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**THE MYTH OF UNTAMED NATURE IN
THE BRAZILIAN RAINFOREST**

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SUMMARY

AMONG SOME Brazilian conservationists and Governmental Agencies, such as IBAMA (Brazilian Institute for Environment), there is still the concept that protected areas (National Parks, Ecological Stations) should be empty spaces, with no human dwellers. According to the existing law, the presence of any human group, traditional or not, is a threat to conservation and therefore, traditional communities living in areas before the establishment of the restrictive protected areas should be expelled. It is known however that the traditional communities (mainly artisanal fishermen, riverine and extractive groups) have lived for long time and due to their type of livelihood are, to a large extent, responsible for the conservation of the area. In many cases, the expulsion of these groups has induced the arrival of powerful economic groups such as sawmill processors, land speculators that are responsible for the degradation of protected areas.

In some cases, after the transfer of the traditional population to the surrounding regions, the protected area is considered to belong the government environmental authorities and not to the original dwellers. In this case, very often, the expelled traditional groups also start predatory practices. In the cases these communities have

not been officially expelled, the constraints on the use of natural resources are so restrictive that part of the population migrates in order to make their living elsewhere.

In order to understand the cause of this unjust treatment against traditional populations it is important to understand the origins of the North-American conservationism concerning the creation of national parks in the late 19th century, when the Yellowstone Park was created. These ideas have deeply influenced the establishment of national parks in Brazil.

In the second half of the 19th century, industrialization and urbanization in U.S.A. were an advanced process, and colonization was going on in the western regions. However, in that period there were vast empty or wild areas. Conservationists, like Muir, Thoreau, Marsh were influential in putting aside these areas for recreation and admiration of natural beauty by urban population. This ideology of “wilderness” considered that there is an inverse relationship between human action and the well-being of the natural environment. The natural environment and the urban world were viewed as enemies. In this context, mountains and forested regions and related wildlife were considered as wilderness, an area enhanced and maintained in the absence of people. There areas were seen as pristine environments, similar to those that existed before human interventions. Very few north-American conservationists considered that indians were part of the “wilderness”. George Catlin was an exception and suggested that not only the grazing lands but also the buffaloes and the indians should be protected.

These ideas have deeply influenced the first Brazilian conservationists. Vast areas were considered “empty” and “wild”, although most of them were sparsely populated by traditional communities of small scale fishermen, shifting cultivators, extractive groups. These human groups were not so common in the areas proposed as national parks in the US. Very often parts of the tropical forests in Brazil were and in some case still are maintained in a “wild” state because of the type of livelihood of the traditional population that need to use the natural resources in a wise way in order to survive. However, because of imported conservationist ideas

these traditional human groups should be transferred, by law, from the land their ancestors have inhabited for a long time. Recent studies undertaken by IUCN (Amend, 1992) have shown that only 14% of the national parks in Latin America are inhabited and around 50% of them have traditional dwellers (small farmers, artisanal fishermen). According to the same study inside or around 80% of the Brazilian national parks there are human communities that use natural resources. The NUPAUB/USP – Research Center on Human Populations and Wetlands in Brazil is undergoing an overall survey on traditional communities and protected areas in the Atlantic Forest. In the first phase, four states (São Paulo, Paraná, Rio de Janeiro and Espírito Santo) are studied. Only in São Paulo in 40% of the parks there is population (traditional or not) living inside the protected areas.

Conservationist ideas concerning the role of traditional populations have evolved, as it can be seen from the various international meetings of IUCN – World Conservation Union in the last 20 years. Many Brazilian conservationists however opposed any change concerning the need for maintaining traditional population in their habitat. Since the IUCN Meeting in Delhi and particularly in the *IV International Congress on National Parks and Protected Areas*, in Caracas (1992), called Peoples and Parks, the positive role of traditional population in national parks conservation has been recognized. Deep knowledge of the ecosystem, long-standing sustainable management practices, dependence on the use of natural resources, ancestral territorial rights were recognized as important arguments to maintain and associate traditional communities with protected areas management.

Recent studies (Balée, 1988; Gomez-Pompa, 1971, 1972; Posey, 1987; Brown, 1992) have shown the role of the traditional communities (indians, small-scale fishermen, traditional peasants) in conserving flora biodiversity in the tropical forests. These researchers claim that it is important to take into consideration the knowledge and expertise of these populations in conserving biodiversity. These studies are relevant as today conservation of biodiversity has become one of the most important functions of the protected areas.

The acceptance of the presence and awareness of the contribution of traditional population to national parks conservation is growing among conservationists and researchers in Brazil, in spite of the fierce opposition of some governmental and non-governmental sectors. The creation of the extractive reserves, result of the struggle of the rubber-tappers (*seringueiros*) is an important step to the recognition of the role of the traditional communities. Other categories involving the contribution of traditional population should also be added to the existing protected area system managed by IBAMA. NUPAUB/USP is proposing a new category entitled: *Ecological and Cultural Reserve as a Strategy to Protect both Biological and Cultural Diversity*.

A new system of protected areas (*Sistema Nacional de Unidades de Conservação*) is being proposed but unfortunately this discussion is restricted to narrow conservationist circles. In the first proposal made by the IBAMA there is barely a place for the traditional population in the system, and this should be changed. The new system is an important issue and should not be handled only by a few conservationist agencies. It should be an issue of interest to be thoroughly discussed within the Brazilian civil society.

INTRODUCTION

THE CREATION of protected areas¹ has been one of the principal elements in strategies for the conservation of nature, in particular in the countries of the Third World. The establishment of these areas increased substantially in the 1970's and 1980's, when around 2,098 federal protected areas were created in the entire world, encompassing more than 3,100,000 km². Today, around 5% of the surface of the earth is legally protected, through 20,000 different categories, covering an area the size of Canada, spread throughout 130 countries including not only the federal level but also provincial, state, municipal levels. (World Conservation Centre, 1996).

In 1990 Brazil had about 34 national parks, 23 biological reserves, 21 ecological stations, 38 national forests, 14 environmentally protected areas, and 4 extractive reserves, totalling 31,294,911 ha or almost 4% of the territory (CIMA, 1991). Around 28,302,572 ha of this area are located in the Amazon region, with the remaining 1,125,883 ha being from other regions.

¹ In this book, the term 'protected areas' refers to all categories of areas from which human populations are excluded. In Brazil this includes mainly national and state parks, ecological stations and biological reserves. However, in the text, the terms parks, reserves, protected natural areas, natural reserves, conservation reserves are also used to refer to protected areas as defined above.

A combination of factors could explain this increased interest in creating protected areas in Brazil: the rapid devastation of the Amazonian rainforests and the Mata Atlantica; the loss of biodiversity; the availability of international funding for conservation efforts; the possibility of revenue generation from tourism in parks; and above all the pressure on the World Bank to create new protected areas to counterbalance traditional development projects in fragile areas such as the Amazon.

In this context, the establishment of protected areas also becomes an important political weapon for the dominant elites of many countries of the Third World, who can continue to obtain external financing for large projects, which will have a significant impact on fragile ecosystems.

Brazil currently has about 4% of its territory established as protected natural areas under federal jurisdiction, an area already larger than many European countries. If the proposal of UNEP that approximately 10% of national territory be put under some form of protection is achieved, around 800,000 km² of Brazilian territory would be parks and reserves, a surface area equivalent to France and Germany combined. In this context, it is important to note that today about 18% of the Amazonian region is protected (including indigenous reserves).

Apparently, most environmental agencies maintain that the greater the area that is put under some form of protection, the better it is for conservation (Ehrlich, 1982). The United Nations Environment Programme (UNEP) proposed that ideally around 10% of the land surface should be turned into conservation areas (UNEP, 1989:91).

This proportion has in fact already been achieved in about 7 countries in Asia, 14 countries in Africa, and 6 countries in Latin America (Ghimire, 1991). It is interesting that the U.S.A., one of the proponents of this idea, has protected some 10.5% of the landscape in all categories of protected areas and less than 2% of their territory as national parks (Parks Guide, 1989:23), and Europe has less than 7%. Apparently the idea of national parks is important for the Third World, but not for the industrialized countries. This, despite the fact that many Third World countries

are going through crises of food shortages, resulting in part from a shortage of land for agriculture and from an unequal land distribution. The World Conservation Strategy of the International Union for Conservation of Nature — IUCN (1980) proposed that agricultural land in poor countries should be reserved for agriculture, but with the exception of Indonesia and Ethiopia, none have significantly expanded the programs for resettlement or rural development for their landless farmers .

Also, governments have not correctly valued the environmental and social costs of expanding national parks and other protected areas. In many cases the expulsion of inhabitants from the areas transformed into national parks has resulted in over-use of the protected areas by the former inhabitants, who are often resettled in inadequate conditions in the proximity of these conservation areas. In other cases, such as Vale do Ribeira in São Paulo State, almost the entire area of many municipal districts has been turned into parks and reserves, without consulting the local populations or authorities. These affected people then complained about the lack of possibilities for economic expansion, and obstacles to the creation of new jobs caused by the existence of large protected areas in their regions. This has frequently set the population of these municipal districts against the existence of protected areas, which are considered to be the cause of the economic difficulties faced by the districts.

In Brazil, one of the most crucial issues concerning protected areas relates to the social and ethnic problems caused by the expulsion of traditional populations, whether indigenous or not, from their ancestral territories and by the constraints posed by imposition of those areas on the livelihood of people living inside and in the buffer zones of national parks. The indigenous populations have been estimated by the United Nations at 300 million, primarily in 70 countries, and throughout various ecosystems, ranging from savannah, forests and polar regions. According to McNeely (1993), the people known as 'tribals, natives, traditionals or of different cultural minorities' that live in isolated regions, occupy about 19% of the land surface, living in fragile ecosystems. Currently it is most often these ecosystems that are

considered 'natural' which are transformed into protected natural areas, involving the expulsion of the residents. With this authoritarian action, for the benefit of urban populations, the state contributes to the loss of a wide range of ethno-knowledge and ethnoscience, of ingenious systems for managing natural resources, and of cultural diversity itself.

The expulsion of inhabitants has contributed to even more degradation of areas of park that, because of a lack of monitoring, are invaded by logging industries and miners who illegally exploit the natural resources. The inhabitants also illegally extract their means of subsistence in these protected areas, considered as 'lost resources' by the local community.

Governments almost never assess the impact of the creation of parks on the way of life of local inhabitants, who often have been responsible for the preservation of these natural areas. In many Third World countries, populations have been removed from areas that became parks, thereby losing their material and cultural basis for subsistence, without the state bothering to resettle them in an appropriate manner. Traditional populations are transferred from the regions where their ancestors lived, to regions that are ecologically and culturally different. For these populations, the establishment of national parks means greater restrictions in the use of the natural resources that enable them to survive. The groups of hunters, fishermen, and resource users that have developed a symbiosis with the forests, rivers and coastal areas, once relocated to other areas, have great difficulty surviving due to the prohibition of their traditional activities that accompany the creation of the parks (Ghimire, 1991).

For these populations, it is incomprehensible that their traditional activities, primarily connected with subsistence agriculture, fishing, and resource extraction, are considered prejudicial to nature when hotels and tourist infrastructure are permitted for the use of people from outside the area. Paradoxically, most budgets of conservation areas are used for monitoring and enforcement (most of the G7 loans for the Amazon are destined for this end) and much less for improving living conditions and maintenance of the traditional population that, if appropriately

organized and encouraged, could make a positive contribution to the conservation of protected areas.

One problem is that the authorities responsible for the conservation areas perceive the traditional populations as destroyers of wildlife, which eliminates any real opportunities for their incorporation in the conservation project. In many cases, and especially in the Amazon, the so-called 'participation' of traditional populations in the establishment of parks and reserves does not go beyond well-intentioned words, given in order to respond to international demands, especially from the large international institutions such as the World Bank, the IUCN and the World Wildlife Fund — WWF, that consider the involvement of these populations as a positive factor for the success of the undertaking.

In reality, the populations that are still found in parks or that were resettled in the outskirts of parks have not always been seen by the authorities in a positive light. When these associations become more demanding and more organized, defending their historical rights to continue living in the areas where their ancestors lived, they are accused of being against conservation. In most cases 'traditional populations' are isolated, living in ecosystems considered until now to be marginal (mangroves, salt marshes, tropical forests), are illiterate and lacking in political power, and also do not have legal ownership of the land. These facts, very common in the Third World, make expropriation very easy, without the need for giving real compensation for land that they have been inhabited for generations. The large landowners, who have often obtained their land by usurping the rights of the traditional residents, nevertheless can show legal ownership and are royally compensated for the expropriation, as has occurred in many places with the creation of parks and reserves in the Mata Atlântica (Atlantic Rainforest) in Brazil.

The methods of incorporating traditional inhabitants in the planning and creation of conservation areas are in most cases aimed only at minimizing the potential or existing conflicts and do not offer viable alternative livelihoods for the populations that live in the parks. When the presence of these populations is 'tolerated', the limitations on the traditional use of natural

resources are such that inhabitants who do not have other alternatives will migrate 'voluntarily', increasing unemployment and the population of slums in urban areas.

From a theoretical point of view, protected natural areas, especially those involving restricted use (parks, ecological stations, etc.) in their conception and implementation and calling for the resettlement of human populations – including populations that have long lived in the areas considered 'natural' and 'wild' – constitute an ideal location to analyse the relations between humans and nature in the modern world. This situation presents the opportunity to analyze how myths appear in modern societies, and their relation to other existing myths and symbols about the natural world.

The idea of protected areas was conceived in the last century, primarily in the U.S.A., in order to protect wilderness which, according to the advocates of its protection, was threatened by urban-industrial civilization, which is inherently destructive of nature. A related but secondary idea is that, even if the biosphere becomes totally transformed and domesticated by humans, pieces of the 'natural world' can be preserved in their pristine state, as they existed prior to human intervention. However, in addition to the creation of a physical space also exists a particular conception of human-nature relations, characteristic of a type of naturalism that Moscovici (1974) calls *reactive naturalism*, which is equivalent to preservationism and is a reaction against the dominant current of anthropocentric culturalism.

For the *reactive naturalism school* that characterized the nature protection of the last century, as with today's radical environmentalists of the deep ecology school, the only way to protect nature was to isolate it from humans, through the creation of islands of preserved nature which could be admired and revered. These paradisaical places would also serve as wild areas where humans could regain their energies that were drained by the stresses of the cities and the monotony of work. This appears to reproduce the myth of paradise lost – the place longed for and sought by humans after their expulsion from Eden. This neo-myth, or the modern conservationist myth about parks and reserves, is still today

composed not only of old images such as that of a wild paradise and place of contemplation, but also of scientific aims such as the need to protect biodiversity and ecosystem equilibrium. As Morin (1986) argues, technical-rational thinking can be seen as parasitical on mythical and symbolic thought.

The existence of a wild natural world, untouched and untouchable, is an integral part of this neo-myth. As Ellen (1989) argues, however, nature in a pristine state does not exist, and 'natural areas' identified by biogeographers are usually areas extensively transformed by the hands of humans.

The general purpose of these natural areas is to protect and preserve spaces with important ecological attributes. Some of these areas, especially those with parks, are established for their natural richness (today called biodiversity) and aesthetic value, and for the appreciation of visitors, whilst at the same time do not permit people to live in them.

This modern myth, however, was transposed from the United States to the countries of the Third World, including Brazil, that have a distinct ecological, social and cultural reality. In these countries often in the apparently empty tropical forests, live populations of indigenous people and others who make their living from rivers, forests and grasslands. They are bearers of another culture (which will be called here 'traditional') with their own myths and relations with the natural world which are distinct from that which exists in urban-industrial societies. The current Brazilian legislation that creates parks and reserves presupposes, along with the U.S.A., the relocation of the residents of these areas, causing a series of ethical, social, economic, political and cultural problems.

Brazil contains a great variety of ways of life and cultures that can be considered 'traditional'. This great diversity of tribes and indigenous peoples includes more than two hundred different languages. Although the Indian tribes are included in the category of 'traditional populations', they are not the object of this study. A large part of the indigenous population live on reserves, with their own legislation different from that which governs nature conservation areas. However, some scattered indigenous groups today live inside or on the periphery of conservation areas.

The non-indigenous populations and traditional cultures are generally considered peasants and small-scale fishermen, and are the product of intense racial (ethnic) mixing between the white colonizers, the Portuguese, the indigenous population and the African slaves brought by the colonizers. They include the *caiçaras* that inhabit the coast of São Paulo, Rio de Janeiro and Paraná; the *caipiras* (peasants) from the southern states; the *vargeiros* who live on the riverbanks and river floodplains of the North and Northeast; the *jangadeiros* (raft fishermen of the Northeast) the *pantaneiros* or communities and riverine populations of the Pantanal Matogrossense; and the *açoreanos* (small producers of the Santa Catarina coast of Azorean origin). These populations of small producers were formed in the colonial period, frequently between the cycles of economic expansion, that were based on export-oriented monocultures (sugar cane, coffee plantations). With relative isolation, these populations developed distinct ways of life that depend to a great extent on natural cycles, a profound knowledge of biological cycles and natural resources, inherited technologies, symbolism, myths and specific language, with accents and many words of African and indigenous origin. This great cultural diversity, however, has not been adequately studied by ethnographers and anthropologists, as until recently, major preoccupation of anthropologists has been the study of indigenous peoples. This author, in spite of the criticism for the use of the concept of 'cultural area', was one of the first to call attention to the need to study the non-indigenous Brazilian cultures.

Manuel Diegues Jr. (1960) tried to show, from the point of view of the cultural areas, the great diversity of cultures and ways of life in many Brazilian regions (the Northeast agricultural coastal areas, the Northeast Mediterranean, the Amazon, the mining regions of the Plateau, the Centre-west, the Extreme South, the foreign colonization areas, the coffee zone, and the industrial zone).

This diversity of culture and ways of life is evident, for example, in Brazilian coastal regions, and probably has its origins in the relative isolation of the local populations, after the detour of the great economic cycles towards the interior. However, 'small-scale

production' existed before this detour, in the interstices of the colonial monoculture.

Human populations often returned to small-scale production when the economic cycle of regional exports was exhausted, as Mourão (1971) cited in the case of the caiçaras populations of the south coast of São Paulo state. Populations frequently settled in ecosystems that were inadequate for the establishment of export-oriented monocultures, as in the case of the traditional cultures that developed in the mountainous regions and floodplains of the Mata Atlantica, in the riverine regions of the Amazon and the Pantanal, and in the sandy strips of the Northeast coast.

It is exactly these coastal areas of humid tropical forest inhabited by traditional populations that have been converted into the protected natural areas since the 1930's in Brazil.

These areas were mostly ecologically well-preserved because of the way of life of these cultures and they were definitely not uninhabited.

1

NATIONAL PARKS AND NORTH AMERICAN CONSERVATION: ITS GLOBAL EXPANSION

THERE ARE many different and often opposed ideas of the meaning of protected areas. For some, conservation areas are an end in themselves and have the objective of protecting wilderness, untouched in the face of the advances of a growing population and the devastation resulting from the modern world. Underlying this idea is the presupposition that humanity is heading irreversibly towards the destruction of natural ecosystems and that in the future only islands of conservation will remain, paradises reminiscent of the natural world. This proposal appears to be based on the idea that on one side is nature and on the other side is humanity – a visceral enemy of the natural world which it intends to dominate and domesticate. For others, the ‘natural world’ does not exist, since even the humid tropical forests have been transformed by human action to a great extent over the many thousands of years in which humans have lived in them. For these people, there is an urgent necessity to redefine human-nature relations, privileging those that are founded on the interdependence which is necessary for the survival of both. In this context, the parks and reserves are

also important in a nature conservation policy, but need to be integrated with a broader vision of the adequate management of the natural world, with primary consideration given to the necessity of human survival on earth.

These two positions involve opposing ideas of the meaning of nature: the first more 'ecocentric', where the natural world has a value in itself, independent of its utility for humans; the second is more 'anthropocentric', and affirms the primacy of humans over the natural world. For the first vision, humans are always acting as the dominator and domesticator of nature, behaviour which will lead inevitably to the destruction of the natural world. In the second vision, the natural world was created for the benefit and use of humans.

These antagonistic views are described by various authors. Worster (1977) identified the first view as 'Arcadian', bucolic, represented by the work of Gilbert White, an 18th century English parish priest, and the second as the 'Imperial' view, based on the rationalist philosophy of Descartes for whom man is unique in being endowed with reason and the means to dominate the natural world, by discovering its laws through modern science. Moscovici (1974) also studied this dichotomy, calling the first view the 'heterodox' paradigm, which is opposed to the Judeo-Christian ethic of the domination of nature, and the second the 'orthodox' view – the dominant paradigm that emphasizes the idea of domestication of the natural world.

O'Riordan (1981) identified the first vision as 'ecocentric', in which the animals and plants have rights to exist independent of humans, and the 'technocentric', for which the natural world exists to serve humans.

The same distinction is made by Arne Naess (1973), who contrasts 'deep ecology' and 'shallow ecology'. For the *creator* of 'deep ecology', human life and non-human life have value in themselves, intrinsically, independent of their utility, and the richness and diversity of these forms of life contribute to the realization of these values.

Some authors such as Keith Thomas (1983) have analyzed the appearance of these two paradigms in England. There, until the

18th century, the predominant view was that the natural world was created for the good of humankind, and that other species were subordinate to human needs and desires. This view insists on the virtually unlimited authority of humans over animals, which should be domesticated to serve human needs. Western civilization was an expression of the conquest of nature, as a source of food, fuel, etc. For Bacon, the goal of modern science was to restore the dominion of humans over creation, which was lost with the original sin. Domesticated animals were the symbol of Western civilization, and the oriental philosophers, who preached a harmonious relationship with the natural world, were viewed with contempt. Thomas argued that this pattern of domination and domestication of animals served as an ideological base for the domination of those humans that 'behaved like animals', like the impoverished, women, blacks, etc. According to Thomas (1991), at the end of the 18th century voices began to arise opposed to unlimited rights of humans over nature. The advance of Natural History and above all the growing chaos of cities contributed to this change. The deterioration of city life increased the value of life in the countryside, the rural world where reigned the calm of the bucolic life which began to be sought by the aristocracy as refuge from the polluted urban centres. The natural landscape began to appear in literature and painting as a place of enchantment and a source of spiritual rejuvenation. The elimination of the threat of hunger by the agricultural revolution increased appreciation of the 'natural landscape' in opposition to the landscape domesticated by humans – the cultivated land.

These two views are based, however, on an ahistorical analysis of the relationship between humans and nature. The analytical basis of 'ecocentrism' is largely based on a critique of the relations between modern industrial societies and nature. Devall, an exponent of ecocentrism, explains this view as follows:

The technological society not only alienates humans from the rest of nature but also from themselves. It necessarily promotes destructive values and goals that often destroy the basis for viable human communities interacting with nature. (1985:48)

This view does not account for the existence of distinct social formations other than urban-industrial societies which can be considered pre-capitalist (indigenous, extractivist, artisanal fisherman), where the relation with nature is very different from that which exists in capitalist society.

