
CVRD's Dr. Eliezer Batista

'I believe in cooperation between Brazil and the U.S.'

The following interview with Dr. Eliezer Batista, the President of Companhia Vale do Rio Doce (CVRD), was conducted on April 22 in Rio de Janeiro by Dennis Small.

Small: What are the activities of Companhia Vale do Rio Doce?

Batista: CVRD is a mining company. We are initiating a very big project in the north of Brazil [Carajás—ed.] as a continuation of our existing facilities in the south. At the same time we are setting up a joint venture in the north with Japanese companies to produce alumina and aluminum. This is altogether an investment of close to \$7 billion in a period of four years. On top of this we have other nonferrous properties which are being developed gradually, because this capitalization effort is worth billions, so we cannot start a lot of new projects simultaneously because there is not enough capital. So we decided to minimize the capital effort by associating ourselves with mainly Brazilian private groups. But in the case of smelting, we are associated with Japanese capital on a minority basis.

Everything is on a business basis; but at the same time this coincides with the fact that this project is also a development project, because it's going to open enormous areas of Brazil for development. Most of the mineral resources are conveniently concentrated geographically, which enables us to use the same infrastructure for the whole region. And it is also a coincidence that the area is extremely rich in terms of soils. We have in part of the territory basalt soil, which is very good for agriculture. And along the railway we have very good areas for forestry development. So the government decided to create an agency for development which is going to use our infrastructure, the enormous hydroelectric potential of the area, and the biomass and also the hydro wastes that are available in the area as a consequence of the construction of the big Tucuruí dam. The combination of all these infrastructure facilities will represent the opening of an enormous area equivalent to several countries, with a minimal investment, but creating for the

country enormous new possibilities in terms of natural resources.

Small: So CVRD is involved in not only mining per se but also processing of raw materials—alumina, aluminum, and so forth?

Batista: Yes. We have a smelter here already in operation in Rio. We have six pelletizing plants that produce 17 million tons of [iron ore] pellets. We are building this smelter and alumina-producing facilities as I told you. And our target is to go more and more into the processing of minerals—not to become only an exporter of raw materials. We are more and more going into processing of these products, these raw materials, because we have very cheap hydropower, a lot of biomass to produce cheap energy, and the reducing agent for metallurgical purposes. And this is all available in this area, therefore making the Carajás development scheme a very economical one. This is something that very few people know about, because most of the so-called development programs in the Third World are usually very expensive and require a lot of infrastructure, which is not the case with Carajás. We are in charge of the infrastructure, and that makes it economical—in spite of the high investment—because we have guaranteed our market in advance. We pre-sold the whole production, which facilitated of course the financing under very attractive terms, which is also very important.

The other projects are going to be mostly private and are going to use the same infrastructure.

Small: In many Third World countries, the focus on development is often simply extractive, and nothing else, which can be criticized for not contributing to the development of the host country. But what you're describing is an integrated industrial process, where the extraction is just the first step in an ongoing industrialization effort. Is that an accurate description?

Batista: Yes. We are already building, as in the case of aluminum, the alumina and metal facilities at the same

time. So it's not only production of raw materials. We are going a step further, and probably we will go even further depending on the economic conditions of the items involved. We cannot go, for example, into fabrication of aluminum because of marketing conditions, but we are going farther and farther depending on the overall situation of the world economy.

Small: You said that the financing conditions are actually quite attractive. What were those and what is the situation now?

Batista: We operate with very important institutional financing establishments like the World Bank, like the European Community, like the Kreditanstalt für Wiederaufbau in West Germany, like Exim Bank of Japan—not Euromarket conditions which are very costly.

Small: On the policy question of large development projects like this there is a very heated discussion. Many banking sectors, including those around the International Monetary Fund, tend to oppose large development projects that lead to industrialization in Third World countries. I would imagine that Brazil, and the CVRD in particular, does not share this view. What is your thinking on this?

Batista: It depends on the degree of sophistication of the large industrial projects. We are not involved in highly sophisticated industrial development. This is the processing of raw materials on the first and second stage, and I think the natural evolution of world conditions requires that. I think what you're saying is mostly valid for other types of industrialization. In this I think we are following a natural trend all over the world where we have better inputs in terms of costs that enable us to compete economically worldwide in changing the geography of certain metals and minerals by force of circumstance—by economical reasoning alone—not by political factors. Of course, if some political factors are also taken into consideration, we may have some alterations in some of these questions. But up until now we didn't feel any pressures in this country. On the contrary, we are the largest iron ore producer in the world and we are competing very sharply all over the world and we are successful because we are producing economically.

Small: How have world market and financial conditions affected the pace of development of the CVRD projects?

Batista: We got support from the consumers and also, in association with the consumers, we got support from the institutions I mentioned to you, with very cooperative and reasonable financial conditions—including the World Bank. So I don't have anything to complain about.

