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ECOLOGY AND ECONOMY: DILEMMA OR OPPORTUNITY FOR DEVELOPMENT OF THE AMAZON?

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"The true knowledge is achieved through dialectic."

Plato (428-348 BC)

As to facts, ecology and economy are facing very close etymologically, however. The relationship between ecology and economy are complex and full of ambiguities, this is because the speech both seems present opposite paths. Ecology dresses, increasingly, the scientific garb, while the economy comes with the costume of the market. The economy seeks the support lot in the neoclassical economic theory that considers the environment as an "externality" in prices, which reflect the relations of exchange between economic agents.

But when the economy and ecology seek dialogue come your goals converge to the lowest common denominator of balance. On the market, with the conflicting positions of economic agents; in nature with "fight" among species. Economic agents and species in nature, by non-linear paths, looking for space and life. So, if there is no way to confuse nature and society, nor how to find the grounds one in another, it seems, in spite of everything there is even a species of providential "invisible hand" working, both in the economy of men, as in the economy of nature.

Second, Carl Von Linné (1707-1778), naturalist and "father of modern taxonomy" in search of a livelihood, each species must therefore determined function – a "craft", some "work" – whereby, by means of survival that is so granted, is justly rewarded. The nature seen by Linné presents itself as a big "machine" where living beings succeeding each other as in the chain and, in which specifies the naturalist, the functions should be distributed so that one does not have to perform in large quantity, but every one they are entrusted.

Seeing through this angle is difficult not to think of the famous theme of division of labor of the Wealth of Nations by Adam Smith (1723-1790), considered the "father of Economics", since the rganization of nature is made of unwitting interdependence for mutual assistance like liberal society described by this author, in which the work is

divided by himself, because men driven by the pursuit of self-interest have a natural propensity to return. At this juncture of approximation can be affirmed that attention to natural economy does not invalidate human economy's potential to develop and enrich.

Until the first half of the 19th century, the economy was designed within the limits and conditions of nature, and the setback, the economy of nature is conceived metaphorically within the limits and conditions of the economy of men. This consistency is characteristic of agricultural societies still perdominantemente, corporate users of cold energy (hydro, wind), dependent on the natural rhythms and cycles. This stage begins to be upset with the advent of the Industrial Revolution, in the second half of this century. This would later declare war on nature, which by the way, began in the Middle Ages, the fruit of the desire for domination of the man who transformed, little by little, the desire to do and undo his will.

Perceived initially by economists as abundant, the environment became, over time, an increasingly scarce resource. Before this recognition, they have been divided according to two separate issues – the economics of environment and economy of natural resources – more that have been developed relatively independent. However, the neoclassical authors recognize that the environment in which they consider to be the economic sphere, in general, is hampered by the fact that the price of environmental goods and services does not reflect or poorly reflects its true value.

The common point between economy and ecology begins to have an interface with the impetus for the creation of ecological economics given by two researchers in ecology and marine biology, the Swedes Bengt-Owe and Ann-Mari Jansson, 1970s, who organized, in September 1982 in Stockholm, a workshop aiming at establishing cooperation at the international level among economists – much of which neoclassical theorists – and specialised ecologists in ecoenergy. This meeting resulted in a few years after the publication of a special issue of the journal Ecological Modelling, in which the term Ecological Economics required by the interdisciplinary convergence effort.

Another series of workshops in Barcelona in 1987, has allowed the formal birth of Ecological Economics. At the end of the colloquium was decided the creation of the International Society for Ecological Economics (ISEE) and the journal Ecological Economics, whose first issue appeared in February 1989 by neoclassical economists and heterodox, alongside environmentalists, setting up a sort of synthesis of workshops of Stockholm and Barcelona.

The Ecological Economics provides a holistic view that attempts to reverse the tiering traditionally powered by conventional economists, who seek to internalise the

environmental logic in the midst of what is considered to be the economic logic. According to ecological economists, the relationship of inclusion that should be recognized is reversed: the socioeconomic systems are open subsystems in the biosphere, and the planetary ecological system must manage their integration within it. One of the difficulties is that socioeconomic and ecological systems are constantly evolving. The economic process – process of destruction/creation according to Joseph Schumpeter – changes irrevocably the natural surroundings and, in contrast, the latter modifies irrevocably first.