In North America, the notion of 'wilderness' as large uninhabited areas underlies the creation of parks. At the end of the 19th century there were large uninhabited areas, especially after the conquest and widespread massacre of the native peoples and the westward expansion of the frontier. During this period, American capitalism was in the process of consolidation, urbanization was accelerating, and it was proposed to withdraw large areas of nature from human occupation, removing them from expanding agriculture and putting them at the disposal of the urban populations for the purpose of recreation.

Until the end of the 19th century, a large part of the territory of the U.S.A. was wilderness. As Nash (1989:25) says, 'even the people who criticized the exploitation of natural resources could not escape the impression that there was plenty of space for humans and for nature in the New World.'

The movement for the creation of 'natural areas' in North America was influenced by the ideas of Thoreau and Marsh, which provided a basis for criticizing the management of forests and their rapid destruction for commercial ends (Thoreau, 1854, reprinted 1962). The middle of the 19th century saw the advance of human settlements to the west, with large-scale destruction of forests, and natural areas being degraded by the actions of mining and forestry companies. These processes already raised protests from nature-lovers, who were fascinated by the beauty of the Rocky Mountains and their magnificent valleys. In 1864, Marsh published his book *Man and Nature*, which was widely read and discussed in the U.S.A., in which the author demonstrated how the destruction of the natural world threatened the very existence of humans on Earth. Marsh's ideas had a great influence on the establishment of a national commission of forestry experts. Marsh argued that the preservation of virgin areas is justified by economics as much as by poetry and art. It is interesting to note, however, that in the beginning

of the 19th century the artist George Catlin, in his travels to the American west, concluded that the Indians as well as the bison were threatened with extinction. He suggested that the native people, the bison and virgin areas could be equally protected if the government established a national park incorporating humans and animals in all their primitive and natural beauty (McCormick, 1992). This idea was not implemented, however, and the notion prevailed of wilderness as virgin areas, defined as having no permanent inhabitants.

It is significant that on March 1st, 1872, when the Congress of the U.S.A. created Yellowstone National Park, it was also decided that the region was to be preserved and could not be colonized, occupied or sold according to the laws of the U.S.A., but was dedicated and separated as a public park or recreation area for the benefit and enjoyment of the people. Any person who settled in or occupied this park or any of its parts would be considered to be breaking the law and thus would be removed (Miller, 1980).

It is interesting to note that the 'Wilderness Act' of 1964 in the U.S.A. also continues to define *wilderness areas* as those which do not have permanent human settlement. Along with this, the natural beauty would motivate sentiments of enchantment and admiration (Devall, 1985).

The idea of a park as a wild and uninhabited area, typical of the first North American conservationists, could have its origins in the Christian myth of the 'earthly paradise'. The Christian conception of 'paradise' which existed at the end of the Middle Ages and in the period before the discovery of America, was of a natural region of great beauty, completely uninhabited, from which humans had been expelled after the original sin. In the Western imagination, it could be on an island or in uninhabited land beyond the Columns of Hercules. The discovery of the 'earthly paradise' was among the objectives of the voyages of discovery. This myth of 'paradise lost' and of its restoration appears to be the basis of the ideology of the first American conservationists.

The wilderness is simple, almost to barrenness... The kings of England formerly had their forests to hold the king's game, for sport

or food, sometimes destroying villages to create and extend them; and I think that they were impelled by a true instinct. Why should not we, who have renounced the king's authority, have our national preserves, where no villages need be destroyed, in which the bear and panther, and some even of the hunter race, may still exist, and not be 'civilized' off the face of the earth - our forests, not to hold the king's game merely, but to hold and preserve the king himself also, the lord of creation, not for idle sport or food, but for inspiration and our own recreation. (Thoreau, 1962:402)

In this way, the first conservationists appeared to recreate and reinterpret the myth of an 'earthly paradise' through the creation of uninhabited national parks, where humans could contemplate the beauty of Nature.

The notion of wilderness that provides the basis for the creation of North American parks came under criticism from the outset, particularly from the remaining native people already mostly removed from their ancestral territory during the conquest of the West. As the Souix chief Standing Bear argued,

We do not consider wild the vast open plains, the marvellous undulating hills, the sinuous torrents. Only for the white man is nature wild, and only for us was it domesticated. The land didn't have fences and was surrounded by the blessings of the Great Mystery. (McLuhan, 1971)

In theoretical terms, in the U.S.A. there are two views of conservation of the 'natural world', that were synthesized in the proposals of Gifford Pinchot and John Muir. These ideas had a great importance in conservationism both inside and outside the U.S.A.

Gifford Pinchot, a forest engineer trained in Germany, created the resource conservation movement, preaching rational resource use. Muir fought to protect large areas of land against the technocratic-industrial society, first by the the establishment of national forests and afterwards by national parks. When the national forests began to be managed, Muir turned to the notion of untouchable national parks (McCornick, 1992). Pinchot adopted a

more anthropocentric view and Muir a more ecocentric view of human-nature relations.

Actually, Pinchot acted within the context of transformation of nature into a commodity. In Pinchot's view, nature is often sluggish and with proper management nature can become more efficient. Pinchot thought that conservation should be based on three principles: the use of natural resources by the current generation; the prevention of waste; and the development of natural resources for the many and not for the few.

If the essence of resource conservation is the sensible use of natural resources, the essence of the opposite tendency, the 'preservationists', could be described as a reverence for nature, in the sense of aesthetic and spiritual appreciation of wilderness. The goal is to protect nature against modern industrial and urban development. In North American environmental history, the conflict between Gifford Pinchot and John Muir is usually studied as the archetypal example of the differences between the conservation of resources and the pure preservation of nature.

The model of preservation of wilderness through natural parks, without human inhabitants, was criticized from both inside and outside the U.S.A., and part of this came from American 'pure preservationists'. Rodman (1973) holds that the idea of parks still subscribes to an anthropocentric view, to the extent that it benefits urban populations and values principally the aesthetic, religious and cultural motivations of humans. This demonstrates the fact that wilderness could not be considered of value in itself, and therefore worthy of being protected. The idea that nature has value in itself comes mainly from those who advocate rights of the natural world independently of the utility that it can have for humans (Nash, 1989; Fox, 1990; Serres, 1990)

Yet for Rodman (1973) this mode of preservation based on parks and natural reserves is inadequate and unjustly selective, because it privileges natural areas that appeal to an aesthetic point of view, according to Western values, such as forests, large rivers, and canyons, and discriminates against natural areas that are less noble, such as swamps, bogs and marshes, but which can be essential for the functioning of ecosystems.

In addition, according to Ekersley (1992), to consider conservation areas as 'islands' and to set aside bits of wilderness while ignoring the growing problems of population growth and pollution that will have negative impacts on the remaining natural areas, from the ecological point of view represents a defeatist attitude, and will still result in destructive consequences in these areas.

J. Baird Callicott (1991) criticized the concept of wilderness on the grounds that it marks a separation between humanity and nature, and is sometimes discriminatory, since it leaves out the consideration of management of natural areas by traditional communities of the New World, ignores the temporal dimension and suggests that the current ecological situation should be frozen in time.

More recently, Gomez-Pompa and Kaus (1992) also criticized the notion of the 'natural world' that reflects the perceptions of urban populations with respect to nature:

The concept of wilderness as untouched or domesticated is fundamentally an urban perception, a view of people who live far from the natural environment on which they depend for raw materials. The inhabitants of rural areas have different perceptions of the areas that the urbanites designate as wilderness, and base their use of the land on alternate views. The indigenous groups of the tropics, for example, do not consider the tropical forest as wild: it is their home. Many farmers enter into a personal relation with the environment. Nature is no longer an object, but a world of complexity in which living creatures are often personified and deified through local myths. Some of these myths are based on the experience accumulated over generations and their representations of ecological relations can be closer to reality than scientific knowledge. The term conservation cannot form part of their vocabulary, but it is part of their way of life and of their perceptions of the relationship between humans and nature. (1992:273)

These authors argue that much of the accepted truth about wilderness and conservation comes from non-scientific sources.

The natural environment and the urban world are viewed as a dichotomy and the concern is usually focused on those human actions that negatively affect the quality of life by urban standards. Mountains, deserts, forests and wildlife all make up that which is conceived as 'wilderness', an area enhanced and maintained in the absence of people... These areas are seen as pristine environments similar to those that existed before human interference, delicately balanced ecosystems that need to be preserved for our enjoyment and use and that of future generations. For instance, the concept of wilderness as an area without people has influenced thought and policy throughout the western world. People see in the wilderness a window to the past, to the remote beginnings of humankind long before the comforts of modern life. (Gomez-Pompa & Kaus, 1992:271-2)

To summarize, the preservationist tendency, which served as the ideology of the American nature protection movement, saw national parks as the only way to preserve those natural areas and features of great beauty from the deleterious effects of urban-industrial development. It was based, no doubt, on the consequences of capitalism on the 'wild west', and on the effects of mining on the American rivers and lakes. From this perspective, any human intervention in nature is intrinsically negative. On the other hand, this ignores the fact that the native Americans were able to live in relative harmonious relationship with nature for thousands of years. This pattern of co-habitation appeared to be no longer possible, according to the ideologues of nature conservation through national parks.

This model of North American conservationism has rapidly spread throughout the world, recreating the dichotomy of 'people' and 'parks'. Because this approach has been adopted rather uncritically by the countries of the Third World, its effects have been devastating for the 'traditional populations' of extractivists, fishermen, and native populations, whose relation with nature is different from that analyzed by Muir and the first 'ideologues' of North American national parks. It is important to emphasize that the 'Yellowstone model' of parks without inhabitants was transposed from industrialized countries with temperate climates to the Third World, whose remaining forests were, and continue to

be, largely inhabited by traditional populations. This is not only the basis for insurmountable conflicts, but it is also an inadequate foundation for the establishment of protected areas.

In the judgement of Gomez-Pompa and Kaus,

Traditional conservationists... see the aesthetic, biological, and ecological value of the same land but do not necessarily see the people. They often fail to see the effects of past or current human actions, to differentiate among types of human use, or to recognize the economic value of sustainable use. (Gomez-Poma & Kaus, 1992:273)

More recent critics of the inadequacy of the Yellowstone model for underdeveloped countries that contain great cultural diversity, especially of traditional populations, currently originate from those who adopt a socio-environmental focus, characteristic of social ecology, or of socialist (or neo-marxist) ecology. A new mode of conservation arose out of the relation between social movements, that fight for rights to access to land and natural resources on the part of peasants, fishermen, forest people, and the sectors of Third World environmentalism for which the environmental crisis in these countries is profoundly linked to the crisis of the existing model of development. Examples of social environmentalism in southern countries are the rubber-tappers movement, the people of the Amazon rainforest and the people affected by large dams throughout Brazil, the Chipko Movement and artisanal fishermen in India, and the forest dwellers in Malaysia (Diegues, 1989, 1994; Bandyopadhyay & Shiva, 1988; Wadman, 1992).

The heart of these movements, which some call 'peasant ecology' (Viola & Leis, 1991), is a critique of the environmentalism imported from the industrialized countries that does not take into consideration the existence of traditional communities that depend on forests for their livelihood. According to Redclift (1984), the environmentalism in the northern countries emerged from a rejection of industrialism and of its consumerist values. Vary rarely does it include the problems of the poor and urban environmental degradation and, most importantly, the maldistribution of wealth. In this sense, a large part of the environmentalism of the

industrialized countries in the 60's and 70's was a product of the opulence of the rich nations. Nevertheless, by the early 1980s it had become more difficult to gain support for environmentalism in the First World, owing to the serious recession that generated high unemployment.

In the 1950's, when most of the 'wilderness' had been tamed and even destroyed in most of the countries of the North, environmental preservationists looking for lost untouched nature turned to the vast rainforests and savannahs in tropical countries, particularly in Africa and South-America. In Brazil, the Amazonian rainforest was the centre of this neo-myth; it was called the 'lungs of the earth' as it was thought to produce most of the oxygen needed by humans. This tropical forest was considered to be an 'empty space', only sparsely inhabited by remaining indian tribes, although it is now recognized that it had been used by several million Indians just before the arrival of the Iberians. Some authors, including Denevan (1976), Meggers (1987) estimated that at the beginning of the 16th century, were living in the region between 5 and 7 million Amerindians. Human occupation is believed to have been largely concentrated in the river floodplains (*várzeas*) in higher density than today. It is also true that this neo-myth became a fallacy and an ideology used by the Brazilian military group in power in the 60's and 70's in order to occupy the region at any cost. This land occupation process led to the rapid transformation of large rainforest areas into big cattle-raising and agricultural farms.

It is not a coincidence that most of the protected areas started also in the period 1960-1980, in order to counterbalance the widespread forest destruction. In the strategy of the preservationists and of the military, traditional people (Indians, riverine populations) had no importance. Indians were confined in special reserves and the non-Indian local inhabitants were resettled outside the borders of the newly-created national parks and other strictly protected reserves.

National parks with inhabitants were introduced in the 1930's in another Brazilian rainforest: the Atlantic forest (*Mata Atlântica*), but in both cases, the conservation ideas were the same. The creation of these parks was promoted by international environmental

organizations which had the same preservationist approach that has deeply influenced Brazilian environmental institutions, as will be analysed latter

This idea of 'wilderness', transplanted into Brazil, has influenced the creation of protected areas in Africa, as is described by Adams and McShane in the book *The Myth of Wild Africa: Conservation Without Illusion* (1992). For these authors, the mythical and wild Africa was an invention of Europeans that soon claimed a privileged place in the Western imagination.

We cling to our faith in Africa as the glorious Eden of wildlife. The sights and sounds we instinctively associate with wild Africa – lions, zebra, giraffe, rhinos, and especially elephants – fit into the dream of a refuge from the technological age... The march of civilization has tamed or destroyed the wilderness of North America and Europe, but the emotional need for wild places, for vast open spaces like East Africa's Serengeti Plain, persists. European explorers wanted to believe in a virgin land, unsullied by humans. Yet, this Africa never was. Indeed, nowhere does this vision of Africa depart further from reality. Man has been an integral part of the African landscape for over 2 million years. That people lived in Africa, however, was irrelevant to the West; what mattered was the wilderness. Wild Africa was considered so important, in fact, people in Europe and North America organized a movement to save it. (Adams & McShane, 1992:xiii)

These authors also mention the role of well-intentioned international conservation organizations in the transfer of the neo-myth of untamed nature in Africa, and how this image sets the ground rules for their actions regarding both wildlife conservation and human development.

Wildlife conservation has become one of the most contentious areas of contact between Africa and the West. Many people have dedicated their lives to saving at least small slivers of wild Africa, and their sincerity cannot be doubted... The methods these and other conservationists have often used, such as establishing parks and putting armed rangers in the field... remain important tools. However, they can no longer stand alone. Despite the accomplishments and the

goodwill, as long as conservation operates on the notion that saving wild animals means keeping them as far away as possible from human beings, it will become less and less relevant to modern Africans.
(Adams & McShane, 1992:xv)

Guha (1994), analyzing the impact of the transfer of the North American ideology of 'wilderness' to India, says that in that country, peasants have a finely balanced relationship with nature, and the setting aside of wilderness areas has resulted in a direct transfer of resources from the poor to the rich. Project Tiger, a network of parks supported by international agencies, positions the interests of the tiger against those of the poor peasants living in and around the reserve. The designation of the tiger reserves implied the physical displacement of existing villages and their inhabitants, and their management requires the continuing exclusion of peasants and livestock. According to Guha (1994), the idea of creating tiger parks came from the group of ex-hunters belonging mostly to the declining Indian feudal elite, and from international environmental organizations, who were seeking to transplant the American system of national parks on to Indian soil. As a consequence, environmental problems that impinge far more directly on the lives of the poor (fuel, fodder and water shortages, soil erosion, water and air pollution) have not been adequately addressed.

2

THE MYTH OF WILDERNESS

THE CONCEPT of myth used here is far from the idea of 'fallacy', 'illusion' or mistaken knowledge, and here refers to the symbolic representations of the natural world that are a cultural and historical product of the various forms and moments of the relations between diverse societies and natures. In the modern world basically two forms of representation of nature and particularly of forests and woodlands coexist. On the one hand is the notion of the naturalist myth of untouched nature or wilderness, which refers to a symbolic representation of natural areas as untouched and untouchable by humans, containing components in a 'pure' state, prior to the appearance of humans. This myth presupposes the incompatibility between the actions of any human group and the conservation of nature. Regardless of their culture, humans would be, in this sense, destroyers of the natural world and therefore should be kept separate from those natural areas that require 'total protection'. According to this representation, the forests are viewed as being outside the sphere of culture and therefore are 'natural', 'wild', and 'untouched'.

Another view is the representation of forests as 'natural resources', goods to be valued and traded according to instrumental

rationality. This view is based on the idea that nature only has meaning when it is transformed into commodities, and it follows then that the forest should be transformed into objects or goods for human use. According to this view, the ideal would be to transform the tropical forest, with its great variety of tree species, into a homogeneous forest, like those of the temperate climates, which would be more easily managed (cut) and used industrially. The result of this view was the extensive transformation of the rich Atlantic forest of Brazil into plantations of pines and eucalyptus through the fiscal incentives granted by the *Instituto Brasileiro de Desenvolvimento Florestal* (Brazilian Institute of Forestry Development) to the timber companies since the 1960's.

In both of these cases, paradoxically, the forest should be uninhabited, which denies the existence of innumerable cultures and societies that live in the forest, making use of it within a socio-cultural framework very different from urban-industrial societies. As Tsing (1994) argues, according to the previous approach the forests would be a landscape composed of natural resources that are not culturally defined, and are used only as profit-generating goods to be sold on the international market. These these views have the result of disqualifying the culture of peoples that live in the forest, treating them as obstacles either to the conservation of the natural world or to the indiscriminate exploitation of its 'resources'.

In both representations, typical of the European societies that colonized many tropical countries extensive tropical forests would be 'natural spaces' inhabited only by species of wild animals, as contrasted with the view of domesticated nature that local inhabitants have. The forests, in any of their historical manifestations, would be 'nature' — the opposite of culture. The human communities that live in the forests, such as indigenous or native peoples should be, at most, identified also as a 'species of fauna' or 'threatened species', one more component of the natural world. In this sense, along with the forest, the local culture with its myths and variety of relationships with nature is also called 'savage' or 'uncivilized'.

The situation particular to tropical forests and their inhabitants requires another type of approach, different from the two positions described above. This new position is based on the fact that the population here called 'traditional' or 'native' has in fact managed the tropical forest for long periods of time. For these people the forest does not signify 'cultural roots', in the European sense of the term, according to which the conservation of forests is linked to memory. Rather, these populations live in the forest, deriving from it their subsistence and way of life, and also the basis for their myths and representations. In this sense, these communities are also bearers of their myths, which Morin calls 'bio-anthropomorphic'.

In the Brazilian case, it is important to state that the Portuguese colonizers appeared not to see the forest as the cradle of civilizations, as would be likely to occur in a culture with a long pagan tradition. The forests in Portugal had been largely destroyed, particularly for the construction of ships in the early period of European expansion. Upon arrival in the tropical forests, the colonizers began to cut the forest, in the beginning for the extraction of brazil-wood and soon after for the establishment of monocultures of sugarcane and coffee. The destruction of the forests occurred at the same time as the virtual genocide of the indigenous tribes, in large part reducing them to slavery, and in this sense the forest and its inhabitants were seen as adversaries to the mercantilist project.

When we speak of a *modern myth*, we refer to a set of representations existing within important sectors of environmental conservatism of our time, which are carriers of a biocentric conception of human-nature relations in which the natural world has rights similar to humans. As a result of this idea, humans would not have the right to dominate nature. This myth has profound roots in the great religions, above all Christianity, and is associated with the idea of paradise lost. It is revealed for instance in the guiding ideas underlying the creation of the first North American 'national parks' in the second half of the 19th century, where portions of territories considered 'untouched' were transformed into protected natural areas which could not have human inhabitants. These wild areas were created for the benefit of urban North Americans who could, by visiting them, appreciate their natural beauty. This

representation of the natural world, expressed by so-called 'pure preservationists' such as Muir and Thoreau, constituted a justification for the creation of protected natural areas that should be kept permanently intact. This model of conservation, called 'modern', and its underlying ideology have spread to the rest of the world in cultural contexts distinct from those in which it was created, generating a set of consequences that will be analyzed in the following chapters.

The Bio-Anthropomorphic Myth

Even in the United States, during the period when the myth of wild nature was being recreated, there also existed other myths that guided the relations between the North American indigenous populations and nature, but that were ignored by pure preservationists from North America and other countries, including those from the Third World. These myths, which Morin (1991) called *bio-anthropomorphic*, interpreted the relation of the indigenous peoples with the natural world. For the indigenous peoples, the world referred to as 'wild' by whites did not exist. It is important to stress that the bio-anthropomorphic myths are not exclusive to the indigenous populations in North America, but exist also in Third World countries, among populations of hunters, extractivists, fishermen, and peasants that still live partially removed from the market economy, inhabiting in tropical forests and other ecosystems far from the urban-industrial world.

In traditional societies, the significance of 'wilderness' and the 'natural world' cannot be completely understood if it doesn't appeal to representations, images and myths.

According to Morin (1986), the bio-anthropomorphic myths are narratives that describe the place of humans within nature and within history and society.

...the origin of the world, the origin of humanity, its constitution and its place in nature, and its relations with God and the spirits. But the myths do not speak only of the cosmic creation, about the passage from

nature to culture, but also of all that concerns identity, the past, the future, the possible and impossible, and of all that stimulates questioning, curiosity, necessity and aspiration. They transform the history of a community, city, people into legends, and more generally, they tend to reveal all that happens in our real world and in our imaginary world, binding them together and projecting them into the mythological world. (1991:150)

In many traditional societies, bio-anthropomorphic myths are widespread, and through them humans assume natural features, and plants and animals present humanized characteristics and behaviour. This aspect is fundamental in understanding the representations that so-called primitive, pre-capitalist or pre-industrial societies make of nature and society. The mythological universe, for Morin, appears as a universe where the fundamental features of animate beings are encountered in inanimate things,

... in old mythologies or in contemporary mythologies of other civilizations, the crags, mountains and rivers are biomorphic or anthropomorphic and the universe is peopled with spirits, genies, and gods that are in all things or behind all things. Conversely, human beings can perceive themselves as having the same nature as plants and animals, to have commerce with them, be metamorphosed into them, to be inhabited or possessed by forces of nature. (Morin, 1986:151)

In 'primitive' or pre-industrial societies, this unity/duality of humans is reflected also in the two forms of perceiving reality: one empirical, technical and rational, by which one can accumulate a complex baggage of botanical, zoological, ecological, and technological knowledge (today the subject of ethnoscience); the other symbolic, mythological and magical. However, these forms of knowledge of pre-industrial cultures, although quite distinct, do not live in two separate universes; they are practiced in the same (although dual) universe. According to Eliade (1991), in this dual universe space and time are the same and at the same time different – the time of myth, the time past is also always present. The original and mythical time returns through the

regenerative ceremonies, which Eliade describes as 'the myth of the eternal return'.