Small: And the growth of world markets for your prod-

ucts?

Batista: We are not counting on any growth of the world market. We are very realistic and basing ourselves on the rock bottom of the conjuncture. That means we are more substituting part of our own existing market. So we have no great expectations for the future of iron ore as such. This is the reason we are limiting ourselves to the present conditions as terms of reference.

Small: Who are the main customers for Brazil's iron ore exports?

Batista: We are all over the world, from China to the United States and anything in between: Europe, Eastern Europe, the Persian Gulf.

Small: I would imagine that the state of the steel industry, for example, in the United States would be a serious obstacle to the expansion of exports of iron ore.

Batista: It is, but we are selling a little bit to the States. We are selling more elaborated products to the States, like pig iron, and semi-finished products of steel. This is one of the ways we think we are going to increase our participation in the American market—through the export of more elaborated products, because we have cheaper energy here.

Small: Do you have any specific targets geographically, other countries, that you would like to see your trade expand with in particular?

Batista: We are interested in expanding our trade with everybody, especially the United States. I think the American economy is very important for us and we think we have a good chance there not only for iron but for the different non-ferrous products.

Small: You're involved in steel production per se?

Batista: No.

Small: Does your company do R&D work in frontier areas of technology, either in mining or processing?

Batista: Yes. This is a very strong point in our company. Actually we have some breakthroughs in terms of mineral-processing developments, for instance, the high intensity magnetic separation for iron ore, developed by our own people. The concentration of anatase, which is a titanium ore, to a very high TiO₂ concentrate, was also developed by our company. We are very much advanced in the use of pulverized charcoal as a substitute for oil in our industrial systems. This is our own development. We are quite advanced in biomass, especially for metallurgical purposes. And things like this. That is the reason CVRD has been very successful in many of our activities.

Small: Do you include in biomass things like firewood?

Batista: Not that. Wood alcohol and things like this.

The Carajas project: Industrializing the Amazon

In the year 1980, the government of Brazil undertook one of the largest development projects on the face of the Earth: the Greater Carajás Project in the eastern Amazon. Slated to absorb over \$60 billion in investment in mining, agriculture, and related infrastructure, the project will center around the rich Carajás mountain, which has the world's largest and purest deposits of iron ore. Greater Carajás is the brainchild of Dr. Eliezer Batista, the president of the state mining company Companhia Vale do Rio Doce (CVRD). CVRD is one of the pillars of the Brazilian state sector, and is the world's largest exporter of iron ore.

An interministerial group headed by Planning Minister Delfim Neto has overall authority over Greater Carajás. Delfim's enthusiasm for Carajás cen-

ters around its usefulness to help pay off Brazil's huge foreign debt. Chase Manhattan Bank has estimated Carajás' total worth at \$333 billion; and when completed it will generate \$17 billion per year in export revenues—on top of the \$25 billion currently exported. But the thinking of Dr. Batista and others is different, emphasizing that Carajás is an integrated mineral, hydroelectric, agricultural, and forestry project, which will industrially transform the face of the inhospitable Amazon region as a whole, and open up an entire area of Brazilian territory for development. It will directly employ over 1 million Brazilians—despite the fact that the projects have correctly been designed on a capital- and energy-intensive basis in order to maximize productivity.

The principal elements of the Greater Carajás project include:

1) *Carajás mine*: Discovered in 1967, the Serra dos Carajás is estimated to have 18 billion tons of 66.18 percent pure iron ore—double the average U.S. purity. The CVRD iron mine will produce 35 million tons per year of ore. Other minerals found in commercial quantities include copper, gold, aluminum, manganese, nickel, and tin.

2) *Tucuruí Dam*: Large quantities of cheap energy will be provided for the Carajás mining and processing activities principally by the Tucuruí Dam, slated for start-up in 1983. Tucuruí will generate 4,000 MW of electricity in its first phase—making it the world's third largest hydroelectric facility (the first largest is also Brazilian, the Itaipú dam currently under construction on the Paraná River between Brazil and Paraguay). Construction of locks at Tucuruí will also allow river navigation on the Middle Tocantins River.

3) *São Luis Railroad*: A 550-mile railroad is being constructed from the Carajás Mountain to the Atlantic port city of São Luis, cutting through thick Amazon jungle.

4) *Port facilities*: Ocean and river port facilities are under construction in São Luis, Barcarena, and Itaquí.

5) *Highways*: In addition to the Trans-Amazon Highway, which traverses the Carajás region in an East-West direction, a North-South highway connects the port of Belém with the capital city of Brasília. This links the newly industrializing eastern Amazon with the center of the country.

6) *Forestry*: There is an enormous lumber potential in the eastern Amazon region, whose exploitation will be coupled with reforestation projects in order to maintain the ecological balance of the area.

