank, to its confluence with the Iurua stream; from there up the Iurua stream along its left bank, to its source, point no.7 with approximate coordinates 03°05'36"N and 63°03'53"W; from there by a straight line to the source of the Mentacu stream, point no.8 with approximate coordinates 03°02'50"N and 63°04'00"W; from there by a straight line to the source of the unnamed stream right bank tributary of the major right bank tributary of the Iurua stream, point no.9 with approximate coordinates 03°00'22"N and 62°29'35"W; from there by a series of straight lines linking the sources of the unnamed streams, left bank tributaries of the Mucajaí river, points no. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23 and 24, with approximate coordinates, respectively, 02°58'50"N and 62°57'00"W; 02°58'58"N and 62°53'50"W; 02°59'30"N and 62°49'18"W; 02°56'15"N and 62°46'02"W; 02°53'28"N and 62°38'28"W; 02°53'05"N and 62°37'12"W; 02°54'20"N and 62°31'06"W; 02°55'10"N and 62°29'36"W; 02°56'00"N and 62°26'18"W; 02°54'08"N and 62°22'00"W; 02°55'57"N and 62°17'15"W; 02°56'40"N and 62°11'00"W; 02°53'40"N and 62°03'10"W; 02°51'50"N and 61°57'22"W; 02°47'30"N and 61°55'20"W; from this last point down the unnamed stream, along its right bank, to its confluence with the Mucajaí river, immediately above the Lata waterfall; from there down the Mucajaí river, along its right bank, to its confluence with the first unnamed stream on its right bank, immediately below the Lata waterfall; from there up this unnamed stream, along its right bank, to its confluence with another unnamed stream, its right bank tributary, point no.25 with approximate coordinates 02°36'15"N and 62°03'43"W; from

there up this unnamed stream to its highest source, point no. 26 with approximate coordinates $02^{\circ}32'08''\text{N}$ and $62^{\circ}09'48''\text{W}$; from there by a straight line to the source of an unnamed stream, left bank tributary of the Apiaú river, point no. 27 with approximate coordinates $02^{\circ}28'49''\text{N}$ and $62^{\circ}10'00''\text{W}$; from there down this unnamed stream along its right bank, to its confluence with the Apiaú river; from there up the Apiaú river along its left bank, to its confluence with an unnamed stream on its right bank, point no. 28 with approximate coordinates $02^{\circ}21'40''\text{N}$ and $62^{\circ}02'15''\text{W}$; from there up this unnamed stream along its left bank, to its highest source, point no. 29 with approximate coordinates $02^{\circ}15'38''\text{N}$ and $62^{\circ}00'25''\text{W}$; from there by a straight line to point no. 30 with approximate coordinates $02^{\circ}15'00''\text{W}$ and $62^{\circ}00'00''\text{W}$; from there following the $62^{\circ}00'00''$ line of longitude, southwards, to its intersection with the line of latitude $02^{\circ}00'00''\text{N}$, point no. 31; from there following the line of latitude $02^{\circ}00'00''$ eastwards, to its intersection with the Ajarani river, point no. 32 with approximate coordinates $02^{\circ}00'00''\text{N}$ and $61^{\circ}54'00''\text{W}$; from there up the Ajarani river along its left bank, to its highest source, point no. 33 with approximate coordinates $01^{\circ}40'42''\text{N}$ and $61^{\circ}51'18''\text{W}$.