This symbolic representation of cycles, from which all of creation is born, dies and is reborn, is strong in primitive societies, but is also present in traditional communities of peasants, fishermen and gatherers that still live according to natural cycles and to a complex agricultural or fishing calendar. There is a time for *coivara* (burning of vegetation that has grown after the first burning), to prepare the land, to sow, to weed and to harvest, and there is also a time to wait for species of migratory fish, such as mullet (*tainha*). Upon completing one cycle, they begin the next cycle. In many of these communities, these activities are ordered by signs, such as the appearance of a particular phase of the moon, of rain, etc. These 'times' are often celebrated by festivities that mark the planting or harvesting of a specific crop.

The Modern Myth: The Neo-Myth

According to Morin (1991), contemporary history, while dissolving the old mythologies, creates others and regenerates, in a modern form, symbolic/mythological/magical thought. For Morin, mythological thought persists not just in remote and primitive rural regions; there is also a resurgence of myths in the urban world. Even though many old myths have not survived in modern societies, their remnants are found alive in affective experience, in poetry and in art. It also is present in many religions and in new mythologies of State/Nation, in political and religious messianism.

Although since pre-history there has been a great mortality of myths, of genies, of gods and of ideas, some noological beings continue to survive, even in the modern urban world, as spectres, doubles, spirits of the dead and phantasms. The great noological types of the past did not disappear. Some of them even demonstrate a great vitality. Also, in our modern noosphere there coexist in a juxtaposed or complementary fashion, and frequently in a competitive and antagonistic form, religions, myths, fables, doctrines, ideologies, theories, along with gods, genies and spirits. (Morin, 1991:151)

How to speak of myths and neo-myths in a world in which urban-industrial civilization has developed scientific knowledge and the technological means to devastate nature? In this instance, relations between humans, nature and gods continue to be complex. As Thuillier (1990) states, even if a neutral anthropology were possible, we cannot avoid touching sensitive and complex points of our cultural history. In societies where science and technology occupy a central place, the same notion of mythology presents a strong connotation of archaism; it appears to value the sacred, the mysterious, the unexplainable. The development of western rational scientific thinking gave a death blow to animism and all religious beliefs. In this long process, humans accumulating technical progress and scientific knowledge, began to consider objective knowledge, verifiable by scientific methods, as the only source of universal truth.

Further, according to Thuillier (1990), we cannot deny that there is a desacralization of nature, but for Mircea Eliade, the experience of the natural world as radically desacralized is accessible only to a minority in modern society, and particularly to scientists.

Nevertheless, as Eliade reminds us, myths related to nature have a long life and resist the incursions of science, since they survive in the form of a 'pseudo-religion', or that of 'degraded mythologies'. But further, according to this Romanian anthropologist, in modern societies that declare themselves atheist, religion and myths are hidden in the unconscious, and return to the surface from time to time. And when they disappear, they will be replaced by new mythologies. Thuillier states also that in hundreds of texts inspired by ecological concerns, the old myths reappear in a spontaneous manner, with an almost religious enthusiasm and with an apocalyptic vigour. In most writing under the name of deep ecology and eco-philosophy, which has a basis in the American preservationist myth of the 19th century, the protection of nature appears as an absolute necessity for the salvation of humanity itself. According to this philosophy, it is imperative to save what remains of the natural world, which is being continuously and often irreversibly devastated by humans.

The conception of protected natural areas as wilderness appears to be one of these neo-myths. It appears to function as a symbiosis between rational thinking and mythology. This set of representations of the untouched and untouchable natural world contains elements which clearly revolve around empirico-rational thinking, such as the existence of ecological and social functions of wilderness, and the ecological processes of ecosystems. On the other hand, this neo-myth contains clear mythical elements that revolve around the idea of paradise lost, of the primitive beauty of nature prior to human intervention, of the exuberance of the natural world that moves city-dwellers to appreciate the beauty, harmony and inner peace which derives from the admiration of the untouched landscape.

These religious aspects of the conservationist neo-myth are explicit in the notion of wilderness, developed by the pioneers of the American conservation movement, such as Muir, Nash and Thoreau, who writes in *The Maine Woods*:

Humboldt has written an interesting chapter on the primitive forest, but no one has yet described for me the difference between that wild forest which once occupied our oldest townships, and the tame one which I find there to-day. It is a difference which would be worth attending to. The civilized man not only clears the land permanently to a great extent, and cultivates open fields, but he tames and cultivates to a certain extent the forest itself. By his mere presence, almost, he changes the nature of the tree as no other creature does... It has lost its wild, damp, and shaggy look... (Thoreau, 1962:399)

Eliade makes a following comparison between the myth of wild nature and the idea of lost paradise:

We can prove that these images invoke nostalgia for the mythical past, transforming it into an archetype that this 'past' contains, in addition to missing the time that is no more. They express all that could have been, but wasn't, – the sorrow of all existence that only exists when it stops being something else, the regret of not living in the landscape and the time evoked by music. Finally, the desire for fortune completely different from the present moment, definitely

inaccessible or irrevocably lost: Paradise. To forget this is to not know that modern human life is full of partly seen lost myths, of decadent hieroglyphs, of abandoned symbols. The incessant desacralization of modern humans alters the contents of spiritual life; but does not break, however, with the matrices of the imagination: all the rest of mythology survives in sites poorly controlled by humans. (Eliade, 1991:9)

Protected natural areas are represented by symbols that are drawn from the most profound spaces of the human psyche, as a refuge for contemplation, islands where the human mind can protect itself from the devastation of urban-industrial society. These images and symbols are drawn from mythical-symbolic thought:

The earthly paradise, in which even Christopher Columbus believed (he didn't believe that he had discovered it) had been transformed in the 19th century into an ocean island, but its function in the economy of the human psyche continued unchanged: there, on an island, in paradise, existence would transcend time and history; humans were happy, free, and unconditioned. (Eliade, 1991:8)

In the North American nature preservation tradition, the symbolic meaning of wilderness as an uninhabited place, as opposed to culture, is as strong today as it was in the 19th Century. Max Oelschlager, in his remarkable book *The Idea of Wilderness* (1991), has analysed the concept and importance of wilderness to humans from pre-historic times until today. He recognizes that 'harmony with rather than exploitation of the natural world was a guiding principle for the Paleolithic mind and remains a cardinal commitment among modern aborigines'. (p.17)

Oelschlager relates the fall of Eden to the the agricultural revolution and sedentarization of nomadic people in the Neolithic, and the rapid transformation of wilderness. For him, to protect wilderness is to conserve the source of human existence and freedom against the repressive attempts of civilization:

I wish to explore what remains for most- and has been for me, – a terra incognita, a forbidden place, a heart of darkness that civilized people have

long attempted to repress – that is, the wilderness within the human soul and without, in that living profusion that envelops all creation. (Oelschlager, 1991:1)

Bio-Anthropomorphic Myths and Neo-Myths in the Modern World

To understand the bio-anthropomorphic and neo-myths about nature and the nature conservation of today, it is fundamental to comprehend that they coexist even today, often in an antagonistic form, depending on the types of societies that formulate them.

In the mythical world of *primitive and traditional societies* there exists a symbiosis between humans and nature, that can be observed in the techniques of work and in productive activities, as well as in the symbolic area. This unity is much more evident in the Brazilian indigenous societies, for example, where the time for fishing, hunting and planting is marked by ancestral myths, by the appearance of constellations of stars in the sky, and by prohibitions and interdictions. But it also appears in cultures such as the *Caiçara* of the south coast, and in the Amazonian riverine communities, perhaps in a less clear form, but no less important for this. As a mixture of indigenous, African and Portuguese elements, the remnants of older cultures are, in a large proportion, responsible for the mythical elements of the thinking of the *Caiçara* and the Amazonian riverine communities.

Therefore, the religious syncretism, in which the traditional Catholic element is fundamental, also makes its own contribution to the mythical thought of these traditional societies. However, the close contact that exists today between most traditional *Caiçara* communities and the urban-capitalist world and the growing substitution of syncretic Catholicism by protestant fundamentalism are forces serving to disrupt the symbolic and mythical thought.

Considering the importance of the symbiosis between humans and natural cycles in traditional populations, the notion of parks

or protected natural areas that exclude traditional populations is incomprehensible to the cultures bearing this bio-anthropomorphic thought. A forced disjunction between nature and traditional culture, where humans are prohibited by the State from practicing their management techniques and employing their knowledge, represents the imposition of a modern, urban-industrial myth (that of nature untouched and untouchable), upon the myths of traditional societies.

3

TRADITIONAL CULTURES: CONFLICTS AND AMBIGUITIES

IN BRAZIL today, as in many other countries undergoing rapid social changes, the definition of 'traditional communities' or 'culture' is not an easy task. Even geographically remote small communities along the Amazon rivers are undergoing changes in their traditional way of life, due mainly to a growing insertion into the national market society. The western way of life is influencing not only many Indian tribes but also traditional communities of small-scale fishermen, extractivists and cultivators. It is true, however, that despite these changes, many social groups depend on the rain forest for their economic, social and cultural reproduction and still have a more harmonious relationship with nature than do urban and industrial societies.

What are the main characteristics of these traditional communities and cultures that make them different from urban societies in their relationship with nature?

There is some degree of consensus that term 'tribal' actually means 'ethnic group'. The establishment of indigenous reserves in

Brazil recognizes the right of the Indian populations to an area where, in principle, they can be protected from the intervention of the non-Indians. The concept of 'ethnic group' allows a clearer distinction between the terms indigenous and non-indigenous, notwithstanding the debate about the notion of acculturated indians.

There is an intense debate about the meaning of the terms 'native', 'tribals', 'indigenous', and 'traditional' populations. The confusion is not only about the concepts, but also the expressions in various languages. Thus, the term 'indigenous' in English, used in many official documents (IUCN, World Bank) does not necessarily have the same meaning as the Portuguese word '*indígenas*', in the ethnic or tribal sense. The World Bank's term, as defined in Tribal People's Policy Statement (1982) for indigenous peoples, was based principally on the conditions of life of the Amazonian indigenous peoples of Latin America, and as Dyson observed in a World Bank document (1992), was not well adapted for other regions of the world. A new definition appeared with Operational Directive 4.20 of 1991, with broader characteristics, substituting the term 'tribal peoples' for 'indigenous peoples'. It was applied to the people who live in particular geographic areas who demonstrate, in various degrees, the following commonly accepted characteristics:

- a) strong links to the ancestral territories;
- b) self-identification and identification by others as being culturally distinct groups;
- c) their own language, often not the national one;
- d) presence of their own traditional social and political institutions;
- e) systems of production principally aimed at subsistence.

Dasmann (1989), using the relationship with nature as a criterion, distinguished two types of societies: 'ecosystem people', those who live in symbiosis with the eco-system and obtain their livelihood over long periods of time through the sustainable use of the natural resources of the eco-system or of nearby eco-systems; and 'biosphere people', societies interlinked with a global economy, with high levels of consumption and power to transform nature,

causing large-scale waste of natural resources. However, he also considers this classification to be simplistic, since there is a continuum between one category and the other.

From a Marxist perspective (especially for the neo-marxist anthropologists), the traditional cultures are associated with a pre-capitalist mode of production characteristic of societies in which labour has not yet been commodified, where there is a great dependency on natural resources and natural cycles, and in which dependency on the market may already exist, but is not total. These societies develop particular forms of management of natural resources that are not aimed directly at profit, but at social and cultural reproduction; along with perceptions and representations related to the natural world marked by the idea of association with nature and dependency on its cycles. 'Traditional cultures', from this perspective, are those that develop within the small-scale market-oriented mode of production (petty mode of production). These cultures can be distinguished from those associated with the capitalist mode of production where it is not only the workforce but nature itself, that is transformed into an object to be bought and sold (a commodity).

Conceptions and representations of the natural world and its resources differ greatly between the subsistence and market-oriented societies. Godelier (1984), for example, argues that these two societies have different rationales, and each displays a system of social rules consciously elaborated to best attain a set of objectives. According to this anthropologist, each economic and social system creates a specific mode of exploitation of natural resources and use of the human workforce and, consequently, utilizes specific norms of good and bad use of natural resources. Godelier gives the example of the white hunters and the *Naskapi* people of the Labrador peninsula, where the former hunt the animals to remove and sell the pelts, while the latter use animals for their direct subsistence. Godelier argues that the white hunters, as well as the indigenous people, reproduce their society and their culture through their economic activities and use of natural resources. The first, however, belong to an economic system oriented to monetary profit, in which the traditional family

solidarity disappears and which thus despoils the natural resources. The latter still belong to a society whose ultimate goal is the reproduction of its solidarity and not the accumulation of goods and money, and who thus preserve the natural resources on which they depend for survival.

A similar situation was analyzed by Diegues (1983) between the *Caiçara* artisanal fishermen along the São Paulo coast and those inserted into corporate-capitalist fishing in the port of Santos. For the former, during the sharing of the fish catch, a part is consumed by the family and neighbours, and part is also given to widows and children. This no longer happens in the port of Santos, where the fishing crew members are simply blocked from leaving with fish beyond the boundaries of the Santos fish market, where all the production is sold in the port.

An important element in the relation between traditional populations and nature is the notion of 'territory', which can be defined as a portion of land which a particular society claims as its own, and grants to all or a part of its members stable rights of access, control and use for all or part of the natural resources located there, that they desire or are capable of utilizing (Godelier, 1984). This portion of land furnishes, first of all, the nature of humans as a species, but also:

- a) a means of subsistence;
- b) a means of production and
- c) a means of producing material aspects of social relations, such as kinship relations. (Godelier, 1984)

The *territory* depends not only on the type of physical environment exploited, but also on the *social relations* that exist. For many traditional populations that exploit the marine environment, the sea has its *marks* of ownership, generally productive fishing spots, discovered and guarded carefully by artisanal fishermen. These marks can be physical and visible, as with the *caiçaras* constructed in the lagoon of Mundaú and Manguaba (in Alagoas, Brazil). They can also be invisible, as in is the case of submerged rocks where there is an abundance of fish stock. These fishing spots are marked and guarded, and kept secret

through a system of navigation locally called *caminho e cabeça* by the fishermen of the Northeast. In other words, the most productive sites of the sea are located by fishermen who find them by using a complex system of triangulation points, for which they use landmarks along the coast, such as church towers or hilltops (Diegues, 1983; 1993). For members of traditional artisanal fishing communities the ocean territory used is much larger than that of the land, and is more fluid. Despite this, it is conserved by a *lei do respeito* (law of respect) that governs the ethics of this community (Cordell, 1982).

For traditional small farming communities inlands, despite the use of shifting agriculture, the extent of the occupied area is understood and accepted by the community, although there are no strictly defined boundaries. Many of these areas, as in the case of the *Caiçara* communities of São Paulo, are treated as commons, areas where community members can cultivate the land according to specific rules. The areas not being cultivated (lying fallow) still belong to the family that cultivated it, and, after the manioc harvest, banana, lemon and other fruit trees are grown. These communities, have an intimate relation with the Atlantic Forest, which plays an important role in their social reproduction. From it they extract wood for their canoes, and for construction, fishing equipment, work implements, medication, etc (Diegues, 1988).

Some of these societies reproduce themselves by exploiting a multiplicity of habitats: forests, estuaries, mangroves and areas already converted to agricultural purposes. The exploitation of these diverse habitats requires a profound knowledge of natural resources and of the reproductive seasons of species, and utilizes a complex calendar within which they organize, with greater or lesser integration, the diverse uses of the ecosystems.

The territory of traditional societies, as distinct from those of urban-industrial societies, is discontinuous, marked by apparently empty areas (land lying fallow), and sites in estuaries that are used for fishing only during some seasons, has moved some conservation authorities to include them as part of conservation areas because they 'are not used by anyone'. This is often a source of conflict between traditional societies and conservation authorities.

The question of space occupied by *Caiçara* communities was studied by Winter, Rodrigues and Maricondi (1990), who demonstrated that the notion of space, in the cultural parameters and way of life of the *Caiçara* of the Guaraqueçaba region of Paraná state in Brazil, is distinct from urban culture. The authors stressed the importance of the space of work and agricultural production carried out collectively, even if made only at a family level. The informal character of 'collective property' made these lands easy targets for real estate speculation and thus traditional inhabitants were the first to be victims of land grabs.

Ladeira (1992) emphasized the notion of space and territory as seen by the *Guarani-Mbyas*, and the connection with their ancestral myths that leads them to migrate to various points in Brazil and other neighbouring countries, and to the ocean, more specifically to the coast between Rio de Janeiro and Paraná. This space is characterized by places marked by tradition, where they encamp during their voyages. Parts of this Guarani territory, especially along the coasts of São Paulo, Paraná and Rio de Janeiro, have been turned into protected natural areas, and the occasional presence of these indigenous people, during their migrations, has caused conflicts with the administration of these areas.

A relevant aspect of the definition of 'traditional cultures' is the existence of systems of management of natural resources characterized by respect for natural processes, and their utilization within the capacity for recovery of the species of plants and animals affected. These traditional systems of management are not only forms of economic exploitation of natural resources, but also reveal the existence of a complex knowledge, acquired by oral tradition from the elders, which consists of myths and symbols that lead to the maintenance and sustainable use of natural ecosystems.

Along with the space of economic reproduction and social relations, the territory is also the locus of representations and of the mythological imagination of these traditional societies. The intimate relation of these people with their surroundings, and their greater dependency on relations with the natural world relative to urban-industrial society, results in the cycles of nature (the arrival of schools of fish and the abundance of crops) being associated with

mythical and religious explanations. The representations that these cultures created for the diverse habitats in which they lived were also influenced by the degree of control they exerted over their physical environment. The *Caiçara* are very familiar with the forest, entering it only to extract the resources they need. They also do not have a fear of exploiting the estuaries and coastal lagoons, which they protect through their fishing techniques, but many have a dread of the *mar de fora* (open sea) and the *passagem da barra* (going beyond the mouth of the river), of shipwrecks and disasters associated with the ocean that they cannot control (Mourão, 1971).

In this sense, it is important to analyze the system of representations, symbols and myths that these traditional populations construct, since these are the basis of their actions *vis-à-vis* their surroundings. Also, based on these representations and on accumulated empirical knowledge, they develop their traditional systems of management, which will be analyzed later. The popular imagination of the people of the Brazilian forests, rivers and lakes is replete with magical beings that castigate those who destroy the forests (*caipora/curupira, Mãe da Mata, Boitatá*), those who mistreat the animals of the forest (*Anhangá*), those who abuse animals in the time of reproduction (*Tapiora*) and those who fish more than necessary (*Mãe d'Água*) (Câmara Cascudo, 1972). Thus, the inhabitants of the *Várzea da Marituba* in Alagoas have various legends, such as the *Mãe d'Água* which upsets the canoe of those fishermen that are very ambitious and catch an unnecessarily large amount of fish from the lagoon.

In some traditional societies certain areas of forests, estuaries and rivers are considered sacred (*sagradas*), and cannot be used for economic activities. Thus, Bourgoignie (1972) described the prohibition that the *Tofinu* fishermen from the former Dahomey (today Benin) observed, to not fish in certain places in the *Nokoné* lagoon, since it was a resting place for the goddess Anasi Gbégu. Subsequent research concluded that these areas were spawning grounds for fish caught in other parts of the lagoon. The author also analyzed how the ecological imbalances brought about by the construction of a port and the entrance of the *Tofinu* into the market economy contributed to the disruption of their traditional culture.

The socio-cultural disruption left the way open for a technology destined to use the resources of Nokoné lagoon in a manner always more individualist and anarchic. The economic-ecological pressure brought about the quantitative and qualitative reduction of the traditional prohibitions of fishing and the profanation of sacred and preserved places. The vast majority of the sacred places disappeared, their symbols were devoured by the salt of the seawater, and the sanctuaries were profaned and abandoned by humans. (p.429)

Some societies consider certain areas of forest sacred where they only conduct certain rituals, such as initiation rites. This is the case in the sacred forest of Nyombe (Zaire) and of Likoula (Congo), where the people only enter after they practice rituals of protection. For these populations, it is incomprehensible that the logging industries enter the forests to despoil them, since they represent the dominion of the ancestral spirits. To use them the local people not only need to have the required knowledge, but also avoid giving offense to the forces that generate life. The young enter the adult phase through rites of initiation in the forest. During this period, they are trained to collect plants. Newman (1992) states that 'the ancestral practice of prohibiting human access to certain forests, is a way of creating zones of preservation where the flora and fauna can reproduce with tranquility' (p.237). The author also proposed 'to study the possibilities of utilizing the sacred forests as reserves for flora and fauna' (p.237). The same occurs with the sacred islands of Bijagós, in Guiné-Bissau. These islands are only used for ceremonies and for the temporary presence of Bijagós at particular times linked to celebrations and rituals (Scantamburlo, 1991).

There is a need for further study of the question of representations, of myths and aspects of the popular religiosity of traditional populations, and for analysis to the point that it could be part of a new politics of conservation. This could bring to light the ideas and visions of conservation held by these populations, who have their own view of what is meant by such terms as 'natural forest', and 'natural ocean', distinct from the perceptions of the urban elite.

According to Diegues (1992c), traditional cultures and societies are characterized by:

- a) a dependency and symbiosis with nature, natural cycles and renewable natural resources from which is constructed a *way of life*;
- b) a profound knowledge of nature and of its cycles that is reflected in the elaboration of strategies for utilizing and managing natural resources. This knowledge is orally transferred from generation to generation;
- c) a notion of territory or space where the social group reproduces itself economically and socially;
- d) the living in and occupying of territories for many generations, even though some individual members could have departed for urban centres and returned to the land of their ancestors;
- e) the importance of subsistence activities, even though production for the market can be developed to some degree, which requires a relation with the market;
- f) the limited accumulation of capital;
- g) the importance of the family, domestic or communal unit, and kinship or fraternal relationships to the conduct of economic, social and cultural activities;
- h) the importance of symbologies, myths and rituals associated with hunting, fishing and extractivist activities;
- i) the use of relatively simple technology, with limited impact on the environment. There is a limited technical and social division of labour, primarily involving artisanal production, where the producers (and their family) dominate the process of work through to the final product.
- j) weak political power, that generally resides with powerful groups in urban centres;
- k) self-identification or identification by others as belonging to a distinct culture.

One of the most important criteria for the definition of traditional cultures or populations, along with way of life, is undoubtedly the self-knowledge that characterizes that particular social group. This criteria raises the fundamental question of *identity*, one of the central themes of Anthropology. Historically, and especially early this century, when European and North American anthropology was

concerned almost exclusively with so-called primitive societies in colonized territories, the identify of the *other* (Massai, Bororo, Mandinga, etc.) was easily determined by researchers, especially because they had a clearly defined ethnicity. In Brazil, the 'other', until recently was identified with the indian having little concern with other forms of alterity. The emergence of other socio-cultural identities, such as the *Caiçara*, is a more recent development, at the level of anthropological study as well as the self-awareness of these populations as bearers of a culture and a way of life distinct from other populations. Nowadays, this 'self-identification' is frequently a 'constructed or reconstructed identity', which results in part from the often conflictual processes of contact with urban-industrial society, and with neo-myths created by this society. It appears paradoxical, but preservationist neo-myths, with the explicit idea of protecting natural areas without inhabitants, have contributed to the strengthening of this socio-cultural identity in populations such as the *quilombeiros* (inhabitants of communities originally created by escaped slaves) of Trombetas, the *Caiçaras* of the São Paulo coast, etc. The organization of social movements, supported by non-governmental agencies and influenced by social ecology, has also contributed to this process of self-identification, as will be described in Chapter 5.

