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HIGHWAYS AND URANIUM THREATEN YANOMAMÖ
TRIBE IN BRAZIL

" This is a promise that I can strongly make: we are going to create a policy of integrating the Indian population into Brazilian society as rapidly as possible... We think that the ideals of preserving the Indian population within its own 'habitat' are very beautiful, but unrealistic."

-- Sr. Mauricio Kangel Reis,
Brazilian Minister of the
Interior, March 1974

The Yanomamö (also referred to as the Yanoáma, Shiriana, Xiriana, Guaharinbo, and Waika) are the largest unacculturated Indian tribe in South America. They are estimated to number between 10,000 and 25,000 people, and live in hundreds of small villages skirting the border between Venezuela and Brazil. The Yanomamö men love to participate in highly ritualized chest-pounding duels, inter-village feuds, and warfare. The women of the tribe are expert gardeners, and cultivate magical charms to ward off the violence and aggression of their

men. Yanomamö shamans possess a vast knowledge of medical plants, many of which remain unknown to modern pharmacological science. During special curing ceremonies, these shamans blow an hallucinogenic drug called ebene in order to produce spiritual and visionary experiences.

For at least a century, the Yanomamö were forced to defensively retreat into a vast jungle refuge area between the Orinoco and Marauia Rivers. To the south, they were attacked by Brazilian rubber collectors and settlers. To the north, they fought off the expanding cattle frontier in Venezuela, and the more acculturated and rifle-bearing Makiritare tribe. Until recently, however, the only major threats to the independence and territorial integrity of the Yanomamö came from inquisitive anthropologists, Italian priests, and North American evangelical missionaries. Unlike other Indian tribes of the Amazon Basin, the Yanomamö had successfully

escaped the contaminating effects of Western man, his civilization, his society, and his lethal diseases.

During the past year, two events have occurred which have critically upset the former socio-environmental adaptations of the Brazilian section of the Yanomamö tribe. The first event was the building of the 2,500 mile Northern Perimeter Highway (a major artery in the highly publicized Trans-Amazonic road system) through the territory of the Yanomamö tribe. The second event was the announcement in February 1975 that one of the world's largest uranium deposits had been discovered in Yanomamö territory. Both of these events have already had their effects on the physical and cultural well-being of the Yanomamö tribe. A narrative account of what had been happening to the Yanomamö in the past couple of years provides a great amount of insight into the controversial question of Indian and development policies in the Amazon Basin region of Brazil.

The Aborigines Protection Society Report of 1973:

In the summer of 1972, a four member investigating team of the Aborigines Protection Society of London (APS) visited the Amazon Basin under the invitation of the recently created National Indian Foundation of Brazil (FUNAI). One of the places visited by the APS team was the far northern Territory of Koraima, the major location of the estimated 5,000 to 10,000 people who made up the Brazilian section of the Yanomamö tribe.

Initially, the APS team was impressed by the situation of the Yanomamö relative to other tribal groups in Brazil. Contacts with outsiders had only begun in the previous decade, and the Indians, according to the APS team, seemed to be "still largely insulated from the colonizing and commercial interests of Brazil." The main contacts of the Indians during this period were with foreign missionaries

(the Salesian Fathers, and the New Tribes and Unevangelised Field Missions in the United States) who had established several mission stations in the Yanomamö area, but who seemed to pose little threat to the integrity of the tribe. "The Yanomamö," the APS team wrote in their report published in 1973, "seemed to be content with their culture, and had proved strong enough to resist the converting zeal of missionaries."

The APS team was also impressed by the fact that FUNAI was planning to intervene in the Yanomamö area, and envisioned the creation of a federally recognized Indian Reserve for the tribe. To the surprise of the APS team, however, it was discovered that this proposed Reserve would only contain an area sufficient for 300 members of the tribe, and would exclude almost every Yanomamö village identified by FUNAI itself.