- on the South, from there by a straight line to the source of an unnamed stream, right bank tributary of the Pacu river, point no. 34 with approximate coordinates $01^{\circ}39'30''\text{N}$ and $61^{\circ}52'44''\text{W}$; from there down this unnamed stream, along its right bank, to its confluence with the Pacu river, point no. 35 with approximate coordinates $01^{\circ}34'30''\text{N}$ and $61^{\circ}55'36''\text{W}$; from there crossing the Pacu river and up an unnamed stream, its left bank tributary, along its left bank, to its highest source, point no. 36 with approximate coordinates $01^{\circ}29'00''\text{N}$ and $61^{\circ}59'48''\text{W}$; from there by a straight line to the source of an unnamed stream, left bank tributary of the Catrimani river, point no. 37 with approximate coordinates $01^{\circ}25'04''\text{N}$ and $62^{\circ}10'03''\text{W}$; from there down this unnamed stream along its right bank, to its confluence with the Catrimani river, below the Sucuriçu rapids, point no. 38 with approximate coordinates $01^{\circ}27'25''\text{N}$ and $62^{\circ}20'46''\text{W}$; from there by a straight line to point no. 39 on the highest source of the Xeriana stream with approximate coordinates $01^{\circ}34'08''\text{N}$ and $62^{\circ}38'20''\text{W}$; from there by

another straight line to the confluence of the Ananaliua river with an unnamed stream, its right bank tributary, point no.40 with approximate coordinates $01^{\circ}48'50''\text{N}$ and $62^{\circ}43'54''\text{W}$; from there down the Ananaliua river along its right bank, to its confluence with an unnamed stream, its right bank tributary, point no.41 with approximate coordinates $01^{\circ}39'04''\text{N}$ and $62^{\circ}58'20''\text{W}$; from there by a straight line to the highest source of the last unnamed right bank tributary of the Ananaliua river, point no.42 with approximate coordinates $01^{\circ}34'57''\text{N}$ and $63^{\circ}09'02''\text{W}$; from there by a straight line to the source of an unnamed stream, left bank tributary of the Demini river, point no.43 with approximate coordinates $01^{\circ}26'31''\text{N}$ and $63^{\circ}22'21''\text{W}$; from there by a straight line to the confluence of the Mapulau river with the Demini river, down the Demini river along its right bank, to its confluence with the Uauai river and up this river along its left bank, to its source, point no.44 with approximate coordinates $01^{\circ}22'08''\text{N}$ and $63^{\circ}54'47''\text{W}$; from there by a straight line to the highest source of the Braço Forte stream, headwater of the Araçá river, point no.45 with approximate coordinates $01^{\circ}17'22''\text{N}$ and $64^{\circ}06'36''\text{W}$; from there by a series of straight lines linking the sources of the headwaters of the Araçá river, points no. 46, 47, 48 with approximate coordinates, respectively, $01^{\circ}15'55''\text{N}$ and $64^{\circ}08'38''\text{W}$; $01^{\circ}13'57''\text{N}$ and $64^{\circ}09'02''\text{W}$; $01^{\circ}13'00''\text{N}$ and $64^{\circ}09'49''\text{W}$; from there by another straight line to the source of an unnamed stream, left bank tributary of the Padauari river, point no. 49 with approximate coordinates $01^{\circ}08'31''\text{N}$ and $64^{\circ}10'56''\text{W}$; from there down this unnamed stream along its right bank, to its confluence with the Padauari river and down this river along its right bank, to its confluence with the Marari river and up this river along its left bank, to its confluence with its last right bank tributary, point no.50 with approximate coordinates $00^{\circ}56'31''\text{N}$ and $64^{\circ}34'42''\text{W}$; from there up this unnamed stream along its left bank, to its highest source, point no. 51 with approximate coordinates $00^{\circ}59'42''\text{N}$ and $64^{\circ}41'40''\text{W}$; from there by a straight line to the confluence of an unnamed stream, right bank tributary of the Padauari river, with one of its headwaters at point no.52 with approximate coordinates $00^{\circ}54'49''\text{N}$ and $64^{\circ}42'58''\text{W}$; from there by a series of straight lines linking the sources of the Preto river, point no. 53, 54, 55, 56, 57, 58, 59, 60, 61 and 62 with approximate coordinates, respectively $00^{\circ}53'03''\text{N}$ and $64^{\circ}49'35''\text{W}$; $00^{\circ}52'32''\text{N}$ and $64^{\circ}50'05''\text{W}$; $00^{\circ}51'05''\text{N}$ and $64^{\circ}52'21''\text{W}$; $00^{\circ}49'36''\text{N}$