The Representation of Space: Public Space and Community Space in Protected Areas

The creation of protected natural areas, in territories occupied by pre-industrial or traditional societies, is seen by the local populations as an usurpation of their sacred rights to the land where their ancestors lived and of the collective space in which they follow their own way of life, which is different from urban-industrial society.

This usurpation is even more serious when the translation of a neo-myth into social practices becomes a justification for the necessity of the creation of public spaces for the benefit of the 'nation', which in fact means urban-industrial populations. This

attitude is seen by the local residents as a theft of their territories, which means a portion of nature over which they claim firm rights of access, control and use of all or part of the resources that exist there. These traditional communities also have a symbolic representation of this space which provides them with a means of subsistence, a means of work and production, and a means of producing the material aspects of their social relations, which provide the structure of a society (kinship relations, etc.). Expulsion from their land implies the impossibility continuing to exist as a group bearing a particular culture, with a specific relation to the natural world. Traditional populations who have been removed by force, for the creation of a natural conservation area, express this disruption in various ways, including the 'illegal' overexploitation of the natural resources over which they formerly had dominion. In many cases, after the creation of the park, they still consider the area that is now governed by the forestry police or the park administration as their territory.

This conflict between the visions of public space and community space, is based on distinct and opposing perspectives: that of State and preservationists, representing the interests of urban-industrial populations, and that of traditional communities. In order to establish national parks as State lands, governments have ignored or undermined already existing property regimes, particularly those of traditional communities.

McKean (1989) distinguishes 6 different types of ownership, of which three are relevant to this analysis: individual private property; public property (protected natural areas); and property held communally, involving community or communal forms of appropriation of space and natural resources, especially renewable resources. This last type of property, the commons, until recently had less social and political visibility, since it exists in relatively isolated regions. It is characteristic of traditional communities such as the *Caiçara*, the *jangadeiros* (raft fishermen), and riverine communities. This form of common appropriation of spaces and renewable natural resources is characterized by communal utilization of particular spaces and resources through plant extractivism (vines, fibres, and medicinal herbs of the forest),

animal extractivism (hunting and fishing) and small-scale shifting agriculture. Along with the spaces used in common, there can also be those that are appropriated by families or by individuals, such as domestic space (house, garden, etc). These common property arrangements usually exist in communities with a strong dependency on the use of renewable natural resources to ensure their subsistence, and which have a low population density and relatively limited links to the market. These arrangements are permeated by extensive kinship webs, by mutual aid, and social norms and values that privilege intra-group solidarity. There are also norms that exclude access to natural resources by outsiders. Outsiders can, however, gain access to spaces and resources of common use. They can become part of the community through marriage, kinship ties and godparent relationships and other ways.

Furthermore, there are community myths, values, norms, and prohibitions that regulate access to natural resources, thus preventing their degradation. These norms exist in both terrestrial ecosystems (e.g. periods during which hunting is prohibited) and coastal areas (e.g. limitations on fishing seasons, access to resources controlled by secrecy).

This contradicts the theory of the 'Tragedy of the Commons', elaborated by Hardin (1968), according to which the common property regime would have the consequence of degrading natural resources, since each user tends to over-exploit them. Avoiding a decrease in yield would require either the imposition of State control, or the establishment of private property. In the Brazilian Amazon, where deforestation was carried out for the establishment of large cattle ranches, experience has demonstrated, however, that individual or corporate owners have degraded the natural resources of their own property, and that the State itself has created policies that are degrading the environment.

On the other hand, recent literature (McKay and Anderson, 1987) has documented and analyzed a large number of communal forms of access to space and resources throughout the world that have secured an adequate and sustainable use of natural resources and conserved ecosystems, thereby creating socially equitable ways of life (although not necessarily affluent).

What has occurred, usually, is the ‘tragedy of the commoners’ (McKay and Acheson, 1987) that are expelled from their territories by the expansion of large corporations, the establishment of megaprojects (hydroelectric dams, mining), or the imposition of ‘public spaces’ (areas of restrictive protection) on ‘communal spaces’.

In some cases, conflicts exist between the traditional uses of areas previously considered to be for the use of communities, and tourists that utilize public spaces, for example a beach. Lima (1989) compares the use of a beach in Itaipu in the state of Rio de Janeiro for traditional mullet fishing, with that of a beach in Massachusetts. In the first case, the traditional rules regulate the priority of casting of nets by artisanal fishers, by the system of ‘right to time’ (in which fishermen cast their nets at a given site in a predetermined order according to customary law), that regulates the diverse interests in exploitation of a common area – the beach. According to this system, the beach is divided into ‘points’, referring to local history or geographic features, on which fishermen agree on a set of norms with the goal of ensuring the compatibility of various groups. This harmony is broken at the weekends, however, with the influx of tourists, which generates conflict between fishermen and visitors over the use of the beach.

Along with this, the author mentions the appropriation of part of the beach by groups of real estate developers, that deprives the fishermen of their common work area, with the consent of the public authorities in this process. In spite of the beach being, according to the Brazilian Constitution, a public good, it has ended up being privatized with the rationale that it would benefit a large number of housing developments.

In Massachusetts, on the other hand, by paying to enter the beach, all become equal, but bathers looking for their particular niche where they won’t be bothered. As Lima (1988) writes,

Contrary to what happens in traditional Itaipu, where the different groups blend and shape around one primary identity, with equality achieved by belonging to a group, an equality mirrored in the similarity of its

components; it is the right to difference that defines the equality. I am equal because I have the right to be different. (1988:14)

It is possible to make a comparison between the appropriation of the collective space used by traditional fishermen of Itaipu, with the appropriation of a traditional collective space by the State turning it into a conservation area. The creation of national parks, with the resulting forced removal of traditional populations, for the purpose of environmental conservation that benefits 'urban visitors', is ethically questionable. In the majority of cases, it is the usurpation of a collective space, inhabited by populations with a great tradition of knowledge and know-how, in the service of a neo-myth that favours the urban populations that use the park for excursions and entertainment. The situation is becoming still more serious when under the pretext of so-called 'ecological' tourism, the areas that are to be 'protected' and 'untouched' become places of 'adventure' tourism. This is even more unacceptable when it involves largely illiterate populations, who are geographically isolated and lack political power, but who for centuries have been responsible for the conservation of the so-called 'natural world' through their particular way of life. The situation becomes tragic when it is considered that the maintenance of these traditional populations in their environment can more effectively conserve biodiversity. This is ultimately an ethical question, involving human rights and the construction of a real democracy in Brazil.

Knowledge, Power and the Conservation of Nature

Like all older mythologies that have their *guardians* (elders, shamen, etc.), the neo-myths of conservation also have theirs, these being preservationist organizations and public environmental institutions, and also their priesthood, these being park administrators and their assistants, enlightened by empirical-

rational knowledge, i.e., the natural scientists who define what biodiversity is and how nature should be preserved.

This situation is shaped by the confrontation of two knowledges: the traditional and the modern scientific forms. On the one hand is the accumulated learning by traditional populations about natural cycles, reproduction and migration of animals, about systems of managing natural resources, and prohibitions on carrying out activities in certain areas or at certain times of year, with a view to the conservation of species. On the other hand is scientific knowledge, derived from the exact sciences that not only ignore, but also scorn traditionally-accumulated knowledge. Ethno-science is replaced with the power of modern science with its ecosystem models, with the 'modern' administration of natural resources, and with the notion of carrying capacity based on scientific information, which is usually inconclusive and incomplete.

For the neo-myth, the natural world has its own life, which is the object of study and management, apparently without the participation of humans. Modern knowledge arrogates to itself not only the judgment of all knowledge, but even the protection of an 'intact' nature, bearer of a biodiversity upon which human action would have devastating effects. It is not for nothing that in all protected natural areas, scientific research is permitted, but ethno-knowledge receives a low priority, since this requires acceptance of the presence of traditional communities, of their knowledge and management techniques and especially the symbiotic relation between humans and nature.

This is made clear by Pálsson (1990) who establishes the relation between the systems of production in Icelandic fishing and the symbolic representations of the sea in social discourse. He makes use of the concept of culture presented by Geertz (1973), according to which humans construct cognitive representations or mental maps that orient their actions. Other mental representations are constructed to make the natural world comprehensible and to understand the behaviour of beings in nature, for example fish, their characteristics and their relations with humans. These representations are means by which humans reinvent their world,

reinforcing or transforming the worlds of their ancestors. Despite the diversity of objectives and dimensions, the different forms of representation are intimately related to the flow of social life.

Applying these concepts to fishing in Iceland, Pálsson identified three important periods, each having a distinct relation between humans and nature (the sea).

In the first period, the Medieval, fishing was only for subsistence, and was considered an exchange with a generous nature. The fish, principally cod, were a 'gift of nature', and to catch them the fishermen needed to know the signs of their presence (birds, the colour of the sea, etc.). There were also monstrous animals in the sea, and myths and rituals existed to protect the fishermen from the perils of nature. The society was homogeneous, without competition between its members.

The second period (from the middle of the XVI century) saw the introduction of a market economy, where the fish became a commodity, and began competition between the fishers. The best fishing captains were no longer those who could best interpret the signs of nature, and most skillfully command the crew of a ship, but those who achieved the largest catch. Fish was a commodity, with a value determined by the market, and was taken from the sea by controlling and dominating nature. By the mid-20th century, with the introduction of modern technology by industrial fisheries, this competition had led to over-fishing.

In the third and most recent period, after the 1950's, due to the great scarcity of fish, needed to be initiated management of depleted fish stocks by a system of quotas. The quantity to be captured by a ship was no longer to be determined by the captain, but by public administration, where marine biologists reign. The latter become the guardians of modern science to the detriment of the captain's knowledge. The supremacy of fishery administrators is still challenged by fishermen who accuse them of possessing only abstract knowledge.

In general terms, this also occurs today with the power of national park administrators and their collaborators, the natural scientists, who claim to define how traditional populations should behave in relation to nature and the use of natural resources.

This is actually a process of dispossession of the knowledge and inherited techniques possessed by traditional populations, and the affirmation of the power of science in the hands of scientists and administrators. As Morin observes,

Knowledge gives power ... The power of the elders or of the wise, of the sorcerer or of the shaman, in archaic societies is the power of savants. The priestly power in old societies is the power of savants. Power tends to monopolize knowledge, in order to conserve the monopoly of its power, and therefore the knowledge becomes secret, esoteric. Thus High Priests, Initiates, Universities, Scientists, Experts, and Specialists tend to be constituted in arrogant castes, with access to privileges and power. (Morin, 1991:23)

Very frequently, the State delegates to natural scientists the task of identifying sites to be protected, and the type of environmental protection these sites should have. Due to their disciplinary biases, those scientists are seldom willing to accept the presence of human populations and prefer to forget them.

Adams and McShane (1992) analyse the same process in Africa, and their conclusions can also be applied to the Brazilian case. For these authors, the entire modern conservation edifice in the African continent rests on the ideals and visions of people other than Africans. The great majority of Africans now active in conservation were trained in traditional Western ideas and methods of conservation, thus perpetuating a system created in the Western world and inhibiting the growth of an indigenous African conservation ethic.

Conservation has long operated on the comfortable belief that Africa is a paradise to be defended, even against the people who have lived there for thousands of years. The continuing reluctance to accept the link between vigorous indigenous cultures and the survival of wildlife has led to conservation programs doomed to eventual failure because they depend on building barriers of one sort or another between people and wildlife. (1992:xviii)

Some biologists themselves exhort their colleagues to assume the task of making decisions about nature preservation, as in the case of Daniel Janzen (1986). Writing in the prestigious *Annual Review of Ecology and Systematics*, he argues that only biologists, 'as the representatives of the natural world, are in charge of the future of tropical ecology' and only they have the expertise and mandate to 'determine whether the tropical landscape is to be populated only by humans, their mutualists, commensals and parasites, or whether it will also contain some islands of greater nature – the nature that spawned humans, yet has been vanquished by them' (cited in Guha, 1994). Janzen calls upon his colleagues to advance their territorial claims on the tropical world more forcefully, warning that the very existence of these areas is at stake. On the same subject, Roderick Nash, in a speech to an international conference, announced that if Tanzania could not prevent poaching in the Serengeti, 'we will just have to go in and buy it' (Adams and McShane, 1992:xviii).

Morin argues that, in reality, the knowledge of scientists is co-opted by those who have political, military and other forms of power, and in the modern world, science, technology, and competence continually produce power while producing knowledge, but the power of science is co-opted and directed; and the power of academics which is not politically organized is controlled and dominated by the power of political and bureaucratic organizations. Moreover, in this process, science itself contributes to the increase of social inequality.

These reflections are also important inasmuch as they relate to the contrast between traditional knowledge and techniques, on the one hand, and the science used in conservation of protected areas, on the other. This vast traditional knowledge and, in particular, inherited management techniques, are only rarely recognized as valid and adequate for administration of natural resources. Very seldom do the 'management plans' for protected areas incorporate 'traditional knowledge and management', even when the traditional groups still live in the protected areas. These 'management plans' also reflect this dichotomy between humans and nature.

What are called 'natural attributes of ecosystems', as defined by biologists and ecologists, become the only 'scientifically' valid criteria for the administration of natural resources. Nature is reified and put under scientific control by what Morin refers to as the high priests of science. It is widely recognized, however, that the contribution of natural sciences to conservation is still in its infancy, and many of its assumptions are debatable. For example, the theory Pleistocene refugia in the 1970's, (which held that species diversity in a given area was the result of islands that were not flooded during the Ice Ages, when much of the Amazon region was thought to be a large lake) was widely adopted in order to define the natural areas to be preserved in the Brazilian Amazon. Today this criterion is being questioned, which means that, as other theories also suggest, the areas already established as Amazonian conservation areas may no longer be adequate to protect biodiversity (Rylands, 1993).

Along with this, many of the theories used in conservation adopt the perspective of ecosystem analysis (Margaleff, 1968) which includes humans as an integral part of the system. One of the criticisms of this approach, is that it assumes that nature has a mechanistic form. Cajka (1980) criticized the theory that considered culture to be an adaptive response of humans to the environment. According to this theory, elements of culture can be explained by the contribution they make to the maintenance and survival of ecosystems, functioning as a feedback mechanism to maintain or alter the ecosystem equilibrium. For Cajka, the basic limitation of this theory is that it attributes a natural logic to ecosystems and human behaviour, according to their function in the maintenance of homeostatic equilibrium.

Given the limitations of the contributions of science itself, there should be a larger impetus to integrate the ethno-knowledge of traditional populations in to management plans. Furthermore, in areas where traditional communities exist, it is imperative that the management plans do not adopt an authoritarian and technocratic character. They must instead incorporate local knowledge and practices in the use of these territories that have long been inhabited and used by the traditional residents.

Adams and McShane analysing the African situation, plead for a more interdisciplinary approach to conservation:

Conservationists and scientists apparently have gone about their business with binders on, ignoring each other as well as the people affected by their decisions. While anthropologists have been busily collecting information on these same people (living in Serengeti National Park) and coming to understand their relationship with the land, and economists have developed new models of natural resource utilization, their work has only begun to be recognized by conservationists. So far, the products of seminars and colloquia have barely moved out of the academy and have had little if any impact on the lives of individuals or on the conduct of conservation programs. (1992: xviii)

Finally, the continuation of traditional populations in protected natural areas is justified not only by the protection and recognition of the large body of ethno-knowledge transmitted from generation to generation relating to natural conditions, or by the need to guarantee their historical rights to their territory, but also as a model that can be useful by urban-industrial civilization in the necessary redefinition of its existing relations with nature. What Hughes (1983) proposed as a contribution of the indigenous Americans to a new relation with nature, can also be applied to other traditional populations:

The American Indians' cultural pattern on careful hunting and agriculture was carried on according to spiritual perceptions of nature, and actually preserved the earth and life on earth. ...Indians' conceptions of the universe and nature must be examined seriously, as valid ways of relating to the world, and not as superstitious, primitive or unevolved. Perhaps the most important insight which can be gained from the Indian heritage is reverence for the earth and life. ...The traditional Indian valued people, the interrelated social group living in harmony with nature (Hughes, quoted by Devall, 1985:98).

Traditional Cultures and Social Change

Williams (1992) developed a series of important and relevant concepts for a more profound analysis of the symmetry between social reproduction and cultural reproduction. He also introduced the idea of 'popular culture', that incorporates those cultures that are here called 'traditional'. Carvalho (1989) also discusses the differences between 'traditional culture', 'popular culture', and 'mass culture'. He disagrees with the view that traditional culture (including folklore) differs significantly from popular culture, and includes it within the notion of popular culture. He argues that the central theme is not the difference between the folkloric and traditional, but the importance of the symbolic core that serves to express certain forms of social life, and keeps historical memory alive. He suggests the need to construct a radical symbolic pluralism, especially in Latin America, given the great diversity of popular, traditional and folkloric cultures, which are threatened by industrial culture.

It is obvious that the above criteria are based on the notion of an *ideal type*, and that no traditional culture exists in a pure state. Also, a particular social group bearing a traditional culture, such as the Caiçara of the São Paulo coast, can display ways of life in which the above-mentioned characteristics are present to a greater or lesser extent, according to their degree of articulation with the dominant capitalist mode of production. This means that traditional populations and cultures today find themselves transformed to a greater or lesser degree.

One of the disruptive processes affecting these cultures is the cultural globalization and homogenization produced by capitalism and by mass society. As Peet (1986) states:

The development of capitalism as the dominant world economic system has been paralleled by the spread of its culture into all regions of the globe. A thousand interactions have pitted local and regional cultures, related to local environments and forms of livelihood, against the power of the international culture founded on a dynamic capitalism. There are several dimensions to the resulting cultural

interaction. Capitalist culture has absorbed elements from the regional cultures it has encountered – its conception of paradise on earth is strongly flavoured by the encounter with the Polynesians on ‘unspoiled’ Pacific islands. Capitalism and regional cultures have merged into synthetic cultures – for example, Japanese culture contains strong elements from the ‘islands’ particular version of the feudal past. But a continuing theme, running through virtually all discussions on the encounter between world capitalist and regional non-capitalist cultures of the Third World, is the pervasive power of the first and the transformation of the second. (...) But in the interaction between centre culture and local culture, there can be little doubt which is more dynamic and what direction cultural synthesis is taking. The tendency is towards the production of one world mind, one world culture and the consequent disappearance of regional consciousness flowing from the local specificities of the human past. (Peet, 1986:169)

This fact presents an important issue – social change. Traditional cultures are not static, but, whether because of endogenous or exogenous factors are in constant changing They may be participating in a mode of production that we call small-scale market production. The adoption of the patterns of consumption characteristic of capitalist society in the peripheral capitalist countries does not necessarily signify a radical change in the basic cultural patterns, since every culture has a capacity to assimilate elements of external cultures. (Diegues, 1983; 1992c)

Peet, however, states that regional and local cultures represent the sum total of past experiences, in a vast range of environmental conditions. The selective incorporation of the past, as a way to achieve an emancipated future, will not occur if the memory of the past is destroyed, or if its cultural products are known only as museum pieces.

The traditional cultures rooted in small-scale market production today in Brazil are not isolated, but are articulated with the capitalist mode of production (Diegues, 1983, 1992c). This greater or lesser dependency on the capitalist mode of production has resulted in some degree of disruption of the ways in which the small producer treats the natural world and its resources. Toledo (1980) analyzed

the growing interdependency between the two modes of production described above, and showed how this growing articulation of dependency between both brings about a transformation of the natural world into a 'commodity'. The same process was analyzed by Diegues (1983), where the articulation between artisanal fishermen (simple market production) and corporate-capitalist fishing along the Brazilian coast was noted.

This research, however, shows a high degree of persistency of small-scale market production in Third World countries. Previous work (Diegues, 1983; 1988; 1992d), has shown that a significant articulation with the capitalist mode of production has not always led to the destruction of small-scale market production. On the contrary, as happens frequently in the case of artisanal fishing, the capitalist mode of production appropriates the products, and occasionally the labour of artisanal production, without necessarily disrupting this mode of production and social reproduction.

It is evident that even a small degree of articulation (dependency) with global capitalist society has disruptive effects on small-scale market production. Today in Brazil all traditional communities are articulated with and dependent on the capitalist social formation. As a consequence, their economic, ecological and socio-cultural reproduction are subject to this formation. This relationship is lived day-to-day in the lives of individuals involved in small-scale market production. Many leave their settlements to work in the city, in rural capitalist businesses, or on a corporate-capitalist fishing vessel, but return later as autonomous producers, buying, for example, their own fishing boat which they operate with their families. Others show greater resistance to the penetration of capitalist social relations through the organization of social movements, as in the case of the rubber-tappers (*seringueiros*) and the *vargeiros* of Amazonia, where by reasserting control over their territory – their space of social reproduction – they have gained some degree of control over the process of technological change.

Dassman (1989) also noted that people who are undergoing social and technological changes are organizing themselves to reconquer their ancestral territories and maintain their cultural identity, by forming national and international coalitions, the latter

supported by the World Congress on Indigenous Peoples, under the auspices of the United Nations. Dassman cites, as positive examples of this resistance, the results obtained by the *Kuna* of Panama, who achieved government recognition of their power over their territory, renegotiating, for example, the construction of roads that would have crossed their land. The rural women of India were also successful with their Chipko (tree hugging) movement, through which they opposed the destruction of the forests on which they depended for their survival.

The processes of social change through which these traditional societies are passing are analyzed by many authors. Cândido (1964) noted that the principal factors in change are: the growing difficulty of spatial mobility of rural people who previously used rotation of land which is now being gradually appropriated by new legal owners; greater dependency on the urban market; and demographic growth and increased use of wage labour in agriculture, which reduces the amount of time available for gathering, hunting, fishing and resource use. As a consequence, states Cândido, the familiarity

... of humans with nature is being attenuated, as a result of the increase of technical resources that mediate between both, and the fact that subsistence no longer depends on the exclusive use of the surrounding environment. Technology, as a product of culture, has destroyed affinities between humans and animals, and between humans and plants. (1964:138)

For Queiroz (1973), the first symptom of change emerged in the sphere of consumption, since small farmers began to consume the products of the cities more frequently. Communities in peripheral areas further from cities resisted longer, but are now progressively attracted by modern urban society, although as marginal groups with inferior social conditions. Their lives in slum areas, in the vast majority of cases, have turned out to be worse than before moving to the cities.