The APS team noted that none of the

experienced missionaries in the Yanomamö area had been consulted about this Reserve, and that its proposed limits would significantly endanger the tribe. "We consider," the APS team wrote, "that a major extension of this Reserve is both necessary and justified and furthermore that discussions should be opened with the Venezuelan authorities to see what forms of liaison and coordination of Indian policy are possible along the frontier."

In a meeting with the then President of FUNAI, General Oscar Jeronimo Bandeira de Melo, in September 1972, the APS team suggested that negotiations should be carried out between the Brazilian and Venezuelan governments for the creation of an international Yanomamö Reserve. The President of FUNAI responded to this suggestion by claiming that for reasons of "national security", it would be impossible for the government to create an Indian Reserve or Park along the borders of Brazil. In addition, he said that an international

reserve established in collaboration with the government of Venezuela would be extremely difficult to create, because it would have to be negotiated through the Foreign Offices of both governments, and might be taken advantage of by the Yanomamö for purposes of "smuggling gold across the frontier." The members of the APS team questioned these arguments, and when they left Brazil they had severe doubts about whether the physical and cultural integrity of the Yanomamö would be maintained.

The Northern Perimeter Highway:

In 1973, it also became known that the Brazilian government was planning to build a major highway along its northern frontier. The new road was called the Northern Perimeter Highway, and was to be completed by 1975. Unlike the Trans-Amazonic Highway to the south which was built for purposes of agrarian colonization, the new Northern Perimeter Highway...

was to be the major minerals transportation link in the Amazon Basin of Brazil. It would begin on the Atlantic Coast, and pass westward through the large manganese mining operation of Bethlehem Steel Corporation in Amapa. Then, it would cut to the north, passing above the huge multi-million dollar bauxite project of Alcan Aluminum Company along the Trombetas River in Para. Finally, it would proceed south and westward, skirting the borders with Colombia and Peru, and passing through one of the potentially largest oil fields in Brazil. Along the path of the new road, there were estimated to be over 50,000 Indians living in nearly a hundred isolated tribal groups. Among these groups were the still hostile and unpacified Yanomamö, Waimiri-Atroari, and Marubo tribes.

In May 1974, Edwin Brooks, one of the members of the APS team, published a report which indicated how this new highway network would potentially affect the Yanomamö⁴ tribe. Brooks' report contained a series of recent

Brazilian government maps which showed that two highways were being planned to pass through the proposed, but still to be demarcated, Yanomamö Indian Reserve. One of these highways was the Northern Perimeter Road. The other was a smaller territorial road which would join the mission stations at Catrimani and Surucucus. Both of these highways, Brooks claimed, would jeopardize the territorial integrity of the Yanomamö tribe. The construction of these highways, he predicted, would be as devastating in their effects upon Indians as the highly publicized BR-080 highway invasion of the northern part of the Xingu National Park, which in 1972 brought a measles epidemic and nearly destroyed the once safe and thriving Txukahamei tribe.

Uranium Discoveries in 1975:

In February 1975, the critical event occurred which would eventually determine the future of the Yanomamö tribe. At that time, the Brazilian Minister of Mines and Energy,

Mr. Shigeaki Ueki, announced the discovery of an immense uranium field in the Surucucus region of Roraima Territory, a uranium discovery which was claimed to be one of the largest of its kind in the world and which was located in the major territory of the Brazilian section of the Yanomamö tribe.

Actually, the existence of radioactive minerals in this region was known as far back as 1951, but real uranium exploration did not begin until 1970 when the Brazilian government allocated significant amounts of monies for the nuclear sector in Brazil. By 1974, over 150 technicians were working in the Surucucus region of Roraima alone, including members of the military, Project Radam (the large aerial photographic and mineral reconnaissance survey of the Amazon), the state-owned mineral exploration company (CPRM), and Nuclebras, the new state-owned company created to promote uranium exploration and nuclear research in Brazil.