and 64°53'20"W; 00°45'18"N and 64°57'04"W; 00°44'40"N and 64°57'52"W; 00°44'26"N and 64°58'28"W; 00°43'44"N and 64°58'48"W; 00°38'40"N and 64°59'22"W; 00°37'22"N and 64°59'15"W; from there by a straight line to the highest source of the Guariba river, point no.63 with approximate coordinates 00°52'59"N and 64°57'27"W; from there by another straight line to the confluence of the Marauia river with one of its right bank headwaters, point no.64 with approximate coordinates 00°21'44"N and 65°05'54"W; from there up this stream along its left bank, to its highest source, point no.65 with approximate coordinates 00°26'09"N and 65°20'39"W; from there by a straight line to the source of one of the tributaries of the Abuera stream, point no.66 with approximate coordinates 00°26'52"N and 65°21'08"W; from there down this stream along its right bank, to its confluence with another unnamed stream, headwater of the Abuera stream, point no. 67 with approximate coordinates 00°25'43"N and 65°28'22"W; from there up this unnamed stream to its confluence with its right bank headwater at point no.68 with approximate coordinates 00°28'52"N and 65°32'15"W; from there up this stream along its left bank, to its source, point no. 69 with approximate coordinates 00°27'38"N and 65°33'41"W; from there by a series of straight lines linking the sources of the headwaters of another right bank tributary of the Abuera stream at points no. 70, 71 and 72 with approximate coordinates, respectively, 00°27'25"N and 65°35'27"W; 00°26'34"N and 65°34'35"W; 00°26'08"N and 65°35'27"W; from there by a straight line to the source of a right bank headwater of the Maia river, point no. 73 with approximate coordinates 00°25'30"N and 65°36'12"W; from there by another straight line to the highest source of an unnamed stream, right bank headwater of the Abuera stream at point no. 74 with approximate coordinates 00°25'28"N and 65°37'34"W; from there by a straight line to the highest source of an unnamed stream, point no.75 with approximate coordinates 00°25'26"N and 65°38'25"W; from there by a straight line to the source of an unnamed stream, left bank tributary of another unnamed stream, a left bank tributary of the Maia river, point no.76 with approximate coordinates 00°25'32"N and 65°39'54"W; from there down the unnamed stream along its right bank, to its confluence with another unnamed stream, left bank tributary of the Maia river, point no. 77 with approximate coordinates 00°26'09"N and 65°48'37"W; from there down this unnamed stream, along its right bank to its confluence with the Maia river, point no.78 with approximate coordinates

00°23'08"N and 65°50'12"W; from there down the Maiá river along its right bank, to its confluence with an unnamed stream, its right bank tributary, point no. 79 with approximate coordinates 00°18'05"N and 65°56'26"W; from there up this unnamed stream along its left bank, to its source, point no.80 with approximate coordinates 00°25'04"N and 66°00'38"W; from there by straight lines linking the sources of two left bank headwaters of the Marié Mirim stream, points no. 81 and 82 with approximate coordinates 00°26'02"N and 66°03'40"W; 00°28'03"N and 66°05'30"W; from there by a straight line to point no. 83 with approximate coordinates 00°28'10"N and 66°10'05"W at the source of the Jordão stream; down this stream along its right bank, to its confluence with the Cauaburis river and down this river, along its right bank, to its confluence with the Bussu stream;

- on the West, from there up the Bussu stream, along its left bank, to its confluence with its left bank headwater, point no.84 with approximate coordinates 00°34'58"N and 66°17'30"W; up this headwater, along its left bank, to its source, point no. 85 with approximate coordinates 00°36'38"N and 66°16'15"W; from there by a straight line to point no. 86 with approximate coordinates 00°41'38"N and 66°14'55"W at the confluence of an unnamed stream and the Maturacá Canal; up this unnamed stream to point no. 87 with approximate coordinates 00°44'40"N and 66°14'50"W on the left bank of this unnamed stream, left bank tributary of the Maturacá Canal; from there by a straight line northwards to point no.88 with approximate coordinates 00°46'56"N and 66°14'50"W on the Serra Cupi, international border between Brazil and Venezuela;

- on the North, from there following the international border eastwards to point no. 1 with approximate coordinates 04°02'18"N and 62°32'00"W, starting point of this boundary description.