In this context, protected natural areas with traditional populations can contribute to the maintenance of dynamic models, for urban-industrial societies, of harmonious relations between humans and nature. Having secured their territory against the

invasion of real estate speculators and large economic interests, these communities living inside protected areas are able to gradually absorb certain social and technological changes that without this protection would result in irremediable disruption. Or, as Chambers (1987) argues,

But more important and less well recognized, sustainable livelihoods in those resource-poor and forest areas are ecological and political safeguards against pillage and degradation by commercial interests and the rich. Contrary to popular professional prejudice, there is mounting evidence that when poor people have secure rights and adequate stocks of assets to deal with contingencies, they tend to take a long view, holding on tenaciously to land, protecting and saving trees, and seeking to provide for their children. In this respect, their time perspective is longer than that of commercial interests concerned with early profits from capital, or of conventional development projects concerned with internal rates of return. Secure tenure rights to resources and adequate livelihoods are prerequisites for good husbandry and sustainable development. Moreover, sustainable livelihood security is a precondition for a stable human population in the long-term, for only when livelihoods are secure does it become rational for poor people to limit family size. (1987:6)

There is, however, a growing consciousness of the fact that the continuity of human cultural diversity is a fundamental element for the constitution of pluralist, democratic, and ultimately sustainable, societies. More important still is the growing consciousness that ecological diversity can be considered a basis for cultural diversity (Diegues, 1988; McNeely, 1992). Obviously this constitutes an enormous challenge in a world growing more and more globalized and homogeneous. This homogenization, often forced, is nevertheless not unresisted, as demonstrated by the resurgence of languages and cultures that were thought to have almost disappeared in many regions of Europe and the rest of the world.

Some proposals for maintaining traditional populations in conservation areas come from assumptions that they would have to preserve their immutable cultural patterns, especially those that

involve the use of natural resources. Other times, the myth of 'untouched forest' is reproduced in the need for cultural untouchability. It is relevant here to cite Bailey (1992) from a paper for the World Bank:

Often indigenous groups are permitted to remain in protected areas as long as they remain 'traditional' – a term usually defined by policymakers without consultation with or extensive historical knowledge of the peoples themselves. Such restrictions lead to 'enforced primitivism' (Goodland, 1982:21), whereby tribal people are expected to remain 'traditional' (sometimes for the purposes of enhancing their value as a tourist attraction) as the rest of the world passes them by. The management policy for reserves should be general enough and flexible enough to allow for variation in management styles across local groups and over time. (Bailey. In: Cleaver et alii, 1992:208)

Meanwhile, we need to reject the image of the 'noble savage' that romantic conservationists frequently attribute to traditional peoples. The expansion of market economies based on high productivity and consumption has occurred, with varying degrees of intensity, in all regions of the world. This has had negative and often devastating effects on those human populations that most depended on and inhabited fragile ecosystems (tropical forests, savannas, mangroves), causing social impoverishment and environmental degradation. In many cases, traditional systems of management highly adapted to specific ecosystems have fallen into disuse, whether by the introduction of the market economy, by eco-cultural disruption, or by the substitution by other so-called 'modern' systems imposed from outside these communities.

The pauperization of the traditional populations that results from these processes, and the often extreme misery associated with the loss of historical rights over the areas in which they live, has led many communities to over-exploit the natural resources.

From this point of view one can think of these protected areas as territorial spaces where the need for a more harmonious relation between humans and nature is positively affirmed, not in the form of exclusion such as exists today in most legislation of parks and

reserves, but in a form that benefits the local populations. Rather than repression, the modern world needs 'models' of more adequate relations between humans and nature. These conservation areas can offer conditions under which traditional forms of management of the natural world can be valued, renewed and even reinterpreted to become more adapted to new emerging situations. As McNeely writes,

But in the late twentieth century, the even more challenging task of building ecologically and economically viable nations will require more sensitive and productive relations with local people and local ecosystems. The need now is for reestablishing cultural means of controlling overexploitation of forests, savannas, land and wildlife. Based on ecological, political and economic reality, today's conservation measures must be part of the cultural fabric if they are to make their necessary contribution to human welfare. (McNeely, 1993:251)

4

NATIONAL PARKS AND CONSERVATION IN BRAZIL

BRAZIL NEEDS to begin to create a systematic history of the ideas that governed and still govern the relations between societies and nature. This 'ecological or environmental history', as an area of study, according to Worster (1988), was begun in the 1970's in the United States, with the work of Roderick Nash who produced a wide-ranging history of wilderness thinking in North American literature. In France some sources have existed from the 1930's with the work of Lucien Febvre and Marc Bloch, published in the journal *Annales*, and later with the work of Fernand Braudel on the Mediterranean. Outside the Western World, Arnold and Guha (1995) have written an inspiring book – *Nature, Culture, Imperialism: Essays on the Environmental History of South Asia* – defining ecological history as the study of human engagement over time with the physical environment, of the environment as a context, agent, and influence in human history. The authors also emphasise the notion of environmental history as the study of the environment as 'cultural space and ideological artifact, as expressed through the invocation and representation of nature in art and religion, in myth,

in ethics and in law' (1995:3). They have also pointed out that high ecological and cultural diversity, which sustains a much greater range of human livelihood patterns, distinguishes the Indian subcontinent from the French and North American experience. There are also other factors that make the work of Arnold and Guha (1995) relevant to the Brazilian situation: the fact that India and Brazil have recently developed socially-orientated environmental movements, as opposed to those originated in North America which emphasise the loss of wilderness.

Gadgil and Guha, in *This Fissured Land: an Ecological History of India* (1992), have developed a specific methodology for the study of environmental history based on the concept of modes of resource use, as a complement to the marxist concept of modes of production. The authors have criticize the concept of modes of production as they 'ignored the natural contexts in which the field and factory are embedded the contexts to which they respond and which they in turn transform...' (p.13). They also stress the need to analyse the ideologies that govern different modes of resource uses and their ecological impacts. They (1992) identified four modes of resource use: gathering (including shifting cultivation); nomadic pastoralism; settled cultivation and industry. For the analysis of each of these modes of resource use they selected five variables: technology, economy, social organization, ideology and the nature of the ecological impact itself. They also identified various forms of social conflict between, as well as within, different modes. The role of mental representation, symbolism and management techniques employed by different social actors involved in each mode of resource use is a relevant aspect of this methodology.

In Brazil, with the exception of some pioneering and valuable work (Pádua, 1987; Carvalho, 1967), almost no systematic writing exists about the values, ideas and perceptions underlying the conservation of nature. As a general background, Caio Prado (1979) has written some valuable work on the relations between economic cycles, especially concerning the export-oriented monocultures, and the devastation of the forests, as has Sérgio Buarque de Holanda on the relation between the search for an earthly paradise and the

admiration for the rich nature that existed in Brazil in the early period of European colonization.

Since the first European contact, Brazil has been loaded with symbolic meanings in the European imagination; the descriptions of the country assumed the character of the rediscovery of paradise lost. Chronicles tell of the existence of a country with an excellent climate, many animals and an exuberant forest; such as the *Carta de Caminha* (the first report on Brazil to the Portuguese crown) itself, which describes a land where the waters are many. The country was named after an important tree, the *pau-brasil*, which has become a symbol of the unrestrained exploitation that led to its extinction, despite the *Carta Régia* of March 13, 1797 that stated 'it is necessary to take precautions for the conservation of forests in Brazil, to prevent their destruction and ruin' (cited in Carvalho, 1967). From the beginning, the destruction of nature in Brazil appeared to be linked to the lack of interest of the colonizers in settling here, but rather in bringing all to the Kingdom of Portugal. As Friar Vicente states:

No matter how rooted the colonizers were in the land, and no matter how wealthy they are, they all intend to bring everything to Portugal, and this is not only true for those who came from Portugal, but even for those that were born here, that they use the land not as proprietors, but as tenants, only to exploit and destroy it. (Friar Vicente Salvador, cited in Pádua, 1987:47)

The colonial economy, constituted by boom and bust cycles of exports of agricultural products (especially sugar, and later coffee), led to widespread devastation of the forests, and especially of the coastal forests. Caio Prado Jr. summed up the impact of these cycles on the Brazilian natural environment by stating:

One more time the usual cycle of productive activities in Brazil was repeated. After one phase of intense and rapid prosperity followed another of stagnation and decadence. This has already been seen in the planting of sugar-cane and cotton in the North, and in the gold and diamond mines in the Center-south, not to mention the

case of pau-brasil. The cause is always similar – the accelerated exhaustion of natural resources by a careless system of land exploitation. (Caio Prado Jr., 1979:25-7)

The only measures to restrict the forest devastation derived from the *Cartas Régias* of the Portuguese Crown, in the 18th century, which was concerned with the lack of wood for naval construction.

José Bonifácio, one of the founding fathers of independent Brazil at the beginning of the 19th century, was greatly concerned about the destruction of the forests. His vision of nature was different from the romantics; for him, nature represented a great book, the secrets and economic values of which could be conquered through scientific knowledge. He fought the cutting of the forests, because he had studied the effects of deforestation on the fertility of soils in Portugal. 'Anyone who has studied the great influence of forests on the general economy of nature knows that countries that lose their forests are almost all sterile and without people' (Bonifácio, 1962:31). Bonifácio also turned against slavery. He proposed a society of free farmers, an arrangement which would also better preserve the forests.

It is evident that if agriculture is carried out by free small-scale landowners or wage-earners, because of necessity and their own best interests, they will make good use of the land... and in this way, the ancient virgin forests, which by their vastness and richness best characterize this beautiful country, will be conserved as a sacred heritage for posterity. (Bonifácio, 1962, vol.2, p.137)

It is interesting to note that José Bonifácio as early as 1821 suggested the creation of an administrative body with special responsibility for the conservation of forests, since many areas of the Atlantic Forest, especially in the Northeast, had already been destroyed for the construction of ships.

André Rebouças, who fought for the first national parks, positioned himself openly against deforestation and for the use of modern techniques to manage the land. At the same time he combated the causes of deforestation – the monopoly of land, slavery and landlordism (Pádua, 1987).

These authors were influenced by positivism which emphasized the need for the development of science to resolve the problem of lack of economic and social progress in Brazil. One of these authors, Euclides da Cunha, continued the protest against the destruction of nature on the grounds that destroying it would obstruct the process of evolution itself.

In 1934 Brazil's First Conference for the Protection of Nature took place, organized by the *Sociedade dos Amigos das Árvores* (Society of Friends of the Trees), through the initiative of Alberto José de Sampaio and Leôncio Correia. In the same year the first Hunting and Fishing Code (*Código de Caça e Pesca*), the Mining Code (*Código de Minas*), the Waters Code (*Código das Águas*), and the Forest Code (*Código Florestal*) appeared (Carvalho, 1967).

The first inspiration for the creation of national parks came from the abolitionist André Rebouças, in 1876, and was based on the model of North American parks (Pádua and Filho, 1979). In defending the creation of the National Park of Itatiaia, as early as 1911, Hubmayer stated in *Sociedade Brasileira de Geografia*, in Rio de Janeiro, that this national park was

...without equal in the world, it will be at the doorstep of our beautiful Capital (at that time Rio de Janeiro) offering scientists and researchers immeasurable potential for the most diverse research, as well as offering the ideal retreat for physical and psychological renewal after the exhausting work in the cities. Also, it will provide a source of satisfaction for travellers and visitors interested in the attractions of nature in the area. (cited in Pádua and Filho, 1979:122)

It is important to emphasize the pioneering role of the State of São Paulo that by 1896 had already created its Forest Service.

The Federal Constitution of 1937, endorsing the one of 1934 that defined the responsibilities of the Federal Government in protecting natural beauty and monuments of historical value, stated in Article 134 that historical, artistic and natural monuments enjoyed the special protection and care of the Nation, the States and the Municipalities.

The first national park was created in Itatiaia, in 1937, upon an initial proposal by the botanist Alfredo Loftgren, in 1913, with the

objective of encouraging scientific research and offering leisure to urban populations. The park was established by Article 9 of the Forest Code, approved in 1934, which defined national parks as natural public monuments that perpetuate the primitive forest composition of those areas of the country which, because of their unique and outstanding value, were worthy (Quintão, 1983).

In Brazil, national parks, and areas with similar protection, are large and defined geographic areas endowed with exceptional natural attributes, which also need to possess significant attractions for the public and provide opportunities for recreation and environmental education. The people attracted to the park were always expected to be from outside the forest area, and little thought was given to indigenous populations, fishermen, riverine populations and gatherers that were already there. Both in the U.S.A and in Brazil, the objective was to conserve a natural area against the advances of urban-industrial society, without attention given to the fact that, here, most of these 'natural areas' were inhabited by traditional populations. In Brazil, most of these forest populations live from subsistence activities, with weak links to the market and with little capacity for significant alteration of these ecosystems.

The growth in the number of national parks was very slow, and only in 1948 was the second protected area (the Paulo Afonso National Park) created. In September 1944, by decree # 16.677, the National Parks Section of the Forest Service, created in 1921, was given the responsibility of directing, supervising, coordinating and developing work programmes for the national parks. Also in this year, the objectives of national parks were established – to conserve the areas under their jurisdiction for scientific, educational, aesthetic and recreational ends; to promote the study of the flora, fauna and geology of the respective regions; and to organize regional museums and herbariums.

The Brazilian government also approved the recommendations of the Panamerican Convention, which defined national parks as areas established for the protection and conservation of the natural scenic beauty of flora and fauna of national significance. These places would be under government authority in order to protect them and allow public access and recreation.

Until that time, the national parks had been created principally in the Southeast-South region, the most populated and urbanized in the country. It was only in the beginning of the 1960's, with the expansion of the agricultural frontier and the destruction of forests, that parks began to be created in other regions. Between 1959 and 1961, 12 national parks were created, with three of these in the State of Goiás and one in the Federal District (Quintão, 1983).

The expansion of the agricultural frontier to Amazonia brought with it the creation of important conservation areas in this region. These proposals came especially from scientific and environmental concerns, in reaction to the rapid deforestation in the region (Quintão, 1983).

In 1970, the Programme of National Integration (PIN) proposed 15 development poles in Amazonia, and also the creation of conservation areas. In 1974 the National Park of Amazonia was created in Itaituba, with one million hectares, and in 1979 three new parks were created (Pico da Neblina, Pacas Novas and Serra da Capivara). In 1975, the *Second National Development Plan* also provided for the creation of new conservation areas in the region.

In 1965, the new Forest Code defined as national parks those areas created with the goal of protecting exceptional natural attributes, reconciling the protection of natural beauty, and the integrity of flora and fauna, with the use for educational, recreational and scientific objectives. By that year, 15 national parks and 4 biological reserves had already been created (Quintão, 1983).

The decree # 289, of February 28, 1967, created the Brazilian Institute for Forestry Development (IBDF), linked to the Ministry of Agriculture, and assigned to it the administration of conservation areas.

In 1979, Pádua and Coimbra Filho published the book *Os Parques Nacionais no Brasil*, with the first author being the director of the parks department of IBDF. The book describes Brazilian national parks from the point of view of natural wealth, and always when referring to populations of inhabitants, it treats them as squatters and degraders of the land, independent of their actual characteristics, or of the length of time they had lived there prior to the creation of the protected area. It is significant that, when

describing the problems of the National Park of Araguaia, the authors conclude by clearly stating that it is essential to remove the remaining residents to prepare it for tourism:

After the end of the management plan and the resolution of the problems still pending, especially those which concern the definitive boundary between the National Park and the Indigenous Reserve, including the proper resolution of land title, it is intended to remove all the squatters from the National Park and prepare it suitably for recreation. (Pádua and Coimbra Filho, 1979:59)

When referring to the situation of the National Park of Monte Pascoal, the director of IBDF is still more categorical:

However, the National Park is still facing the most difficult problem to solve, which has been hindering this administration for years. It concerns a small primitive population that lives in a coastal area inside the park. (op.cit., 1979:33)

The authors go still further, stating that ‘the presence of indigenous communities and the protection of the biota are not compatible’ (1979:33).

In 1979, the IBDF developed the Plan for the System of Protected Areas in Brazil (SNUC), the principal objective of which was the detailed study of priority regions for the establishment of new areas. Furthermore, the plan proposed to revise the then current management categories, as the only two then in existence – national park and biological reserve – were considered insufficient to cover the range of proposed objectives (IBAMA/Funatura, 1989). This plan recommended the creation of other types of conservation areas, but the corresponding legislation was not enacted.

Between 1979 and 1983 there was a strong push for the creation of new conservation areas, and eight new national parks were established, including four in the Amazon region. In the same period six strict conservation areas (biological reserves) were created, five of them in the Amazon region.

Most of the protected areas in Brazil were created, at the height of the authoritarian military regime (1970-1984), in a top-down

manner, without consulting the regions involved or the populations whose way of life would be affected by the restrictions imposed on their use of natural resources. During this period it was politically unfeasible (even illegal) to organize local populations in order to discuss the negative impact of protected areas over the territory of traditional populations.

Second, this period coincided with the huge growth of Brazil's foreign debt, as a result of soliciting large loans from bilateral and multilateral organizations. These organizations, such as the World Bank and the InterAmerican Development Bank, began to include environmental protection clauses as a condition of loans for large development projects. Some of these clauses called for the creation of conservation areas and indigenous reserves, especially in the Amazon. There was little social mobilization for the creation of conservation areas, which depended principally on the action of scientists and a few conservationists with relatively easy access to the military government.

One of the great paradoxes of this process is that beginning in 1967, responsibility for the establishment and administration of conservation areas fell to the IBDF, which was transformed into SEMA (Federal Secretary of the Environment) in 1973. This federal body was implicated in the deforestation of large areas of natural forest for the establishment of reforestation projects for industrial purposes. In 1989, with the creation of IBAMA (Brazilian Institute of Environment), the establishment and administration of these conservation areas was passed to this new body. In that year, IBAMA requested from Funatura, a non-governmental organization, a re-evaluation of the National System of Protected Areas established in 1979. This proposal, which was included in the document *National System of Protected Areas: Conceptual and Legal Aspects* (1989), is based on the same principles that guided the establishment of conservation areas in industrialized countries, which did not take into account the particular situation of countries of the Third World, such as Brazil.

The position of the IBAMA/Funatura document is, in the first place, alarmist when it states:

The occupation of land by humans, expanding at a large scale throughout the current century as an inevitable consequence of uncontrolled demographic expansion and rapid technological development, makes it clear that, in the not-so-distant future, the last really pristine regions of the planet will be only those under special regimes of protection. (1989:1)

This vision anticipates a destroyed planet containing 'islands of conservation' and concludes that:

The most efficient way to reduce the rhythm of this irreversable impoverishment, and in many situations the only possible way, is the establishment of a network of protected natural areas, with the selection based on comprehensive planning, according to scientific criteria, in which the largest possible number of animal and plant species are protected, as well as the ecosystems that exist today. (1989:2)

Nothing is said in this proposal about the sustainable use of natural resources in land which does not fall within conservation areas, nor do they value the behaviour of 'traditional' communities that, through their culture, contribute to the maintenance of ecosystems and biological diversity. Therefore an historic opportunity is lost to revise the various categories of protected areas to better incorporate the realities of underdeveloped countries that have a great diversity of non-industrial cultures, such as indigenous populations, rubber-tappers, fishermen, and extractivists. The only innovation included, although still rather uncomfortably in this proposal, is the extractive reserves, a category that in fact resulted from the struggle of the rubber-tappers.

In 1992, a proposal for a new National System of Protected Areas was sent to the Congress (legislative bill # 2.892) which reflected, yet again, a conservative vision of the question of environmental conservation in Brazil, and is far behind the debate going on at the international level.

In 1996, after a larger consultation, a report given by the chair of the Legislative Commission on Environment, Fernando Gabeira, proposed a series of amendments to the existing bill, incorporating

the demands of research institutes, non-governmental organizations and social movements. In his justification of the legislative bill, chairman Gabeira wrote:

The problem of the communities that live in conservation areas was without doubt the question that motivated the most heated debate during the technical meetings held by this Commission to provide input to the report of the Commission. Today we recognize that the expulsion of traditional populations (from restricted natural areas) is negative not only from the social and human point of view, but it also has harmful consequences for the conservation of nature. These communities are largely responsible for the maintenance of biological diversity and for the protection of these natural areas. ...It is important to note that the reaction of the local communities, and especially of the traditional populations, to exclusion from the process of creation and management of conservation areas is not an isolated phenomenon. It depicts the current process of democratization and reorganization of civil society that has made possible the emergence of new and previously marginalized social actors. (Statement on Bill 2.892, 1992:6)

In his report, chairman Gabeira proposed that up to 5% of the area of national parks with traditional populations be destined for the permanent use of these inhabitants. In addition, it would incorporate a new type of area: a cultural ecological reserve, as proposed by the *Núcleo de Pesquisa sobre Populações Humanas e Áreas Úmidas* (Research Centre on Human Populations and Wetlands in Brazil, or NUPAUB), of the University of São Paulo. This category would permit not only the presence of traditional communities, but would also incorporate them in the process of establishment and management of the protected areas.

The official decision has still (in 1996) not been taken, but it is evident that there is already a great awareness of the need for participation of traditional populations in the planning and management of protected areas – a fact that today is recognized even by the World Bank.

As Ghimire (1993) states, it is not sufficient only to try to solve those conflicts with traditional local inhabitants that are generated

by the establishment of poorly planned conservation areas; better living conditions for these people are also needed, without fundamentally affecting their more harmonious relations with nature. This implies that the costs of conservation will be high, not only in monitoring, creation and infrastructure, etc., but also in socio-economic and cultural investments that benefit traditional populations. These costs should not be treated only as compensation for the loss of free access to the use of natural resources, but also as compensation for conservation work carried out by traditional populations that contribute to nature conservation. Without these people, many of the ecosystems that are today transformed into conservation areas would have been destroyed already. This is not only a problem of social equity, or of respect for human rights, but a profoundly ethical question. It is very easy to compel isolated local populations, who lack political power, to accept conservation areas which demand their expulsion and the disruption of their way of life in favour of 'nature' and for the benefit of 'national society'. It is not without reason that local populations, who are harmed by this so-called 'conservation', associate this 'national society' with the urban economic elite, or residents of monoculture agricultural areas who are currently prospering from the destruction of forests and the planting of soybeans and citrus fruits, and who, because of this, have become rich and powerful. Or still worse, for these local populations, the 'conservation' of nature is identified with the 'conservation professionals', bureaucrats of the State who often have a biased approach to conservation.