7) *Agriculture and livestock*: Within a studied area of approximately 270 million acres, an area of about 170 million acres was determined adequate for agricultural and livestock activities. In the first stage of the project, 38 million acres are to be brought under cultivation, with 10 million acres of these to benefit from irrigation projects.

Investments and yields in the Greater Carajás Program

	Investments (in billions of current U.S. dollars)	Annual revenues	Population affected (in thousands)	Direct employment
Direct investments				
(sub-total)	39.2	17.0	5,600	1,022
Mining and metallurgy	28.1	9.2	380	67
Forestry	1.3	0.6	980	179
Agriculture	8.1	6.5	3,400	624
Livestock	1.7	0.7	840	152
Infrastructure investments				
(sub-total)	22.5	—	1,244	225
Housing	14.6	—	1,244	225
Other (ports, dams, roads)	7.9	—	NA	NA
Total	61.7	17.0	6,844	1,247

Small: There has been a lot of discussion in the United States about alcohol and its relative energy efficiency. I know that Brazil has a major project in this area. But from an engineering or scientific standpoint, what do you think the energy efficiency of this source is?

Batista: If we take the barrel of oil at \$30 as a reference it can be very economical. Especially if you go into acid hydrolysis, wood alcohol for production is the most economical because of the very high forest productivity that we have in Brazil. We have reached through forestry genetics improvement very high yields. We are now averaging 80 solid cubic meters per hectare-year in terms of eucalyptus forest yield. Normally, you don't have one-fourth of that elsewhere.

Small: How much deforestation has there actually been?

Batista: I cannot speak for the country. Rio Doce is very conscious of the problem of ecology. We are the only company in South America that I know of that has an ecological counselor. We don't cut one tree without studying all the consequences. Especially in the Amazon where the environmental problems are very serious, we do not cut anything. On the contrary, we are planting even more than we are cutting.

Small: The readers of *EIR* are executives of small, medium, and large-size businesses, technicians and scientists, politicians and diplomats. They are people who are interested in foreign relations and in economic development around the world. Can you explain for them why people in the United States should be interested in Brazil's development and in the activities of CVRD in particular?

Batista: Because we believe that we have a lot of common interests, because, as I told you before, we can produce a great number of items that are of interest to the American market, where we can be extremely competitive. I believe we have complementary economies. We should cooperate constructively because there is a lot of complementarity in our interests. There are a lot of intelligent people in the States who think in the same way. You may have some people thinking the way you mentioned before, but I don't think they represent the majority of the American people.

Small: We'll do everything possible to make sure that's the case.

Batista: If you clarify the problem for everybody, I think it's the logical way. You cannot be rich in a world of miserable people. Even to maintain your own position, you have to help others to develop. We believe in that. This is the reason why we, on our side, will try to help others. There are others in Latin America, in Africa, with whom we can cooperate constructively; we don't think we should be selfish.

To take a good example: pollution. Pollution problems are becoming so worldwide today that you cannot restrict yourself to political borders. One thing I do here, affects you there, and vice versa. This is all interrelated today, the world has become very small.

Small: We have found that despite attempts by the media to present technology and science as a dangerous thing, nonetheless most Americans do maintain a commitment to technological advance and a commitment to progress.

Batista: I think that's the way it should be. It's not through ignorance that you are going to clarify your problems. You may have some problems but you will be able to correct them. Otherwise you are leading yourself into ignorance. Like the matter of ecology: sometimes you have to change ecology, for the better, not for the worse. For example, in the tropics, you have malaria and a lot of other disease. If you don't kill the mosquitos, you are going to die yourself. You have to alter the ecosystem. If you go into radical conservation, you could not even touch your mosquito. You have to find a constructive middle road, which is possible.

Small: So the solution to ecological problems is more technology?

Batista: Yes, of course. More science. Because technology is the practical use of science. And science is knowledge in evolution. You have obsolete technology based on obsolete science; so the more you develop science the better you are equipped to develop technology for the benefit of mankind. We have to know better the laws of nature in order to obey them better. Like Bacon said, the best you can do is to obey nature, because you cannot command nature. And to obey better, you should know better the laws of nature. This is science, physics.

Small: So then, you're in favor of nuclear energy?

Batista: Yes, I am, because what is the alternative? Fundamentally, if you can control nuclear power, then it is the cleanest sort of energy. Look at coal, for instance, with all the implications of CO₂ in the atmosphere, which is a very complicated matter, so that no one is 100 percent sure of what is going to happen with this canopy of CO₂ in the atmosphere, which may change the climate of the Earth. If you go into fantastic coal development that people are proposing all over the world, what is going to happen to that? It's much worse than nuclear power.

Small: Absolutely, and the radioactive emissions of a coal-fired plant are greater than from a normally functioning nuclear plant. We have a saying in the United States: that more people have died in Ted Kennedy's car than in nuclear power accidents.

Batista: That's a good one.