Article 2. The Yanomami Indian Park, with boundaries as set out in Article 1, sole paragraph, will have as its principal goals:

1) To guarantee to the Yanomami Indian population resident within the Park the possession and use of the lands which they inhabit, in the terms of Article 198 of the Federal Constitution.

2) To guarantee to the Indians the provision of economic, educational and public health assistance by the Federal Agencies in order to ensure their survival with the preservation of their cultural characteristics.

3) To preserve the original flora and fauna of the area and the scenic resources of the region from whatever kind of destructive exploitation or modification, maintaining the ecological and scientific value of these resources.

Article 3. The Yanomami Indian Park will be administered by the National Indian Foundation. This Foundation shall have the right, in the exercise of the powers of Police conferred on it by Article 2, item VII of Decree No. 68,377 of 19 March 1971, to request the cooperation of the Federal Police, for the purpose of preventing or restricting entry, transit or the sojourn for any period of time by persons or groups whose activities may be judged to be harmful or inconvenient to assistance activities for the Indians in the area set aside for the Park.

Article 4. The exploitation of mineral resources, within the boundaries of the Park, will be subject to the granting of prior authorization by the National Indian Foundation, any agreements which this Foundation may enter into with interested companies being observed, always respecting the interests of the Indian Patrimony.

Article 5. This decree comes into effect on the date of its publication, all contrary provisions being herewith revoked.

Brasília,

YANOMAMI INDIAN PARK:
PROPOSAL AND JUSTIFICATION FOR ITS CREATION

SUMMARY

Ethnic background: Traditionally the Yanomami Indians have occupied a large area of tropical rain forest in the border area between Brazil and Venezuela. In Brazil they live dispersed in at least 203 dwellings (cf. aerial survey carried out by the National Indian Foundation in 1977), with a total population of approximately 8,400 people. Their numbers are equally large in Venezuela.

It is beyond doubt that the Yanomami have continuously occupied the area mentioned above for a very long time; already in 1787 the Portuguese Boundary Commission registered their presence in the area.

The Yanomami practise a type of intermittent nomadism. Their socio-economic system requires very extensive areas of land. Their local groups maintain frequent interchanges which involve exchange of goods and marriage alliances. Moreover, their agricultural system which requires periodic rotation, their hunting, fishing and gathering activities as well as the need for constant movements which allow for the regeneration of the soil and of the productivity of the fauna and flora, all determine the use of areas of land which are of considerable extent.

Proposal for the creation of a Yanomami Indian Park: This proposal for the creation of a Yanomami Indian Park has been

developed on the basis of two main points:

- I survey of the contact situation;
- II evaluation of the measures that have so far been taken by the National Indian Foundation for the delimitation of Yanomami territory.

The contact situation: The Yanomami are one of the last large Indian groups in Brazil who still follow their traditional way of life. Since 1974, however, the customary participants in the "drama" of the Indians have been threatening directly the physical and cultural survival of the Yanomami.

Only if immediate and effective measures are taken will they be saved from the disaster which in the past has struck so many other Indian peoples.

In chronological order we give the principal events in the brutal contact the Yanomami have had with the white society at large:

1974 - the Perimetral Norte highway (BR-210) cuts through 225 km of the southern part of Yanomami territory in the Federal Territory of Roraima. Even disregarding other aspects which are not related to the health problems which are faced by the Indian population, the consequences of this penetration into their territory can be evaluated in the light of the following data:

- along the first 100 km, 13 villages (malocas) are practically decimated as a result of the contact with the teams of the Carmago Corrêa construction company; these teams were mostly recruited without any systematic attempt to control their state of health. Today the Indian remnants are reduced to eight small family groups, hungry and ill, dispersed along the roadside;

- in the upper Catrimani region, near km 145, in the space of 3 years, 2 measles epidemics killed close to 80 Yanomami. According to the missionaries who assisted them at the time, in the 3 years which followed the construction of the highway, cases of infectious diseases among the Indians increased by a

factor of eight. There are also numerous cases of tuberculosis and venereal diseases.