For these traditional communities, on the other hand, the conservation of resources means their very survival and economic and social reproduction, on the land in which their ancestors were born and lived, and in which their children are born. This does not imply a bucolic vision of these communities, who are usually obliged to break the law, using the natural resources of protected areas in an illegal and occasionally even destructive way, in order to secure their survival. In order to prevent this from occurring, the State needs to explicitly accept the presence of traditional inhabitants within conservation areas, which is prohibited by current legislation. What is required is not only democratic

discussion of those management plans which involve limits on the expansion of their economic activities, but also compensation for restrictions on use imposed by the establishment of protected areas. As McNeely states in the Introductory Session to the *Fourth World Conference on National Parks and Protected Areas* (Feb. 1992):

The cost-benefit ratio in the maintenance of a protected area should in the end be positive for the local population if the prosperity of this region is desired, and in order for this to happen these populations must be involved in the planning and management of these protected areas, and in the sharing of the benefits. (1992:26)

This participation of local communities requires promotion and support for local associations. The State needs to consider them as privileged interlocutors in this participatory process, and not limit the negotiations to national environmental non-governmental organizations (ENGOs), who have considerable power because of their easy access to the media. However, promotion of the participation of local communities by environmental authorities does not need to be paternalistic, as is the case when the most active residents of protected areas, usually young, are hired as 'park wardens'. What then happens is that 'accusation' becomes officially institutionalized, since the 'local park wardens' end up being required to inform on and punish the members of the community, often elders, who 'disobey the law' in order to survive. This institution further disrupts traditional communities in which authority is based on the knowledge and power of the elders.

When the needs of local populations are taken into consideration, it is clear that the State should abandon the current system of compensation for expropriated land whereby those who have an officially recognized title to ownership of land are generously remunerated, and the local inhabitants, who usually have no means to formalize their title, receive almost nothing in the expropriation. Even worse, not only are most of these inhabitants not compensated, but they are prohibited from carrying out their traditional activities. In addition, the infrastructure which previously existed, such as schools, health clinics, and roads, is

not maintained because the regulations of the conservation area do not permit it. This contributes to forcing the inhabitants to abandon the region where they have always lived. Again it is important to give conservation authorities responsibility for promoting the well-being of these populations, in the areas in which they lived before the creation of parks and restricted reserves, and for ensuring the compatibility between conservation and improvement of the living conditions of these populations.

Finally, it is essential that the current system devised for conservation areas, that is being proposed for approval in the National Congress, be revised to include:

- a) allowing traditional populations to continue living in areas being turned into protected areas, leaving them on their own land;
- b) establishing means to improve the living conditions of these populations within these areas, by investing in management and production systems that both ensure the preservation of areas considered essential and promote the well-being of populations that live in and around conservation areas. Traditional systems of management (involving fishing, collecting, and agriculture) consistent with resource conservation need to be studied, recognized and even improved;
- c) introduce new categories of conservation that take into account, in an integrated way, the need to harmonize preservation and the presence of traditional inhabitants.

In Brazil only one type of conservation area that allows and encourages permanent occupation by traditional populations – the extractive reserve. As previously stated, the creation of this category resulted from the struggle of the rubber-tappers (Alegretti, 1987; Diegues, 1992). The extractive reserve is defined as a natural or only slightly altered area, occupied by social groups that use it as a source of subsistence, to collect the products of native flora or artisanal fishing in a traditional sustainable way (Fearnside, 1989). In 1990 about 5 extractive reserves were officially created in Rondônia, Acre and Amapá, but few were actually implemented.

The National Center of Traditional Populations (CNPT), recently created within IBAMA, has put considerable effort into creating extractive reserves outside of the Amazon region. In 1992 the first of these reserves was created for artisanal fishermen and marine extractivism in Santa Catarina state.

One other area that could help to resolve the question of traditional populations within conservation areas is the Biosphere Reserve, instituted by UNESCO. This approach to protected areas is based on the presence of traditional populations, such as extractivists and artisanal fishermen, in the buffer-zones. The first Biosphere Reserve in Brazil was created in 1992, linked to UNESCO, and covers a significant part of the Atlantic Forest in several states of the South-Southeast. Unfortunately, the way this was instituted did not take into account the interests of traditional populations, since there has not been an extensive process of involvement of these people in the creation of this reserve.

Until now, the strategy has been to transform the current areas of restrictive use (parks, biological reserves, and ecological stations) into a 'core zone', without resolving the issue of the presence of traditional populations, such as *Caiçaras* and artisanal fishermen. In fact, the manner¹ in which this Biosphere Reserve was created did not resolve the problem of the existence of traditional populations in these areas of restricted use. The huge size of this reserve, covering several states with different regulatory regimes, inhibited the effective integration of these populations in the management process. One example of this is the fact that the Juréia Ecological Station has been included entirely in the 'core zone' of the Biosphere Reserve, with no concern for the existence of hundreds of traditional *Caiçara* families.

¹ In order to maintain ecological and cultural diversity at the same time, NUPAUB (Research Center on Human Populations and Wetlands in Brazil), of the University of São Paulo, proposed the creation of a new area titled *Ecological-Cultural Reserve*, to be included in the framework of the new National System of Conservation Areas (SNUC).

5

THE EMERGING CONCERN FOR TRADITIONAL POPULATIONS GLOBALLY AND IN BRAZIL

IDEAS AND practices regarding nature conservation are changing in many countries around the world, including Brazil. Recently the underlying ideas guiding the creation of protected areas have undergone profound rethinking, especially in tropical countries. These changes may be explained by several factors:

a) frequent failures in the implementation of protected areas, due mainly to a lack of support for this type of conservation within Southern countries, and particularly for communities living inside and adjacent to protected areas. There is a growing awareness that the reason for this lack of social support is the unsuitability of this conservation model to local realities rather than, as some preservationists argue, the lack of appreciation for the importance of protected areas;

b) a growing understanding that national parks and other strictly protected areas cannot simply be considered as 'islands'

created to conserve biodiversity, as most biological diversity lies beyond parks (Murphree, 1994). Therefore, a new model of conservation has to be devised to conserve biodiversity, especially considering the political difficulties of continued expansion of protected areas;

c) *the emergence* in southern countries of environmental movements, different from those in northern countries, that are trying to *harmonize* nature conservation with the need to improve the living conditions of inhabitants of national parks and adjacent regions. These new social-environmental movements recognize the importance of the knowledge and management practices of traditional populations to the creation and administration of parks. In many southern countries the decolonization and democratization processes also led to challenges to the imported model of nature conservation;

d) *the spontaneous and increasingly organized resistance movements* of traditional people living inside protected areas against resettlement outside their territories;

e) *the changing perception of key international environmental organizations* of the role of protected areas and the importance of traditional populations in biodiversity conservation. Recent international agreements such as the Biodiversity Convention signed at Rio (1992) have stressed the need to involve local residents;

f) growing awareness that nature conservation is so important that it *cannot be the exclusive responsibility of governments and natural scientists*, but rather must be a joint effort of local, regional and national civil societies, that incorporates also the contributions of social scientists and particularly the knowledge of traditional populations;

g) to their credit, *many preservationists now realize* that conservation cannot ignore the needs of human beings, while development that destroys the environment is no longer acceptable.

Changes at the Global Level

The expulsion of traditional inhabitants from protected areas began to be challenged in the 1960's and 1970's, partly because large international environmental organizations, such as IUCN (International Union for Conservation of Nature), started changing their policies and perceptions with respect to the contribution of traditional populations to conservation.

At the third World Congress of National Parks, in Bali (1962), the IUCN showed great concern for the lack of societal support for protected areas and recognized the necessity to integrate them with regional development. The Congress also re-affirmed the rights of traditional communities to socio-cultural self-determination and the necessity to integrate them in the establishment of protected areas.

The IUCN conference on *Conservation and Development: Putting into Practice the World Strategy for Conservation*, held in Ottawa (Canada) (IUCN, 1986) set out more clearly the relations between traditional populations and conservation areas. Workshop # 3, which addressed traditional people and sustainable development, decided to recommend that governments, NGOs and other institutions:

- a) recognize the particular relationship that these people maintain with nature;
- b) ensure traditional (indigenous, tribal and traditional) peoples' participation in the control of use of shared resources;
- c) ensure that national governments devote the necessary attention to the needs and aspirations of the traditional people whose territories will be affected by the creation of national parks and reserves;
- d) ensure consultation with and agreement of these people in the establishment and maintenance of the parks.

This conference forcefully and specifically recommended that traditional people should not be required to alter their way of life if they decide to remain within the park, and not be resettled outside

of it without their consent (IUCN, 1986). This was the first time that the situation of traditional people that live in parks was explicitly addressed.

The *27th Working Session of the Commission on National Parks and Protected Areas of the IUCN*, in Bariloche (IUCN, 1986b), emphasized the role of protected areas in sustainable development, but recognized that the preservation of these areas depends on solving the question of human population.

A clear change of course occurred in the *Fourth World Congress on National Parks and Protected Areas* in Caracas in February 1992, which had a very significant title: *People and Parks*. This concern was reinforced by data, published by the IUCN (Amend, 1992), showing that 86% of the parks in South America had permanent inhabitants. This was the central theme of the conference, and the most crowded workshop was the one on *People and Protected Areas*. An interesting phenomenon was that this workshop had representation from more countries, especially of the Third World, than the other workshops, which demonstrated a widespread concern for this theme. This meeting recommended a greater respect for traditional populations, a rejection of the strategy of resettlement to other areas, and always where possible, their continued existence within the park, once it is established.

This congress showed that, in fact, the biggest problem of parks is to convince the populations, especially the local ones, that their livelihoods would not suffer from the creation of protected areas. One potential solution to avoid the cultural disruption that always poses a threat to the integrity of an area, is the creation of rural development projects and transformation of the inhabited region into a multiple-use area. Shridath Ramphal, President of the IUCN, in his inaugural speech to the Congress at Caracas, stated:

The Congress recognized that human communities, especially those living in and around protected areas, often have important and long-standing relationships with these areas. Local and indigenous communities may depend on the resources of these areas for their livelihood and cultural survival. Increasingly, the resources which justify establishment of protected areas include cultural landscapes

and adapted natural systems created by long-established human activity. These relationships embrace cultural identity, spirituality and subsistence practices, which frequently contribute to the maintenance of biological diversity. Protected areas are thus to be seen as making important contributions to conserving cultural as well as biological diversity.

The relationships between people and land have too often been ignored and even destroyed by well-intentioned but insensitive resource conservation and management initiatives. The Congress called for community participation and equality in decision-making processes, together with mutual respect among cultures to be achieved urgently. Customary tenure systems, traditional knowledge and practices, and the role of men and women in communities, must be respected and built upon in designing and implementing conservation plans. (IUCN, 1993:7-8)

The World Bank itself has shown signs of changing its policies relating to traditional populations. Thus, a recent World Bank report stated 'The creation of protected areas should not involve the removal and resettlement of forest people, nor should it require severe restrictions on their rights to forest resources' (Bailey et alii, 1992:208).

Recently, many Third World countries have started to change their policies concerning the participation of traditional populations in the management of protected areas. One example is India, where a national survey carried out in the late 1980's revealed that 69 per cent of the surveyed protected areas had human populations (perhaps upwards of 3 million) living inside them, and 64 per cent had community rights, leases or concessions inside them (Suri, 1996). The Indian government, in 1988, for the first time, through the National Forest Policy has acknowledged the dependence of the rural poor on forest resources for survival, and has highlighted the virtues of their participation in development and conservation of forest lands. In 1990, the Indian government established the guidelines for Joint Forest Management. According to Raju (1996) Joint Forest Management represents a fundamental shift in forest regeneration methods and proposes participatory decision-making in forested areas. Village forest and wildlife protection committees,

consisting of local communities, Forest Department officials and NGOs, can be formed for the joint management of protected areas. Also, the management plan for any forested area should be finalized only after consulting the formed committees. It was also admitted that the present classification of forests into reserve forests, protected forests, village forests, sanctuaries and national parks is not adequate in view of the emerging framework of forest management (Krishnan, 1996).

Another relevant example is CAMPFIRE (Communal Areas Management Programme for Indigenous Resources), established in the 1980's in Zimbabwe, which enables rural communities to manage and benefit from wildlife and other natural resources in communal areas. CAMPFIRE, led by a coalition of non-governmental organizations – the Zimbabwe Trust, the University of Harare Centre for Applied Social Sciences (CASS), World Wildlife Fund for Nature (WWF), sensitive to local initiatives, provides carefully orchestrated support that emphasizes local management's abilities rather than donor aid (Adams & McShane, 1992). As Murphree, the Director of CASS points out, CAMPFIRE was able to integrate the different interests of local communities, government and NGOs at the local level (1994).

The CAMPFIRE plan is based on the principle that people living in and around protected areas, who pay the price for conservation (including damage to crops, injuries and loss of life due to attacks by wild animals) must also reap the benefits. It also seeks to restore localized custodianship, integrating ecological responsibility and communal interests. This organization has envisaged natural resources cooperatives with essentially the same rights as commercial ranches, all sharing the results of wild game management. In 1988, two district councils, Nyaminyami and Guruve in the Zambezi valley, were granted authority to manage their wild game. In Nyaminyami, the Wildlife Management Trust was granted responsibility for safari-hunting concessions, law enforcement and protection of wildlife. The funds raised from these concessions were distributed among the two thousand households. In Guruve, the experience was not as successful as in Nyaminyami, as the revenue from the safari-hunting operations did not go to the

villagers themselves but was kept by the district council (Adams, & McShane, 1992).

The success but also the difficulties faced by CAMPFIRE illustrate how difficult it is to break the old model of conservation and, according to Murphree, successful wildlife conservation ultimately depends on political changes that truly empower local people (Adams & McShane, 1992).

Changes in Brazil

The concern for 'traditional populations' who live in conservation areas is relatively recent in Brazil, and until a short time ago (and still today for classical preservationists) this was considered 'a police matter', since they were to be expelled from their traditional lands to make way for the creation of parks and reserves.

This 'pure' preservationist view, as opposed to the view of conservation areas integrated with society, reflects the constitution and history of Brazilian conservationism, whose ideas were dominant in private nature conservation institutions such as the *Sociedade dos Amigos das Árvores* (Society of the Friends of the Trees), created in 1931, and the *Sociedade para a Defesa da Flora e Fauna* ('Society for the Defense of Flora and Fauna') of the State of São Paulo, created in 1927.

Three kinds of environmental movements in Brazil have different positions in regards to the presence of traditional communities in conservation areas: the preservationism, the combative environmentalism and the ecologism of social movements

The Preservationists

The preservationists dominate the older and classical conservation groups such as the FBCN (Brazilian Foundation for the Conservation of Nature), created in 1958, and many other more recent ones, such as the *Fundação Biodiversitas*, *Funatura*, *Pronatura*, etc.; with the latter two more linked to international preservation organizations.

They still have a dominant influence in many institutions that traditionally have been responsible for creation and administration of parks, such as IBAMA and the Forest Institute of São Paulo. These groups are generally formed by professionals from the areas of natural science, for whom any human interference in nature is, in general, negative. Ideologically they were and are influenced by the American preservationist view, as was described in Chapter 1. Therefore they consider that wild nature is untouched and untouchable, and it is unthinkable that a conservation area (national park or ecological reserve) could protect cultural diversity along with biological diversity.

Viola (1986), analysing the origins of Brazilian environmentalism, stated:

Some of these naturalist activists and rich people with a philanthropic orientation met in 1958, with the Brazilian Foundation for the Conservation of Nature, in its headquarters in Rio de Janeiro. These organizations constitute part of the pre-history of Brazilian ecologism, as their objectives and way of acting were already strictly conservationist, in line with the societies for the protection of animals, which emerged in many countries in the 19th century. (1986:14)

These old and new preservationists very often have dedicated their lives to protecting endangered flora and fauna, working in difficult circumstances, and probably without their devotion many unique habitats and species would have disappeared. Protected areas that they assisted in creating have also had some positive effects on traditional populations – in those situations where the populations were not resettled elsewhere, the establishment of the protected area prevented their expulsion by outside logging and tourist industries. However, despite these accomplishments and goodwill, their approach to conservation has led to conflicts with local populations, and their contribution has become less and less relevant to the real solution of existing problems. In Brazil, however, many of these preservationists are still very influential in government conservation institutions, and they resist any attempt to change their imported model of protected areas. Very often, the

reasons they give for the lack of substantial results in the implementation of this model relate to the lack of appropriate funding and enforcement of legislation, rather than to the inadequacy of the nature of protected areas themselves.

The Combative Environmentalism

Beginning in the 1970's, an ecologism of denunciation emerged in Brazil, represented by AGAPAN (*Gaúcha* Association for the Protection of the Natural Environment), Ecological Resistance, Catarinian Association for the Preservation of Nature, and APPN (São Paulo Association for the Protection of Nature).

The military regime at that time, which repressed social protest movements, was more tolerant of non-leftist movements, such as environmental NGOs.

The 70's was a time of rapid growth of the Brazilian economy, particularly through mega-projects that resulted in serious impacts on nature. Most of these, such as chemical and petrochemical plants, were established or expanded in coastal zones, the most populous areas of the country, such as in Cubatão, Rio de Janeiro and Aratu (BA), and brought levels of degradation never before seen in Brazil. At the same time, there was a considerable advance of agricultural industries, which meant a spectacular increase in biocides and insecticides, as well as a gigantic land concentration and income in rural areas, with the expulsion of millions of rural workers to the cities, which led to the growth of favelas and of misery, creating unbearable living conditions (Ximenes Galvão, 1983).

This extensive environmental degradation and social pauperization were, however, masked by the ideology of the so-called 'economic miracle', an expression included in the Stockholm Conference in 1972, where the objective of the Brazilian government was to attract industries of the industrialized countries, even at the cost of environmental degradation.

In this context emerged the *Brazilian Ecological Manifesto: The End of the Future* (1976), headed by ecologist José Lutzemberg, and representing ten ecological organizations, some of which were

previously cited. Written at the height of the repressive military regime the document was, without doubt, courageous.

The tone of the *Manifesto*, and the associated ideology, appears similar to that of the European and North American ecological movements.

The introduction of the document reveals its alarmist character:

To continue with the current environmental blindness and irresponsible exploitation of our once bountiful natural environment will mean inevitable calamities of a magnitude never before seen. Only a rapid transition to fundamentally new attitudes, attitudes of respect and ecological integration will be able to avoid the disaster. We find ourselves at a watershed. (1976:3)

What follows severely criticizes the 'religion' of progress, using a language typical of ecosystem theory:

Almost the totality of what we conventionally call 'progress' is nothing but an increase of the theft of natural resources... While the progress of life through the endless ages of evolution meant a constant growth of ecospheric capital, with the progressive perfection of homeostasis, the 'progress' of modern man is nothing but an orgy of accelerated consumption of natural capital, with parallel growth in the vulnerability of the system. (1976:4)

Following the same anti-technological analysis as Commoner and Jouvenel, the document attacks the Brazilian technobureaucracy which is responsible for the establishment of megaprojects, especially those established in Amazonia, which were the favourites of the military:

...the discussion of the possibility of a dam that would inundate hundreds of thousands of square kilometers in the Amazon Basin, without the slightest concern about the destiny of the immensity of rainforest that would disappear beneath the water... Technocracy endorses an all-inclusive optimism that presupposes an omnipotent technology. (1976:8)

The *Brazilian Ecological Manifesto* also criticized the society of waste and consumerism, and proposed a new ethic, based on the characteristics of the natural world:

The educational framework, in all of its facets, will need to strive for a philosophical revolution, that would consist of the enthronement of the fundamental ethical principle enunciated by Albert Schweitzer: 'the principle of reverence for life, in all of its forms and in all of its manifestations ... A new ethic would be inclusive, it would embrace the River of Life in its plenitude. The philosophy would be a holistic view of the universe'. (1976:19)

The model for human-nature relations provided in the *Manifesto* is that of traditional societies – the indigenous people and small-scale subsistence farmers – who provide an alternative to the model of predatory use of natural resources. The *Manifesto*, foreseeing a positive role for these cultures in the maintenance of biodiversity, declares:

The Indians, many millenia before the arrival of the white man, had already achieved a state of stable equilibrium in their environment. In the intact forest, the land clearings of the Indians, small and far from each other, constituted an ecological benefit, since they contributed diversity to the system. In these clearings grew pioneering organisms, the plants and the animals of communities in recovery, that are the healing tissues of the ecosystem. (1976:6)

This is a severe critique of mass culture and of the loss of cultural diversity in Brazil, the latter valued by analogy to biological diversity:

If large-scale standardization demands standardization of products, the resulting model of consumption leads to cultural uniformity. They upset traditions and wipe out local colour ...Thus, just as the homeostasis of natural systems is a function of complexity, with the more balanced and stable ecosystems having the most species, the homeostasis and survival of the subsystem Humanity is proportional to cultural diversity, as paradoxical as this may appear at first glance. (1976:12)

In regards to the protection of nature, the document states that Brazil contains a great variety of natural ecosystems, and that immensity of territory still permits the conservation of many of these. It defends unconditionally the creation of protected natural areas, of sufficient size and distribution to enable the survival of all the species living there, and to maintain the essential gene pool. It also analyzes the neglect of the few existing Brazilian national parks.

Finally, the *Brazilian Ecological Manifesto* proposes another development model and an alternative society. The proposed new society would not need to subscribe to the ideologies of progress, whether of the left or of right, but would approximate the diversity of the natural world.

Decentralization and pluralist democracy are closer to ecological mechanisms and have more evolutionary potential. They have more feedback to new parameters, and adaptation can be more precise and discriminating. (1976:20)

A homeostatic society of equilibrium is envisioned, which closely resembles nature. In this respect, the *Manifesto* was clearly influenced by the 1972 report of the Club of Rome. The homeostasis would regulate both demographic and economic growth:

The dogma of growth would be substituted for another doctrine: The doctrine of homeostasis. We can call it what we want – equilibrium, stability or sustainability – as long as the goal is to end exponential growth through disciplined behaviour, in integration with the laws of life. (1976:8)

The environmentalism of the Ecological Manifesto played an important role in the ecological struggles of the 70's and 80's, denouncing environmental degradation, construction of nuclear power plants, and militarism.

The Ecologism of Social Movements

In the mid-80's another type of environmentalism, more linked to social questions, began to emerge. This new movement emerged along with the beginnings of redemocratization, after decades of military dictatorship, and constitutes a critique of the model of economic development characterized by the high concentration of wealth and the destruction of nature that had its apogee during that period.

The widespread destruction of the Amazon and Atlantic forests led to the beginning of what was previously termed 'social ecologism' (peasant environmentalism, according to Viola, 1991), which struggles to maintain access to territories with natural resources, and placed a high value on extractivism and systems of production based on traditional technologies. This social ecologism is represented by groups such as the National Council of Rubber-tappers, the Movement of People Affected by Dams, the Movement of Artisanal Fishermen, and the Indigenous Movement. A high point of this new movement was the first 'Meeting of the Indigenous People of Xingu', in Altamira, February, 1989 (Waldman, 1992).

For these movements, which have both social and environmentalist connotations, there is a necessity to rethink the role of national parks and reserves, including that of their traditional inhabitants. The final declaration of this Altamira meeting counselled: 'Do not destroy the forests, the rivers, that are our brothers, since these territories are sacred sites of our people, Home of the Creator, that cannot be violated' (from Waldman, 1992:90).

Assaults on Traditional Ways of Life and Threats of Ecological and Cultural Disruption

These traditional systems of access to spaces and resources of common use began to be threatened by the relatively recent process of incorporation of these territories by urban-industrial expansion, and by the advance of the agricultural frontier.