At the time of the announcement of the Surucucus uranium discoveries, it also became known that Brazil was holding secret negotiations with several European countries for the provision of long-term deliveries of natural uranium in exchange for the most advanced nuclear technology. In May 1975, these negotiations became public when it was revealed that West Germany would be constructing eight nuclear power plants in Brazil at a cost of \$4 billion in exchange for the development of new sources of uranium and the construction of several uranium enrichment and nuclear fuel recycling plants.

For most international observers, the nuclear deal between West Germany and Brazil was seen in purely geo-political and economic terms. As would be expected, none of these observers noted the more immediate implications of the Surucucus uranium discoveries for the survival of the Yanomamö and other neighboring Indian tribes.

Onchocerciasis Strikes Yanomamö Tribe:

In the weeks immediately following the announcement of the Surucucus uranium discoveries, the first reports began to appear about the uprooting and contamination of the Yanomamö tribe. The most shocking of these reports was the revelation that a FUNAI medical team, headed by Dr. Jose Alfredo Guimarães, had found several new foci of the dreaded disease onchocerciasis (African River Blindness) throughout the northwest Amazon region.

Onchocerciasis, which is carried by blackflies of the Simuliid family and whose symptoms include fibrous tumors on the skin and eyes as well as blindness, was first reported in the New World in Guatemala in 1916. By 1965, the disease had spread to Colombia, and in the early 1970's the first reports began to appear about the presence of the disease in the Amazon region of Brazil. In 1973, for example,

several Brazilian doctors warned the Brazilian government about the growing incidence of onchocerciasis in the Amazon, and cautioned against plans for the building of the Northern Perimeter Road.

These warnings were repeated in a report by two American scientists, Drs. R.J.A. Goodland and Howard S. Irwin, published in October 1974. Goodland and Irwin noted that the only hope for containing the spread of onchocerciasis in the Amazon was to either discontinue or reroute the Northern Perimeter Road. Onchocerciasis, they claimed, was possibly the most serious health threat in the Amazon, and was actively spreading along the margins of the Northern Perimeter Highway. "If the road planned to pierce the main focus," they wrote, "is not realigned, disaster as rife as in Africa must be expected."

Unfortunately, the report of the FUNAI medical team in early 1975 confirmed these

predictions, according to this report, onchocerciasis, which was previously localized in the area surrounding the Venezuelan-Brazil border, had now spread beyond Koraima, and was reaching as far south as Para, Acre, and the Centre-West of Brazil. In the State of Amazonas alone, of a sample of 310 people investigated by Dr. Guimarães, 94 people or 30.23% were found to be infected with the disease.

The most serious incidence of the disease had occurred among the Indian tribes of the northwestern part of the Amazon Basin. Along the Marauia River, one band of Yanomamö Indians was found to have a 100% index of the disease. In the Upper Solimoes region, the Tikuna tribe revealed a positive index of 87.5%. Along the Demini and Mapulau Rivers, five Indian tribes (the Uxi-u-theli, Waiho-ko-a-theli, Welihessipi-u-theli, Pakidai, and Tucano) were all reported to have been infected. Lower indices of onchocerciasis were found among the Tucano and Maku

tribes of the Waupes River, and the Baniwa tribe of the Içana River region.

In revealing these statistics to the Brazilian press, the President of FUNAI, General Ismarth de Araujo Oliveira (nominated to replace General Bandeira de Melo in March 1974), claimed that the control of onchocerciasis was extremely difficult because it involved the intervention of several ministries, beside the Indian Foundation, and implied the expensive movement of people involved in the execution of development projects along the Northern Perimeter Road. Onchocerciasis, he went on to note, was virtually "flying on the wings of the fly", and the only combatant now known was an expensive French remedy which, according to the General, when applied to Indians killed them because of lack of physical resistance.

Indian Policy Along the Northern Perimeter Road:

Following the disclosure of this epidemic, a picture started to emerge of what Indian policy would be like along the Northern Perimeter Road. In March 1975, for example, a young Indian agent named Benamour Fontes revealed that he had abandoned his position as the leader of a FUNAI pacification expedition along the Yanomamö front. Speaking at a press interview in Manaus, Fontes explained his actions by claiming that he had not received the necessary strategic and financial support from the central offices of FUNAI in Brasilia. The salaries of his co-workers were heldup, and hunters and lumbermen, along with government geologists, had already begun to invade the territory of the Yanomamö tribe.