1975/1976 - the publication of the geological survey by the RADAMBRASIL Projects starts a "rush" to exploit cassiterite in the region of the Serra dos Surucucus in Roraima. More than 500 placer miners invaded Yanomami territory, provoking a situation which became as serious as that which followed the construction of the BR-210.

To make the problem even worse, the presence of miners' camps in the region led to physical conflict between Indians and miners. The missionaries who worked in the area denounced "the murder of Indians who insisted in remaining in the region of the mining site". These outbreaks of violence eventually led the federal authorities to intervene by ordering the mining activities in the Indian area to stop and the evacuation of the miners. At the same time, however, the authorities themselves had already foreseen the examination of requests for research on the part of large companies interested in operating in the region.

1977 - the consequences of the first massive contact of the Yanomami with the economic frontiers of the national society continue to be felt by the Yanomami, particularly with regard to health. However, with both the placer mining at Surucucu at an end and the construction of the Perimetral Norte temporarily at a halt, there was a relative respite in the problems faced by the Indians.

1978/1979 - the economic occupation of Yanomami lands begins again at an accelerated pace.

- The National Institute of Colonization and Agrarian Reform begins the demarcation of two zones in the Federal Territory of Roraima (600,000 hectares). This project involves three regions (upper and lower Apiaú and the area near kms 29 and 33 of the Perimetral Norte) which are known to belong to the Indians. A fourth region (near the Mucajaí river) affects an area of about 800 hectares which has been

declared by the National Indian Foundation itself as "of Yanomami Indian occupation" (see II, below).

- The Vale do Rio Doce Mining Company establishes its first camp in the Serra dos Surucucus in Roraima in order to exploit the cassiterite deposits which were previously exploited by the placer miners.

It is not known whether the Company has made any agreement with the National Indian Foundation to carry out the indispensable large-scale program of vaccination. To simply open up a medical center near the camp of the Mining Project as the only measure taken, would be disastrous. It is well known how easily epidemic diseases spread among Indian groups, due to their constant movements and to the traditional Yanomami reaction of isolating themselves in inaccessible places when struck by epidemics. The situation is all the more serious as we know that the Surucucu region is precisely the area with the greatest concentration of Yanomami population - 76 villages or about 3,800 Indians, most of them still isolated from contact. Effective health measures cannot, then, be postponed, if the progressive decimation of these Indians is to be prevented.

The delimitation of the Yanomami Territory as carried out by the National Indian Foundation

In the face of the accelerated invasion of the Yanomami territory, FUNAI issued 4 decrees (477/N, 505/N, 512/N and 513/N) in 1977-1978, declaring of "Yanomami Indian occupation" several areas in the Federal Territory of Roraima and in the State of Amazonas. FUNAI's initiative, however, resulted in the administrative delimitation of 21 Indian areas which are minute and discontinuous, which circumscribe groupings of villages, leaving between them open corridors which, it is obvious, will facilitate the surrounding of the Yanomami areas by colonization fronts and subsequent encroachment of the Indian areas by white settlers, therefore multiplying the

possibilities of conflict and creating a situation which the authorities will find difficult to control.

The scheme for delimiting discontinuous parcels of the Yanomami territory is not only harmful in that it facilitates the usurping of Indian lands, but is also inviable for three fundamental reasons:

- to reserve for the Indians only the area which includes their houses and immediate surroundings is to deny them, in the short run, access to the large areas which are needed for their hunting, fishing and gathering activities and to prevent them from continuing with their periodic movements which are determined by the ecological depletion of the areas and the consequent need to allow for the regeneration of their environmental equilibrium (soil, fauna and flora).