In the case of coastal regions, the greatest pressures arose from urban-industrial expansion in the 1950's and 1960's, and became more accentuated in the 1970's, with the establishment of large industrial petrochemical plants and smelters along the Southeast-South coast (one example is the expansion of such plants in the Baixada Santista, and Dos Patos Lagoon (a system of lagoons in the south of the country). According to the authoritarianism and policies of modernization during the military regime (Galvão, 1983), new plants were established along the coast in the Northeast (for example Camaçari, in Bahia; Suape, in Pernambuco; and a chlorochemical plant in Alagoas), and also in the North region (for example Alcoa, in Maranhão, and Alumar, in Pará).

Furthermore, at the end of the 60's, the government decided to establish a modern fishing industry, whereas prior to that time many people depended on artisanal fishing and jobs in the coastal region as sources of income (Diegues, 1983; Mello, 1985; Loureiro, 1985). The new fishing companies exported valuable products such as shrimp, lobster and piramutaba, with the support of large investments encouraged by fiscal incentives requiring rapid financial returns. Initially the natural resources of the Southeast-South regions, where most of the businesses thus created were concentrated, were devastated, and some of them were then forced to move to the rich fishing areas of the North region, particularly at the mouth of the Amazon River.

For these companies, it was important that the sea be free of the marks and boundaries of traditional management systems. Thus, a conflict began between the large industrial fishing vessels and the boats of artisanal fishermen with their traditional systems of management, provoking innumerable clashes, loss of fishing equipment and deaths. In many places, motorized fishing boats were introduced, closely linked to the market created by the fishing companies and by the growing demand for fish products in the expanding urban centres. Frequently, small fleets of motorized boats migrated from sites where the catch of luxury products, such as shrimp, had declined considerably and were no longer productive. This occurred with the motorized vessels of Santa

Catarina, in their incursions into the coastlines of São Paulo, Paraná and Rio Grande de Sul, provoking many social conflicts.

Along the South-western coast of Brazil and in the Atlantic Forest region, along with predatory industrial fishing, there came an intense expansion of tourism and real estate speculation, that quickly resulted in the expropriation of many territories held and used in common in the context of *Caiçara* culture and other similar cultures (*Jangadeiros, Açorianos*, etc.). In this process, small coastal producers were removed from their traditional territories and expelled from their beaches to make room for tourist facilities and hotels. A significant example was the conflict generated by the purchase of the Praia (beach) de Trindade, on the south coast of Rio de Janeiro, by a Canadian company, Brascan, to establish a tourist resort. In this case, there was resistance from the *Trindadeiros*, who found allies in other social forces, including the nascent ecologist movement of the south of the country. Today, this *Caiçara* community is squeezed into a small part of what had been its traditional territory, surrounded by land owned by real estate developers and tourists.

The traditional *Caiçara* populations that originated in the area depend totally on the use of the natural resources of the region, through itinerant agriculture, subsistence hunting, extractivism and artisanal fishing, activities prohibited or severely limited today by the Forest Police.

The *Caiçara* are a product of the ethnic mixing of Indian, Portuguese and, to a lesser extent, African peoples, who for a long period remained relatively isolated in the Atlantic Forest and along the coast of São Paulo. The influence of indigenous culture is reflected in their work implements and their vocabulary, which is different from other inhabitants of the State. Relative geographic isolation and a traditional way of life, characterized by limited accumulation of capital and dependency on the market economy, and by importance of kinship relations and of manual technologies with a small impact on nature, have ensured that their areas of the Atlantic Forest have been kept relatively well preserved. This is in contrast to what took place in much of the rest of the State, where

monocultures of sugar-cane and coffee were grown, and also where industrialization occurred. As a result, the great majority of the conservation areas of the State of São Paulo are concentrated today in these traditional *Caiçara* territories.

The *Caiçara* communities are, therefore, one clear example of a traditional population that suffered from the impact of the establishment of state ownership of their traditional territories through the creation of protected (national parks, ecological reserves, etc.). This fact became serious, especially in the 1960's, when the government began to create ecologically defined protected zones in the remaining areas of the Atlantic Forest, which had been severely devastated by real estate, logging, mining and other interests. As in the imported North American model, these protected natural areas could not, by legislation, have inhabitants, and the way of life of the traditional inhabitants who lived there was very seriously affected.

However, in many cases, the creation of these areas protected traditional inhabitants from uncontrolled real estate speculation and expropriation of their land, a phenomenon that was already occurring before the establishment of these conservation areas. However, when protected areas were established, access to forest resources for local traditional populations was extinguished or severely curtailed. Since it was impossible to continue their traditional way of life, a considerable number of these traditional people were forced to migrate, enlarging the *favelas* in many coastal cities (*Bairro do Carijo*, in Cananéia-SP; *Estufa*, in Ubatuba-SP; *Bairro dos Sapos*, in Paraty-RJ) (Diegues, 1983; 1993). These populations were expelled from their homeland, despite their extensive knowledge of ecosystems and systems of management of flora and fauna, which contributed to conservation. Their systems of communal appropriation of natural resources were in most cases ignored, and in the process of expropriation, their status as 'squatters' (without title to the land) left them at a disadvantage in relation to the large land-owners.

In 1989, NUPAUB (Research Centre on Human Population and Wetlands of the University of São Paulo) undertook a study in the region of Guaraqueçaba, in the Atlantic Forest coastal area of Paraná

State, where there is an important section of forest traditionally inhabited by many communities of *Caiçara* artisanal fishermen (Cunha, 1989). This region was cut up into several environmental protection areas, such as the Superagui National Park, which substantially limited the extractive activities of the inhabitants.

The authoritarian and intransigent behaviour of conservation institutions in relation to the *Caiçaras* created conflicts of several kinds, interfering with their subsistence activities and altering their traditional relationships with nature, both materially and in the realm of imagination and symbols.

The social and environmental costs of this stand have been considerable: by contributing to the increase in the level of misery that is destroying this area, as well as by depriving the populations of their material goods and symbols, environmental authorities strip them of their identity and culture, which consequently leads to the loss of their traditional knowledge. (Cunha, 1993:91)

In 1995, NUPAUB published an extensive study of four states of the Southeast region of Brazil which contain areas covered by the Atlantic Forest – Paraná, São Paulo, Rio de Janeiro and Espírito Santo – focusing on the conflicts between inhabitants of protected areas and environmental institutions of the government (Diegues & Viana, 1995). This research, carried out over two years, and involving questionnaires completed by the administrators of those strictly protected areas (parks, biological reserves and ecological stations) demonstrated that 40% of the total protected areas contained traditional and non-traditional populations such as cottage-owners and farmers. In the State of Rio de Janeiro, 73% of the protected areas contained inhabitants. In the state of São Paulo alone, around 25,000 people live within the boundaries of parks and reserves.

The study also established that in 88% of the protected areas under federal jurisdiction (IBAMA), people have entered after their creation. Along with this, all of the inhabited protected areas have had conflicts of several kinds between the residents and the administrators, caused by construction of houses and the use of natural resources, which is illegal according to current legislation.

In the Northeast of Brazil, with government incentives for production of alcohol, monoculture farming of sugar cane expanded rapidly in coastal areas, often extending close to beaches, lagoons and mangroves (Cunha, 1992). Sugar cane processing companies established plants that bordered on communal lands, purchasing part of these lands and thereby threatening the way of life of these traditional populations. This occurred for example in the *Várzea* (river floodplain) da Marituba, at the mouth of the Rio São Francisco, the last large wetland area that had not yet been affected by government projects at the beginning of the 80's.

This area, which contains great biological diversity, is threatened by a rice irrigation project, belonging to the State Company CODEVASF (Company for the Development of the São Francisco River) that puts at risk the very existence of the *várzea* and its inhabitants. Using the method of ethnosciences, Marques (1991) conducted an exhaustive examination of the *vargeiros* (inhabitants of the *várzea*) knowledge of animal and vegetable species, as well as of their traditional techniques of management of natural resources. These studies showed the richness of myths, legends and representations that local communities possess regarding the natural world. The irrigation project also served, and perhaps most importantly, to help mobilize the *vargeiros* in defense of the *várzea* and of their way of life. The *vargeiros* were supported in this endeavour by several environmental groups from Alagoas State, and participated in public hearings for the CODEVASF project in Maceió. (Silva, 1990; Marques, 1991). This mobilization of local communities, NGOs and Universities resulted in a partial reassessment of the irrigation project.

A similar approach was taken by a research group of NUPAUB in the estuary of Rio Mamanguape, in Paraíba State, which was turned into an Environmental Protected Area (Cunha, 1992). The Manatee Conservation Project was established in this estuarine area. At the beginning, this project did not take into account the material and symbolic appropriation of these mammals by the local populations. For the local fishermen, this mammal is a mythical being, which provides them with many types of medicine. Indigenous populations living in this area, again, were not

consulted when the region was transformed into a conservation area. The study concluded that the best solution for these fishing communities was the transformation of the region into an 'extractivist reserve', thereby guaranteeing the maintenance of the local way of life which was threatened by the expansion of the large sugar cane processing plants.

In the Amazon, a few years later, the process of expropriation described above was repeated with extensive use of physical violence. The threat to forms of communal appropriation came from the expansion of large rural land-holdings that were used for cattle ranching, and for the creation of protected areas. The extractivist populations were the ones who suffered most from this process. Between 1970 and 1975 the increase in land prices in areas in which the government created transportation infrastructure forced about 10,000 families of rubber-tappers to migrate to the *favelas* of nearby cities or to Bolivia (Mendes, 1989). The forest devastation was immense, destroying rubber and nut trees and other species on which extractivists depended. Old nut tree forests (*castanhais*), whose owners had been absentee landlords, were sold to new investors from the south who expelled the extractivists, frequently by violent means. This occurred, for example, in *Polígono dos Castanhais*, in the southeast of Pará (Castro, 1993).

An example of the conflictive situation between local populations and protected areas administration occurred between the *quilombo* communities (refuge for escaped African slaves) of the Trombetas River and IBAMA (Brazilian Institute of the Environment). In 1979, the IBDF (which became IBAMA) created the Ecological Reserve of Trombetas, in an area long used by the inhabitants of Trombetas in their extractivist activities of fishing and nut collecting. As Castro and Acevedo argue:

To the economic losses were added others which were more profound in the consciousness of the people. The year 1978 (when the protected area was created) was a turning point for the residents of Lake Jacaré, who were threatened with expulsion by the IBDF, if they did not move out of the area of the reserve. The same violence occurred in the process involving 90 families who were given insignificant compensation by 'Mineração' Rio Norte-MRN, and who

were pressured to relocate from the area now occupied by MRN. The practices of IBDF infuriated the communities, leading them to reformulate their political strategies. It was clear that the Federal Police were working in support of the MRN, whose headquarters is located in the mining city of Porto Trombetas. Their duty in the area is primarily to supervise the reserve, preserving it against the kinds of predatory actions that appear in the reports of IBDF and of the companies, actions they attribute to the old occupants. (1993:162-3)

IBAMA, assisted by the Federal Police, took hunting and fishing equipment from the residents, in a manner similar to the repression by mining companies that had become established in the area, such as *Alcoa*, *Mineração Rio Norte* and *Eletronorte*, who were considered by the Afro-Brazilians from Trombetas as 'foreign' in opposition to the local populations.

The establishment of the ecological reserve on the left side of the Trombetas River, and the later creation, in 1989, of the National Forest on the right side of the same river, made the way of life of these people unviable. Those who insisted on staying on their land were not allowed to hunt, fish or plant crops.

For these Afro-Brazilians, the restrictions imposed by IBAMA were considered as a new slavery, destroying their way of life, and threatening their cultural connections with the falls and the waters, which they consider sacred.

Some old residents were expelled three times from their homes, by three different entities – *Mineração Santa Patrícia*, IBAMA and *Alcoa*. One of them describes his journey as follows:

We will always fight, because that side is a biological area, and they are taking us from the land over there, taking everything away from Lago Jacaré, that's where it happened by force, the police arrived, loaded up our possessions, whether we wanted it or not. If not, they would just burn our house. That's how it was. (1993:206)

For most of the old inhabitants, this 'new slavery' meant misery and an unacceptable life in *favelas* and *beiradões* (shacks built along the river bank) to where they moved after being displaced by the large projects and protected areas.

This case shows an alliance of the private forces (mining companies) and public (IBAMA) in physically and culturally destroying a population that until now had lived in harmony with the forests and rivers of Amazonia. In the view of these institutions, the action is legitimated by the appeal to 'economic and ecological modernity', according to which the expulsion of the Afro-Brazilians of Trombetas is considered fundamental to the establishment of 'ecological modernity', characterized by the need to separate humans and nature through the constitution of protected natural areas. This will ensure the 'economic modernity' needed to obtain high profits for the mining companies, according to the plans of the Military Regime for the occupation of the 'vacant spaces' of Amazonia (Acevedo and Castro, 1993).

Equally affected were the communal systems of appropriation of fishing resources of some of the *vargeiros* in the large lakes of the *várzea* in the Amazon, such as Lago Grande of Monte Alegre, in Pará. The community members suffered a double pressure: first their lands close to the lakes were taken by large-scale ranchers and second, the lakes were invaded by commercial fishing vessels using large nets, that did not respect their myths, legends, traditions and the cycles of reproduction of the fish (Hartman, 1990). In some cases these lakes were included in the protected natural areas, the legislation for which also limited traditional activities.

Types of Traditional Peoples' Movements in Protected Areas

A significant number of traditional communities, with distinctive ways of life, with their corresponding systems of communal appropriation of resources, were irreversibly disrupted both by invasions of real estate speculators and by expulsion of community members from protected natural areas. However, more recently, especially after the return to democracy in 1984, local populations have opposed expulsion from their ancestral territories. This opposition derives from the reorganization of Brazilian civil society. This process of reorganization involves the emergence of a large

number of social movements and the resurgence of active rural unions, as well as the emergence of non-governmental organizations and a set of alliances that include parts of the national and international environmental movement.

Social resistance to the expropriation of territories of communal use is manifested in a wide range of forms, as described below.

*Autonomous Local Movements Not Linked
to Larger Social Movements*

Brazil has two types of social movement of traditional communities living in protected areas. In the *first category* there are local movements without a direct link to broad national movements. They can be considered as local reactions, of local people, against the administration of conservation areas that curtails the traditional activities of forest harvesting, hunting and agricultural practices. These movements may also include the local spontaneous reaction of people against invasion of their territory by outsiders – a process that may result in the unofficial declaration of an ‘exclusive resource use unit’ by the environmental authorities. Another type of local movement is the result of the creation of local institutions that oppose state administration of protected areas. These local institutions or organizations have succeeded in pressuring park administrations into the opening of negotiating channels concerned with the alternative use of natural resources. These local institutions, however, are incipient and weak and are still subordinate to state administration (local movements under state control). In this first category we may also include local movements that have the institutional support of NGOs.

The second category includes movements that have succeeded in building up a solid organization at local, regional and national level, with the support of NGOs, research institutions and progressive political parties (eg. National Council of Rubber-Tappers and their extractive reserves).

a) Spontaneous Local Movements

Spontaneous local movements are local instances of resistance and organization of small-scale local extractivist producers, in defense of their traditional territory. They are frequently local movements whose objective is to achieve control over access to natural resources, and which in some instances later came to be recognized by IBAMA as legitimate (or tolerable) forms of action. One example is the case of the fishermen of Rio Cuiabá, near Santo Antonio do Leverger, who traditionally fished with canoes and hand-lines in deep pools in the river that were rich in fish. They would *sevar* the fishing sites, that is, throw corn or other types of food in the water regularly to attract fish. Recently, amateur fishermen from the South of the country have begun to appear with motorboats and have preyed on the fishing resources, without using the *sevar* method. In reaction, local fishermen formed river patrols and only permitted the 'Southerners' to fish if they used the traditional way of the region. This method, however, demands great ability, because the local fishermen do not use weights to anchor their boats. Rather, they use one hand to paddle and the other to hold the line, which turned out to be impossible for the southern sport fishermen. IBAMA later recognized this location as an area for the exclusive use of the local fishermen, giving it the character of natural resource conservation.

Another example of these autonomous movements is that of 'closing of the lakes' in the Amazon region, with the establishment of lake reserves by local Amazonian communities, who themselves have assumed control of the territories that they have traditionally occupied but which now were threatened by commercial fishers coming from the cities. For example many *vargeiros* and riverine communities of Amazonia have had access to their local fishing sites reduced by the fences of large landowners. Along with this, they have begun to suffer from the impact of overfishing by commercial fishermen from the cities, who use predatory fishing equipment. The *vargeiros* from many rivers of Amazonia spontaneously closed lakes for the sake of their survival and to protect the natural resources.

The struggle of small producers for the preservation of their lakes has led to the closing of fishing areas for the exclusive use of guardian communities. The closing of the lakes has brought together a movement to delineate their territories, which in practice amounts to small community ownership. The affirmation of communal ownership is, in this context, an affirmation of communal responsibilities and rights shared by consent of the community members, who depend for their subsistence on the use of a specific territory, without, however, having any legal basis for this affirmation. (Ayres, 1993:3)

As happened in the previous case, IBAMA also showed some support for these movements through the establishment of fishing reserves in Amazonia, as a form of conservation of natural resources for the benefit of local communities.

b) Local Movements under State Control

Some local movements in protected areas are not totally autonomous but are under control of park administrations.

One example of this type of social movement of traditional populations in protected natural areas, occurs in the state of São Paulo. In this State, about 37.5% of the existing parks are occupied by traditional and non-traditional inhabitants. These populations are heterogeneous in regards to their geographic origin, historical ties to the region, nature or existence of land ownership, and use of natural resources. Some who moved into the park at or after the time of its creation, do not have the traditional knowledge and management systems of the local communities (*Caiçaras*). And there are traditional populations that have lived for many generations in the area which became a park, and who maintain important historical links with the land, depending for their survival on the use of renewable natural resources, about which they have a vast knowledge (Vianna et alii, 1990).

The traditional populations that live in parks were ignored by the state authorities for decades. This was the case in the State Park of Ilha do Cardoso, on the south coast of São Paulo, created in 1962, where hundreds of families lived, many of which left their

birthplace because of persecution by the park wardens. After the creation of the park when hundreds of families were still in the area, a sophisticated and detailed management plan was developed for the flora and fauna and support structures for tourism and research. This plan, developed by the Forest Institute with the assistance of two 'specialists' from the Food and Agriculture Organization (FAO), did not even mention the existence of the inhabitants, one of the key elements of any management plan (Negreiros et alii, 1974). This plan, an example of top-down planning without participation of the inhabitants, was fortunately shelved.

The Environmental Secretariat of São Paulo, responsible for park administration, is characterized by ambiguity. On the one hand, the Forestry Institute, which belongs to the Secretariat, and which is responsible for the establishment and administration of parks and reserves, inherited the problem of the creation of conservation areas in the State without consideration for the presence of traditional populations. In the creation of some of these protected areas, there has been strong pressure from environmental organizations of a more preservationist character, who consider themselves 'owners' of these areas, cooperating closely with the Government in monitoring them. On the other hand, within this Secretariat itself are technical staff more sensitive to the problems of these traditional populations, and who, in their reports and projects, try to reflect the need to integrate them into the parks and reserves, without their expulsion or relocation. Currently, there is also some mobilization of the populations that live in the protected areas and they have greater visibility than ever before.

The most characteristic situation is that of the populations in the Ecological Station of Juréia-Itatins, a restrictive conservation area which, by law, does not permit human presence. Created in 1986 in the Atlantic Forest, it has an area of 80,000 ha, where today 336 families live. According to the Registry of Occupants of the Ecological Station (SMA/SP, 1989), 117 families maintain historical ties with the region; 150 families are made up of small-scale farmers who originated in other regions and who established

themselves in the area before 1986, and around 99 are labourers in the service and tourist industry that arrived in the region after the creation of the protected area.

The effects of the creation of this Station brought some important benefits to the population, such as protection from real estate speculation. However, the lack of a clear definition of the role of the Environmental Secretariat, which is responsible for the area, prevented it from playing a well-defined, strong and consistent role in supporting economic activities and other alternatives of subsistence for the *Caiçara* population, and has led to an exodus of part of this population (Oliveira, 1992). The lack of maintenance of the scarce social infrastructure of the area (roads, schools, health centres) has also caused a migration to urban regions, where the *Caiçara* become underemployed and live in *favelas*. Furthermore, the growing misery forces part of this population to engage in previously unknown predation of natural resources. Certain preservationist groups point to these practices as negative cultural changes without, however, pointing to the real causes of what occurs (Diegues, 1983). Indeed, some management practices themselves, such as the recruitment of the young as park wardens, have contributed to social and cultural disruption. As one *Caiçara* described his experiences:

So, here we have fear of our own colleagues, we live in fear of any person who works here. One man had a son who started working for SEMA (the Environmental Secretariat) and he expelled his son from his house because he knew that if tomorrow he needed to hunt, and went into the forest, his son would report him. SEMA is making a situation where we fight among ourselves, because when we fight, they will take advantage of the situation, and put an end to us. (Interview, cited in Oliveira, 1992:33)

c) Local Movements with Incipient Alliances with NGOs

Some local movements in isolated regions such as Amazonia, are supported by NGOs and research institutes, although they are not

linked to any major social movement at the national level. Some examples of these are presented below.

– Movement of the Riverine Population (Vargeiros)
of Mamirauá, Amazonas

One example of recent incorporation of traditional populations in restrictive conservation areas is the project of the Mamirauá Ecological Station, in the State of Amazonas, administered by the Mamirauá Civil Society and supported by several international environmental non-governmental organizations, among them the World Wildlife Fund (WWF).

The EEM (Mamirauá Ecological Station) covers 1,124,000 ha, having been created to protect a large part of the floodplain between the Japurá and Solimões rivers. In this huge area live 4,500 *vargeiros*, spread over 50 small communities, with an average of 14 households in each. These communities live from fishing, hunting and gathering forest products. Along with these traditional activities, however, there is logging for sale to the sawmills in the cities.

Contrary to what is required by legislation (expulsion of the population of the area), the project administrators decided to allow the *vargeiros* to remain in this territory where they have always lived. During the floods, water covers millions of hectares, making law enforcement, carried out exclusively by government officials, an impossible task. The administrators stated:

It is with the objective of establishing a basis for management, as well as for protection of the biodiversity of the 'várzea', that we are developing the project of establishment of the Mamirauá Ecological Station with extensive participation of the communities that live in the reserve and its area of direct influence. There are many disagreements on the part of more radical conservationists, about whether human populations should be allowed to remain on a reserve of this type. We believe that there is no possibility of a long term policy for a reserve in the várzea without people, who have considerable importance for the regional economy. Along with

this, to just leave the 'vargeiros' there would require, in this particular case, a significant increase in monitoring that could not be accomplished by the responsible federal authorities. The preservation of biodiversity, if it does not include the promotion and preservation of the dignity of human life, becomes ecological sectarianism, fated to accusations of neglecting the human species and adopting an overly strict conception of the nature to be conserved. (Ayres, 1993:4)

The administrative team, belonging to a local non-governmental organization, believed that only with community participation could the biodiversity and culture of the region be protected. This type of management, however, is different from the establishment and imposition of 'management plans' by scientists and bureaucrats. It requires a longer time for development, since it depends on continuous consultation and a constant dialogue with local populations, inclusion of social scientists in research teams, and more flexibility in planning. It places more value on the process of decision-making than on the establishment of rigid conservation objectives. The experience of this project has demonstrated, however, that once a decision is taken by the local population, it has a much greater chance of being followed. This is demonstrated, for example, in the consensus that was reached by the local population in regards to the conservation and sustainable use of lakes, which had extreme biological and socio-economic importance.