In addition, Fontes revealed that all strategic support was now being given to the more publicized Waimiri-Atroari pacification expedition to the south, and he said that he

would not repeat the experience of Gilberto Pinto, an Indian agent who had spent more than eight years asking for men and supplies, and who was tragically killed by angered Waimiri-Atroari tribesmen in December of the previous year. A state of chaos, Fontes concluded, existed along the route of the Northern Perimeter Highway, and this could only prove disastrous for the Yanomamö and other Indian tribes.

As all of these incidents were occurring, reporters increasingly looked for some official statement of government Indian policy in the northern Amazon region from high authorities within FUNAI. The precipitating event for such a statement occurred on the same day as the resignation of Benamour Fontes, when the Governor of Roraima Territory, Fernando Ramos Pereira, went before the Brazilian press and declared that he was of the opinion that an "area as rich as this-- with gold, diamonds, and uranium-- could not afford the luxury of conserving a half a dozen Indian tribes who are holding back the development of Brazil."

The Governor's statement caused a sort of mini-scandal in Brazil, and immediately the President of FUNAI responded by saying that there was nothing contradictory between the protection of the Indian tribes of Roraima, such as the large Yanomamö tribe, and the progress and development of the country. Citing Article 45 of the new Brazilian Indian Statute, which gives the government the right to administer and lease Indian mineral resources, the President said that "the Indian can only benefit from the mineral wealth discovered on the lands which he inhabits." The Indian Statute, he claimed, calls for the "integration" of the Indians into the Brazilian economy, and provides for their "participation", as owners of property, in the exploitation of mineral resources contained on their lands.

At the same time, the President of FUNAI revealed that a contract had been signed with two anthropologists associated with the University

of Brasilia for the creation of Project Perimetral-Yanomami, a far reaching program for the integration of the Yanomamö tribe. The purpose of Project Perimetral-Yanomami would be to set the groundwork for the economic integration of the Yanomamö into the expanding penetration and colonization fronts in the far northern part of Brazil. The Indians, according to the President, would be inoculated against disease, and provided with new economic skills to trade the products of their labor with colonists who were beginning to settle along the Northern Perimeter Road. The philosophy behind Project Perimetral-Yanomami, one of the anthropologists contracted by FUNAI, said, was "to implant a system of direct integration (emphasis added) that would permit economic advantages for both groups."

General Implications:

By way of conclusion, three points are important to make about the general

significance of the events described above. First, the official government policy of integrating Indian tribes into the expanding economic fronts, rather than protecting them in their aboriginal territories through the creation of closed Indian Parks and Reserves, has been tried in several other areas of the Amazon Basin, and proved devastating for Indian tribes. The most recent case of the failures of such a policy is in the Aripuana Indian Park in Rondonia, home of the 5,000 member Cintas Largas and Surui tribes. A brief description of conditions in the Aripuana Indian Park provides a forecast of what potentially can happen to the Yanomamö tribe.

The Cintas Largas received a large amount of international publicity because of the brutal Massacre at Parallel Eleven in 1963. In 1968, FUNAI proposed an Indian Park for the Cintas Largas and neighboring Surui tribes, but then, in 1970, began to lease lands in the Park to a large Sao Paulo colonization company, seven international cassiterite (tin) mining firms, and the state government for purposes of building a series of interior roads.

By 1973, these encroachments on the Aripuana Indian Park began to take their toll on the Indians. Geologists from Project Radam and private companies were searching for minerals in every part of the Park. Numerous landing strips were constructed in the area. Two roads effectively destroyed the territorial integrity of the Park. Game was beginning to become critically scarce, and Indians were abandoning their gardens to outside settlers and colonists.