The fragmentation of the Indian territory will lead to the rapid destruction of their traditional subsistence system. Isolated in ecologically depleted areas, the Indians will become reduced to a situation of increasing penury and of total economic dependence on the national society. The solution that FUNAI has found (the delimitation of 21 discontinuous areas) disrespects the provision of the Indian Statute (Article 23) which states that "possession by the Indian is held to mean effective occupation of the land he holds in accordance with tribal usages, customs and traditions and on which he lives or exercises an activity indispensable to subsistence or economically useful.";

- to establish discontinuous areas, isolated by open corridors is to jeopardize, if not prevent, the economic, ceremonial and marriage exchanges which are essential to the maintenance of the social dynamics of inter-village relations and those between sets of villages, a fundamental feature of the cohesion of Yanomami society.

The Indian Statute itself (Article 2,VI) determines that "in the process of integrating the Indians into the national

community, the cohesion of the native communities and their cultural values, traditions, usages and customs" must be respected;

- to break up the Yanomami territory, thus increasing the length of its borders, will multiply the points of contact with national society and, as a consequence, the risks of transmission of infectious diseases (measles, tuberculosis, influenza) which are lethal to these Indians. The dispersal of the Indian areas will also make it more difficult to establish an adequate program of medical assistance (see Decree No. 58,824/66 which promulgates I.L.O. Convention 107 about Indian and tribal populations, Article 20, items 1 and 2).

To aggravate even more the health situation of the Yanomami, the encroachment and ecological depletion of their lands will rapidly result in the Indians suffering chronic malnutrition and exaggerated parasitic infestation.

Proposal for the Creation of a Yanomami Indian Park:

Careful evaluation of the proposed delimitation of 21 Yanomami areas has led us to consider as valid the alternative of creating a single Indian Park. This alternative has, in fact, been the subject of several other proposals since 1968. Such a park would guarantee to the Yanomami the possession of the lands they actually occupy in the form of a large and continuous territory, in conformity with the terms of Article 23 of the Indian Statute.

The legal standing of an Indian Park (Articles 26 and 28 of the Indian Statute) is recommended not only because it implies the protection of the environment and is appropriate to the locations in international boundary areas (control of roads and movements in the area), but also, and moreover, because of the numerical importance of the Indian population and the urgent need for an assistance program. Such a park would allow the Yanomami to begin the learning process of

contact with the dominant society with reasonable autonomy and cohesion and without detriment to their socio-cultural structure.

The area of the proposed Park is 6.4 million hectares, which is a large area, but which is proportional to the ratio Yanomami population/regional population. In the Federal Territory of Roraima, for example, where the larger part of the park would be located, the Yanomami, who are more than 13% of the Territory's population, would occupy 18% of its area. This fact corroborates the convenience of creating the park immediately for, if brought into existence now, it would avoid conflicts over land with the regional population.

Finally there is yet another decisive argument in favor of the creation of the park, provided by the surveys of land use potential carried out by the RADAMBRASIL Project (1975). The RADAMBRASIL data on the area are the following:

- 33.5% of the lands of the proposed park are mountainous areas and for this reason declared to be of permanent protection, in accordance with the provisions of the Forestry Code and therefore are not open to economic utilization.

- 40.5% of the lands of the proposed park are inadequate for agricultural or cattle raising projects due to their very low and not significant quality. RADAM has recommended to the authorities that National Parks and Ecological Stations be created in these areas.

To sum up, approximately 75% of the area of the proposed park show excellent features as areas for environmental protection. Therefore, the area of the park presents conditions which are particularly suitable for the preservation of a region which is of outstanding ecological interest and also for the protection of one of the last great Indian nations in Brazil, without the detriment to regional development.

The creation of a Yanomami Indian Park, doubly suited as both Indian Park and ecological National Park, has much to be recommended. It would be a practical demonstration of Brazil's capacity to carry out a large-scale humanitarian endeavor, while having extremely favorable repercussions both nationally and internationally.

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4 April 1979.