In these discussions, the communities decided to define six categories of lakes, including totally preserved areas, such as lakes for reproduction of fish (untouchable, with the shoreline included in the area of total preservation); 'subsistence lakes' (for exclusive use of the community for subsistence fishing); 'market-oriented lakes' (for exclusive use of the community, with the fish to be sold); and 'lakes for use of the nearby urban centres' (where fishing is permitted to satisfy the needs of municipalities).

The communities, in an assembly, also decided on the types of sanctions to be applied to those community members who disobeyed the decisions.

The administrators of EEM concluded:

With the definition of the limited areas for professional fishing, it is hoped to create some kind of 'social responsibility' between the fishermen, of the urban centres and local fishermen that leads the community members to defend, almost in unison, the preservation of lakes and non-predatory fishing... The consensus reached means that there is a good chance that the decisions taken will be carried out, thereby reducing the requirement for additional effort in implementing these decisions, and was judged by the Mamirauá Project Team as being very satisfactory from the biological, geographic and conservationist point of view. (Ayres, 1993:10)

Another example of cooperation between local communities, NGOs and government occurs in the National Park of Jaú in the State of Amazonas, the largest park in Brazil, which covers more than 2,000,000 ha, and contains around 197 families or 1,019 inhabitants, mostly extractivists and fishermen. In 1993, a non-governmental organization, the *Fundação Vitória Amazônica* signed a co-management agreement with IBAMA with the goal of managing this protected area with the participation of the local population. This pioneering experience in co-management, however, today presents a number of problems, since IBAMA is calling into question the need for the local population's stay in the National Park, proposing that their presence be only temporary (Fundação Vitória Amazônica, 1995).

*Local Movements with Connections to Larger
Social Movements: the Extractive Reserves*

The rubber-tappers extractive reserves are the most nationally and internationally known movements or local institutions of this category. They are one of the outcome of the rubber-tappers movement, which was created in the 1970's, during the height of conflict over land in Acre. This movement organized the first blockade (*empate*) in which the organized rubber-tappers confronted the machines that were cutting down the forest and threatening their way of life. In 1975, when the first rural union

was created in Basiléia in Acre, in one of the centres of high density of rubber trees, the reaction of the land owners was violent, and in many cases the houses of the rubber-tappers were burned and the leaders assassinated. The National Council of Rubber-tappers, established in 1985, had a strategy of pursuing the creation of 'extractive reserves'.

What are called extractive reserves are areas already occupied by people that live from the forest resources, regulated through the concession of use, transferred by the State to legally constituted associations, and economically exploited according to a specific management plan devoted to the social benefit of the populations through health and education projects. (IEA, Work Plan, 1989)

The extractive reserves are administered communally. Although not allocated in individual lots, families have the right to exploit the resources along their traditional extractivist tapping routes (the *colocações*) within the reserves. The land cannot be sold or transformed into non-forest uses, except for small areas that are allowed to be cleared for subsistence agriculture (not more than 5 ha per family, or approximately 1% to 2% of the area of the reserve).

The creation of these reserves is also based on the local organization of rubber-tappers and on programmes of education, health, cooperativism, marketing, and research into alternative systems of forest management.

The community members of extractivist reserves are aware, through their representative organizations, that a legal guarantee against aggression by large economic interests is not enough. It is fundamental that their extractivist production has economic viability, since they currently depend primarily on only a few products, such as rubber, nuts or babassu palm-trees. Rubber production is precarious because of the high cost of production and an external market unfavourable to primary products, and also because of the lower price of latex produced by monoculture plantations in the south of the country. The rubber-tappers solicit government subsidies to maintain prices for rubber on the internal market, while they look for alternative markets for products of Amazonia on the international market. To this end, a few cooperatives

are organized to eliminate the middle men (Schwartzman, 1988) and facilitate marketing.

Along with this, the National Council of Rubber-tappers created a *Centre of Training and Research* that, together with Brazilian universities, looked for ways of diversifying production, principally through research and the establishment of systems of management of natural forests, agroforestry, neo-extractivism and genetic conservation (Viana & Kageyama, in Diegues, 1992).

The extractive reserves gained international notoriety after the assassination of the rubber-tappers leader, Chico Mendes, in 1988. The first extractive reserve was officially created in 1988, and was called the Project of Extractivist Settlement, being part of the National Plan for Agrarian Reform of INCRA (order # 627/INCRA). In 1990, the extractive reserves became part of the protected areas system under the authority of IBAMA (Government Decree # 98897).

Based on a movement to support their land rights and their traditional way of life, the rubber-tappers began to count on the support of environmental groups and national and international non-governmental organizations. Also, in 1986 the Alliance of the People of the Forest, which also included the indigenous populations, was created. The joint effort of the indigenous leadership, the rubber-tappers, and those adversely affected by dams, supported by environmental organizations both within and outside Brazil, made possible, for example, the creation of the Encounter of the People of the Forest, in Altamira in 1989, to protest against the construction of hydro-electric dams on the Xingu river, where many indigenous reserves are located (CEDI, 1989). This joint effort was responsible for the suspension of plans to create large dams along the Xingu river.

The rubber-tappers movement, despite the organized reaction of large landowners through UDR (Democratic Rural Union), expanded not only into Acre, where already by 1980 around 60% of the municipalities had rubber-tapper organizations (Sparks, 1989), but also into other states such as Amapá, Rondônia, and Amazonas, including 10 extractivist settlements and 4 extractivist reserves covering 3,052,527 ha, and benefiting around 9,000 families (CIMA, 1991).

In 1992, IBAMA created CNPT (National Council of Traditional Populations), for the purpose of technical support for the reserves in Amazonia and expanding the idea to other regions of the country. Currently there are other extractivist reserves outside of this region, based on extractivism of *babassu*, a natural resource of the *cerrado* (savannah vegetation in semi-arid areas), and on fishing resources in Santa Catarina State.

The movement to establish extractivist reserves is an example of defending, reinforcing and recreating threatened ways of life. Furthermore, in Amazonia it is an alternative that can enable the sustainable use of natural resources, which respects both biological diversity and the traditional way of life of populations. As Silberling stated (1992), official and public recognition of these reserves was only made possible by the strong social movement that worked together with the National Council of Rubber-tappers, looking for national as well as international legitimacy, especially in their struggle against other forms of ownership, in particular the large land holdings. They managed, through social mobilization, to raise the levels of consciousness and education of their members, creating and recreating values of group solidarity fundamental to the continuity of the creative process. The frequent meetings of the leaders of the National Council with the rubber-tappers in many regions of Amazonia helped them to organize associations that will propose new reserves. Their ideological and symbolic role has been based on the creation of solidarities involving the support of other groups, social forces and policies within and outside the country, and on obtaining financial and technical resources, along with contributing decisively to the growth of the power of local associations of rubber-tappers, who feel linked to a larger movement that transcends Amazonia.

6

TRADITIONAL POPULATIONS, PROTECTED AREAS AND BIODIVERSITY

ONE OF the arguments of preservationists against the existence of traditional populations in 'restrictive' protected natural areas is the assumed incompatibility between the presence of these populations and the protection of biodiversity.

The establishment of protected areas for the protection of biodiversity is, however, a relatively recent objective because, as has already been seen, the earlier parks were created primarily for environmental education, research, and the recreation and enchantment of urbanites. The conservation of biodiversity, through protected areas, was promoted by international environmental organizations as a necessary response to the disappearance of species and ecosystems.

The question of biodiversity appears, though implicitly in the IUCN's *World Conservation Strategy* (1980). In this document, the basic objectives of conservation are: maintenance of essential ecological processes; preservation of genetic diversity; and the sustainable utilization of species and ecosystems.

The preservation of biological diversity is thought of mainly as the maintenance of genetic diversity, the preservation of which is necessary to ensure the supply of food, natural fibres and certain drugs, for scientific and industrial progress, and to halt the loss of species, which could impede the efficient functioning of biological processes (IUCN, 1984).

In IUCN's manual, *Managing Protected Areas in the Tropics* (1986), natural protected areas are judged as essential for conservation of the living resources of a nation, ensuring 'that representative samples of important regions are maintained in perpetuity, that physical and biological diversity are maintained, and that wild genetic material is conserved'.

The manual further states:

Protected areas can also contribute to environmental preservation of the surrounding areas, to the productive capacity of ecosystems, to spaces for research and environmental education, to integrated rural development and to tourism and recreation. (1986:1)

It is interesting to note that tourism and recreation, principal objectives in the first conservation areas, came to be secondary objectives in what the manual defines as 'modern concepts of protected areas'. In the most recent documents of the IUCN, such as *From Strategy to Action* (1988), there is the first linkage between the maintenance of biological diversity (defined as diversity of species and ecosystems) and cultural diversity. This document states that 'the destruction of wildlife and forests today has relatively little to do with the species in themselves, but is a result of the relations between people and nature, as well as the relations between people' (1988:33). It also states that until now

The conservationist movement was led by naturalists, including amateurs and trained biologists. Even though their contribution has been essential, they were unable to resolve basic problems of conservation because the limiting factors were not ecological, but principally political, economic and social. The ideas on which conservation should be based have to be found among politicians,

rural sociologists, agronomists and economists. In the final analysis, the users of local natural resources are those that make the decisions. (1988:33)

Further, it emphasizes the importance of the knowledge of 'traditional groups' in ensuring biological diversity.

Recent studies (Balée, 1988, 1992a; Gomez-Pompa, 1971, 1972; and others) state that the maintenance, and even the enhancement of biological diversity in tropical forests, is intimately related to the practice of shifting agriculture by traditional communities. The regenerative system of rainforests appears to be very well adapted to the activities of pre-industrial communities. The effect of the use of small areas of land for agriculture and their abandonment after the decline of agricultural production (shifting agriculture) is similar to that produced by the occasional destruction of the forests by natural causes. This type of activity can be seen in many tropical areas, where a mosaic pattern can be found, with a mixture of large areas of original rainforest and areas disturbed at different times.

Many studies of this pattern of succession already exist, and most agree that shifting agriculture has been a natural means of using the regenerative properties of the rainforest for the benefit of humans (Gomez-Pompa, 1972). The author goes further:

it has been recognized by tropical ecologists that a large part of the primary vegetation of many zones, seen as virgin, actually contain vestiges of human disturbances, and there is more and more difficulty in finding zones that are totally virgin. (1972:15)

Gomez-Pompa also states that many authors have discovered that many dominant species of the primary forests of Mexico and Central America are actually useful species that were protected by humans in the past, and whose current abundance is related to this fact. He also presents the hypothesis that the variability induced by humans in the tropical environment is a factor that has favoured the variability of species and probably the process of speciation (1971).

If these hypotheses are confirmed, and many recent studies have pointed in this direction (Oliveira, 1992), it will be necessary to rethink the concept of natural forests and the strategy of conservation through the conservation areas which prohibit the practice of itinerant agriculture, such as is still practiced today by indigenous and other traditional populations: rubber-tappers, *ri-beirinhos*, *Caiçaras*, etc. Along with this, it has become necessary to rescue the traditional management systems still practiced today by these people, since these techniques have contributed significantly to the maintenance of biological diversity. In this regard, Posey (1987) reports that the Kayapós transplant many species from primary forest to areas that have been traditionally cultivated, and to areas along trails and close to indigenous settlements, thus forming the so-called 'forested areas'. These managed niches were called 'natural islands of resources' by Posey, and are used extensively in day-to-day indigenous life, as well as during long hunting expeditions that last for many months (Posey, 1987). Balée (1992a; 1992b) showed that secondary forest usually achieves the diversity of primary forest over time, and that this can occur in less than 80 years. The diversity in number of tree species between the two forests is similar: 360 in secondary and 341 in primary forests.

The work cited above attests to the large stock of knowledge possessed by indigenous and traditional peoples in regards to the behaviour of tropical forest. It also points to the need to incorporate these populations in the management of these areas. Gomez-Pompa and Kaus (1992) go so far as to state,

to protect the species, the slash-and-burn techniques of this form of traditional agriculture have to be continued to provide the habitat it requires. Without all the human cultural practices that go with the habitat, the species will be lost forever. Yet, this dimension of conservation has been neglected in our own tradition of natural-resource management. (Gomez-Pompa & Kaus, 1992: 274)

Brown and Brown (1992) also relate the important role of traditional communities in the conservation of the biodiversity of Brazilian tropical forests to the general destruction of the forests, brought about by the actions of large ranchers. For them the actions

of these large groups result in a maximum of genetic erosion, especially when they are accompanied by 'conservationist measures'.

The authors also state that the model of low intensity use of natural resources by extractivist and indigenous populations frequently results in a minimum of genetic erosion and a maximum of conservation. Even though the population density is usually less than 01 inhabitant per km², 10 times that density can be achieved with careful planning, following the methods of small-scale shifting agriculture. Furthermore, according to Brown and Brown, this so-called 'under developed' use of land and its resources, generally described as 'primitive', uneconomic and predatory by official agencies of 'development', has been shown to be the most profitable use of the forest in the short and medium term. Even if it does not serve the (often short-sighted) interests of the more dense and powerful urban populations, it effectively maintains biodiversity and natural processes.

Brown and Brown (1992) conclude by stating that urban populations have much to learn from traditional people who live in greater harmony with nature.

The populations of urban areas need to develop new knowledge based on these (traditional) sources, which respect the diversity of nature. (1992:10)

Recent works of the World Bank (e.g. Cleaver, 1992) point in the direction of demystification of 'untouched forests' and the importance of traditional populations in the conservation of biodiversity. For example, in his recommendations to the Bank, Baily states:

The present diverse composition and distribution of plants and animals in rainforest is the result of the introduction of exotic species, the creation of new habitats, and the chronic manipulation by the forest people for thousands of years. Because of the long history of long-fallow shifting horticulturists, along with mobile foragers in central Africa, all present-day forest areas are really a patchwork of various successional stages of growth created by people, and no

areas are what most proposals and reports refer to as 'pristine', 'untouched', 'primary' or 'mature forests'. In short, these forests are human cultural artifacts. Present day biodiversity exists in central Africa not in spite of human habitation, but because of it. (cited in Cleaver, 1992:207)

And later, the same report considered that:

The relevance of this for planning the protection and management of bio-reserves is that if we are to exclude human beings from using large areas of forest, we will not be conserving the present biodiversity we hold so precious, but rather we will be altering it significantly and probably diminishing it over time. Thus, land should be considered as free and available for conservation only in relation to careful study, including exhaustive interviewing of local and adjacent indigenous farmers and foragers. (cited in Cleaver, 1992:208)

McNeely (1993) analyzed the problem in the same way:

Emerging from Western history and experience in temperate zones, the belief in an untouched and untouchable wilderness has been one of the foundations of the protected areas movement. But this view of nature was based on ignorance of the historical relationship between people and their habitat and of the role people play in maintaining biodiversity in forest and savannahs. In short, the biodiversity our world enjoys today is the result of complex historical interactions among physical, biological, and social forces over time. Virtually all of our planet's forests and grasslands have been affected by the cultural patterns of human use, and the resulting landscape is an ever-changing mosaic of managed and unmanaged patches of habitat, whose diversity is reflected in their size, shape, and arrangement. When society decides that any particular ecological snapshot is worthy of special protection, it obviously must consider the needs and desires of the people who helped to mold the landscape and who will need to adapt to its changes. (McNeely, 1992: 251-2).

Many works of ethnobiology have also pointed to the existence of many traditional management systems in places other than the tropical forests. Diegues (1983, 1988, 1992d) observed many

traditional forms of management of estuarine and coastal waters by artisanal fishermen, among them the *caiçara*, the *viveiro*, and the *cerco*. The *caiçara* is a kind of trap made of branches, arranged in a certain way on the bottom of estuaries and lagoons, such as Mundaú and Manguaba. It is similar to the *brush park* described by Bourgoignie (1972) in West Africa, where it is called *akadjá*. Many species of fish gather around these branches in many stages of their reproductive life and are captured by fishermen, who keep those which have reached the adult stage. The *caiçara* is a type of *artificial reef* today known globally as a modern technique and spread widely by the FAO. As Marques (1991) also notes, the *caiçaras* are resource areas artificially created and manipulated by artisanal fishermen. There are several models, depending on the distance from the shore. He further notes the fact that the round *caiçaras* or *camarinha* contain complex communities and multi-species stocks. Furthermore, the author recognizes the extensive empirical knowledge that the fishermen have of the species that live in *caiçara* – their life cycles, their eating habits, and the different phases of colonization of the branches of the *caiçara* by various species.

The *viveiro* is also a technique of coastal management, employed mainly in the Northeast. This technique involves the enclosure of the deepest part of an estuary, letting fish pass only at high tide, and retaining them for growing, using only the nutrients of the water itself (Diegues, 1992d).

Other management techniques are also mentioned by Cordell (1982) who strongly supports the need for integration of the traditional management practices in modern fishing administration.

These diverse management practices described in 'virgin' forests, as well as in coastal environments, have contributed and continue to contribute to the maintenance of biological diversity – of species as well as ecosystems. These are extremely important cultural practices that reveal a great deal of knowledge and '*savoir-faire*' of the traditional populations and that have to be considered in the process of establishing conservation areas in tropical forests and coastal environments.

In the case of tropical forests, as we have seen previously, it is very difficult today to distinguish 'virgin' forests from 'altered' forest, especially in areas involving itinerant agriculture. In this regard, the notion of 'wilderness' in tropical countries is probably different from that described by the first American environmentalists. The establishment of protected natural areas that respect these traditional practices can contribute to socio-cultural diversity, as well as to conservation of the natural world, whether it be 'virgin' or already altered by traditional populations.

CONCLUSIONS

PROTECTED areas, especially those involving very restricted use, are more than a government strategy of conservation – they reflect an emblematic form of the relation of humans to nature. The expansion of the idea of uninhabited national parks from the U.S.A. in the middle of the last century is based, first, on the myth of an untouched natural paradise, an image of Eden from which Adam and Eve were expelled, and, second, on ‘reactive conservationism’ as defined by Moscovici. This reactive conservationism of the 19th century, in which the natural world is attributed all the virtues and society all the vices, was a reaction to ‘culturalism’, that sees in nature the infirmity of man, a threat of return to savagery to which culture must be opposed.

This theme also relates to the debate over the importance of myths and symbols in modern society. Even when urban-industrial society and the advance of science has desacralized the world and weakened the power of myths, the image of national parks and other protected areas as a paradise in which ‘virgin nature’ is expressed in all its beauty, transformed into an object of reverence by urban humanity, confirms the idea that mythologies have a long life and can be reborn under the shadow of rationality. This myth

of untouched and untouchable nature reshapes not only old creeds, but also incorporates elements of modern science, such as the notion of biodiversity and ecosystem function, in a symbiosis expressed by the alliance between particular currents of natural science and preservationist ecology. The persistence of the idea of a wild and untouched natural world has considerable force, especially with urban and industrial populations that have largely lost the daily contact with the rural environment. This occurs despite growing scientific evidence that for thousands of years of existence, humans have, in one way or another, interfered with many terrestrial ecosystems, to a greater or lesser extent, so that today very little untouched virgin nature remains.

It is important to emphasize that the historical realization of this myth of untouched nature, through the creation of national parks and reserves, has happened, and is still happening, in tropical countries, in areas frequently inhabited by traditional populations who are bearers of many myths and symbols related to nature. The conflict between the views of what are called the 'traditional populations' on the one hand, and preservationist and state conservationist institutions on the other, cannot be analyzed, simply in terms of the oppositions between different mythologies and symbolisms. The conflict also revolves around political ecology, to the extent that the State imposes new spaces that are 'modern and public' upon territories where traditional populations live: the parks and reserves where, by law, inhabitants need to be expelled. In the first place, these social actors are invisible, and the so-called 'park management plans' often do not even mention their existence. The recognition of their existence and of their importance to conservation and maintenance of biological diversity is a recent phenomenon, caused by the appearance in Third World countries of an ecologism different to that of industrialized countries. This new ecologism, that has absorbed principles of the 'new naturalism' of Moscovici, is translated into social movements that propose a new alliance between humans and nature, the need for democratic participation in nature conservation, and a respect for cultural diversity as the basis for the maintenance of biological diversity. The greater visibility of park inhabitants was brought about by

conflicts generated by the occupation, by landless populations, of areas of parks already created, but often not effectively administered by the government. Traditional populations and newcomers have begun to organize themselves recently against enforcement actions of the State that, in most cases, impede the social and cultural reproduction of these human communities. These conflicts have begun to assume a national dimension with the increasing scale of confrontations between inhabitants and park administrations.

In Brazil, at the federal level and in some non-governmental organizations, the question of the presence of traditional inhabitants in national parks and other similar conservation areas, has been dealt with from a conservative point of view, still influenced by urban perceptions of the meaning of the natural world and wilderness. From this conservative perspective, its proponents talk about negative human interference in natural protected areas, without making a distinction between the external economic interests that operate in these areas and the activities of traditional populations that are in large part responsible for the maintenance of the existing biological diversity. As has been shown above, many of the preservationist ideas about the natural world are based on conceptions of an untouched and undomesticated nature, and on the notion of inherent equilibrium of natural ecosystems, which in reality, is difficult to find in tropical forests. We need to reject both the utilitarian view of conservation, by which any impact of human activities can be reversed by modern technology, and the vision of strict preservation based on the presupposition that putting aside natural areas for conservation will automatically guarantee biological integrity. In underdeveloped countries, conservation could be better achieved through the real integration and participation of traditional populations which, as previously observed, have been in large part responsible for the biological diversity that today we intend to rescue.

However, there is also a need to guard against a simplistic view of the 'ecologically noble savage' (Redford, 1990). Not all inhabitants are 'born conservationists', but among them there exist traditional populations with a vast store of empirical knowledge of the workings of the natural world in which they live.

There is a great need to better understand the relations between the maintenance of biological diversity and the conservation of cultural diversity. There has been almost no systematic research addressing this question. Until today in Brazil the assessment of an area to be declared a conservation area has been the sole responsibility of natural scientists. An interdisciplinary view is urgently required, whereby biologists, forestry engineers, sociologists, anthropologists and political scientists, among others, work in an integrated way in cooperation with traditional populations. As Gomez-Pompa and Kaus (1992) state, we are discussing and establishing policies on a subject that we know little about, and traditional populations, who know their environment better than us, rarely participate in debates and decisions about conservation management.

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