The Ecological Economy demonstrates that no discipline or action alone can provide the tools necessary to solve the problems of sustainability. Hence the need to consider the philosophy of Plato, in search of this convergence, from traditional knowledge to the scientific and technological knowledge, so that the balance between preservation and production has been established.

While economic and ecological theories seek ways to utilize and preserve natural resources society exploits, because you need the same for their subsistence activities and economic growth. The problem lies precisely in this point because the exploitation in the Amazon, is through system available, the extractivism.

Amazon since the colonial phase has guided its economy on the extraction of natural resources. Even in the 21st century, the State of Pará has export those resources their largest entry currency. In 2010, the mineral industries, forestry and fishing accounted for 72.43% of the exports of Pará under the primacy of first with 66.33%, data of the Ministry of Development, Industry and Foreign Trade. It is impossible to target a sustainable economic development for a growing population and increased income, keeping these sectors as flagship of the economy, guided by a predatory extraction. Natural resources exploited, two (forestry and fishing) are renewable, however very little has been done to achieve this level. And in front of their extractive farms have the following diagnostics.

How to plant resources, their exploration of extraction is characterized by three phases, according to a survey of agronomist Alfredo Homma (1989). Expansion, when there is growth in resource extraction, a good example is logging. With the growth of demand for the second phase of stabilization between the extracted resource and market. From this phase is the scarcity of the resource, then the decline in economic activity due to the increase in the costs of extraction.

As regards fishery resources, their exploitation by competition from companies eager to explore the source for free leads each to maximize your profit when performing this activity. In this case there is the risk of depletion or extinction of the

species fished, which is described by biologist Garrett Hardin (1968) as being the Tragedy of the Commons.

This context of exploitation has to be changed. The change will come by the recognition that the preservation and exploitation shall be guided inter alia by Ecological Economics. As mentioned previously, no discipline focused or isolated action will bring sustainable development (preservation and production in balance). The sum of knowledge, since the traditional bypassing by scientific and technological multidisciplinary interface will be able to promote, in the forestry area, the Best Systems Management and Reforestation that meet the growing demand of forest products, enabling the preservation of biodiversity. It form an alliance with the Ecological Economic Zoning in its plans for macro and micro. Fishing exploitation should be incentives for the intensification of Seasonal Fishing and Aquaculture in its various levels, so as to reduce pressure on stocks. With regard to mineral resources, most Modern Extraction Systems and Recycling increase productivity and decrease the damage to the environment.

The preservation areas, whenever possible, may also contribute to economic development not only preserving biodiversity. The Inventory of Biodiversity Programmes can be maintained with Programmes of Bioprospecting. With this, it would be possible, for example, while the biodiversity survey, identify new molecules from plants, animals and microorganisms found and/or these biomes and which may be of interest to the productive sector. Is the name of Search in Hidden Forest. Work in this direction are already occurring, however need of greater magnitude. As an example cites the Bios Project developed in Brazil, Alto Solimões, Amazonas State, by a team from the Universidade Federal de Lavras (Ufla), in Minas Gerais. Searches held there discovered bacteria and fungi associated with roots of plants and help in nutrition. The Group of researchers from Ufla has used Amazon bacteria to improve the productivity of Cowpea (*Vigna unguiculata*) in other regions.

These research results should interact with the Biotechnology Center of the Amazon (CBA), located in Manaus, and which seeks to promote technological innovation for processes and products, encouraging and creating the basic conditions to support the development of industrial activities based on the sustainable use of Amazonian biodiversity.

In addition to investments other obstacles need to be demolished for this reality arises with more force. For example, in the evaluation of many researchers, the Provisional Measure (MP) n ° 2,186, culminating on August 23, 2001, regulating access to genetic resources and traditional knowledge in Brazil, closed the area of

bioprospecting in the country. The output should be via Bill that, while protect the genetic resources of biopiracy also transform the browser into an ally in combating piracy and transformation of the great natural heritage in an effective source of resources for the region and country.

In a democratic society this is only possible if she, by informing and convincing opt for that the actions outlined above are executed on a larger scale, so that resources (human and financial) are allocated to achieve those goals. Up Amazon society in particular and to Brazil as a whole recognize the potential of biodiversity and the mining sector that Amazon has for their exploitation and preservation cease to be a dilemma conflictual and becomes an opportunity for economic development. Tools exist, need to be used, political recognition and support of society.