Under the auspices of the International Work Group for Indigenous Affairs , in 1975, Dr. Jean Chiappino, a French physician who had recently spent several months in the Aripuana Indian Park, published a report which described the conditions of the Cintas Largas and Surui tribes. These Indians were without any effective protection from FUNAI, and were suffering from disease, hunger, and apathy. An epidemic of tuberculosis, carried by outsiders, had struck all age groups in one Surui band, bringing death

to the Indians within the short space of two months. The initial symptoms of the disease were a hoarse cough which filled the forest at night. This was followed by a "pusy expectoration... which exhausted the patient", and a "permanent fever". The development of this syndrome was quicker among Indian children, and "carried off its victims in terminal cachexia". The spread of the epidemic, Dr. Chiappino noted, "distressed, disoriented, and destroyed" Indian families and the social group. According to his calculations, over 60% of the Surui population observed was affected by this epidemic alone.

Most important, Dr. Chiappino claimed that this epidemic, as well as the general state of despair and disorganization among the Cintas Largas and Surui tribes, could be directly related to the "integrationist" policies of FUNAI. These Indians were without any effective protection of their lands, as recognized in the Brazilian Constitution, and were suffering the

worst effects of uncontrolled contacts with outsiders. For these Indians, economic integration was merely a convenient euphemism for hiding the nasty facts of physical and cultural death. According to Dr. Chiappino, their survival could only be ensured through a concerted program of medical assistance, and the creation of a closed and well-protected Indian Reserve.

Second, Brazilian Indian policy must be seen within the context of the wider national program for the rapid economic development and occupation of the Amazon region. Despite the sincere and humanitarian intentions of certain employees in the National Indian Foundation, and the openness to outside suggestions and assistance from its present Director, FUNAI is still an agency within the Brazilian Ministry of the Interior, and hence substantially constrained in its protectionist functions by the larger developmentalist objectives of the federal government.

In certain recent cases, FUNAI has been able to protect Indian land and territorial rights, and there are even some areas of Central Brazil, where Indian tribes are experiencing a demographic and cultural renaissance. In those areas, such as the far more populated northern part of the Amazon Basin, however, where Indian land rights come into conflict with the interests of large multinational or state-owned mining companies, or with the plans of the National Highway Department, FUNAI has been unable to fulfill its constitutional mandate to Indian tribes.

Perhaps most significant, the new Indian Statute, passed in December 1973, provides FUNAI with the right to administer and lease Indian mineral resources. In the near future, these mineral leasing provisions could provide the conditions for the total collaboration of FUNAI with powerful economic and developmentalist interests in Brazil. They are particularly dangerous given the recent discoveries of uranium and petroleum deposits in the Amazon Basin.

Finally, Brazil alone must not be held responsible for the social and environmental consequences of the Amazon development program. What is taking place in the Amazon region today is a classic case of a high technology and dependency model of economic development being applied to one of the last and largest frontier regions of the world. Project Radam, the huge aerial photographic survey which has been uncovering most of the mineral wealth of the Amazon, for example, was substantially developed with technical assistance from government agencies and private corporations in the United States. Almost all of the heavy earth moving equipment used to clear jungle for the Trans-Amazonic roads was supplied by European, North American, and Japanese multinational firms. Substantial financial inputs to the Amazon program, for such things as hydroelectric and agribusiness development projects, have been provided by international lending institutions such as the World Bank. More relevant to our

purposes here, the recent discovery of uranium on Yanomamö lands must be seen within the context of the entire global scramble for nuclear technologies, power plants, and fuels.

The tragedy of the destruction of the Yanomamö and other aboriginal tribes is that these unique peoples may provide an alternative, and indigenous, model for the socially and ecologically sound development of the Amazon region. By bringing pressure to bear for the creation of an International Yanomamö Reserve, as suggested by the Aborigines Protection Society in 1973, we could provide the basis not only for the survival of these peoples, but also for the survival of the entire planet and ourselves.

-- Shelton H. Davis, Ph.D.
Anthropology Resource Center
Cambridge, Mass.
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