LOSING RESILIENCE AND GETTING VULNERABILITY
Indigenous Cultures in a Globalized System

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> "Sobrevivieron a la llegada de Colón, a las enfermedades de Europa, a los dictadores, a la United Fruit Company y a la fiebre del caucho. Pero las prospecciones petrolíferas, las empresas madereras y los cultivos de soja no sólo les han espantado la caza sino que los han espantado a ellos mismos: pueblos enteros de nativos obligados a vivir cada vez más lejos de donde siempre estuvieron."
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Introduction

Economic development is a means for social change. It has brought important advances for coping with old social constraints on health, food production, housing, transportation, and many other aspects of social well-being. Thanks to development, humanity can be free from many limitations imposed by natural conditions. These benefits are the reasons that development is the most important policy in every nation of the world.

Nevertheless, economic development is not an option for every society of the world, nor can it bring well-being for everybody. Indigenous peoples are among those who are not necessarily benefited by development. They are sometimes affected in their capacity to subsist in the natural and cultural settings where they have been for hundreds of years, and are deprived of the traditional methods they have devised for adapting to changes and for being resilient to disturbances that could damage their community. Therefore, development, instead of improving the living conditions of these people, leaves them vulnerable and in danger of cultural or even physical extinction.

This article tries to determine how development in its current form of globalization, which is a means of accessing natural resources and incorporating areas into the economic system, targets indigenous peoples' social and ecological environments. This economic intervention, which disturbs social and natural systems, undermines these societies' culturally created capacities for adapting to and coping with external impacts. This weakening of the adaptive capacity of indigenous peoples is the result of a number of impacts of the development interventions in their lands, which in their volume and intensity cannot be avoided. Within this framework, this article tries to answer the question of whether indigenous people are resilient enough to deal with economic globalization and to determine which elements define social resilience in traditional societies.

Although globalization affects most indigenous people, this article focuses only on what Alcorn (2000) calls "ecosystem people" or "people who have adapted to, and depend on, local ecosystems" (2000: 6) for their subsistence. These people, who still maintain their

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"collective identities, cultural traditions, and management practices," are being disrupted by economic stresses from economic globalization policies.

In its conclusions, this article suggests that economic globalization causes a type of vulnerability and distress that traditional people are not prepared to handle. Indigenous peoples' lack of preparation to cope with globalization disturbances is not only due to their loss of command over physical and cultural elements of resilience, but also because of the volume, persistence, and complexity of the economic interventions.

ADAPTATION, RECOVERY, AND RESILIENCE
OF SOCIAL AND NATURAL SYSTEMS

Biologists and ecologist have studied many instances of social and ecological disturbance and have determined that the optimum responses to disturbances are adaptation, resilience, and sustainability. Disturbances are natural or social changes that occur as part of the dynamics of the ecosystems and the society and have the positive or negative effects on a given natural area or human community (Olsson 2003 and Folke nd). Examples of ecological and social disturbances are forest fires, hurricanes, flooding, disasters, epidemics, and revolutions.

Resilience is "the ability of a system to absorb change and variation without flipping into a different state where the variables and processes controlling structure and behavior suddenly change" (Holling 1996: 735). Resilience is more broadly defined as the following: "(1) the amount of change that a system can undergo while still maintaining the same controls on structure and function; (2) the system's ability to self-organize; and (3) the degree to which the system is capable of learning and adapting" (Carpenter and others, 2001). The concept of social resilience is still under construction. Using this approach researchers basically look for foreseen the "likelihood of plausible future changes" (Cumming et al 2005: 984) in the face of disturbance to their ecological and social systems.

Adaptation is the key process by which social and natural systems maintain their structures at a sustainable level. Human systems have the capacity to adapt and blossom in practically every environment on earth. Adaptation implies not only the capacity to live in a given environment but also to deal with its adverse effects and to recover from them. Peterson (2000) affirms that "humans, individually or in groups, can anticipate and prepare for the future to a much greater degree than ecological systems can" (2000: 324).

Indigenous peoples have developed knowledge and practices that allow them to adapt to fragile ecosystems, cope with natural disturbances and disasters, and to survive without accumulation economies on the margin of mainstream society. This is the case, for example, of the Huaorani people of Ecuador, who live in fragile areas of the Amazon rainforest. The ecological fragility of the area in which the Huaorani live has protected them from external interference throughout the centuries (Rival 2002).

When social or natural disturbances affect traditional societies, there are cultural means of coping with them, which include measures for the prevention of the negative impacts of these disturbances and for recovery if they have been affected adversely. These strategies are part of the customary social institutions and involve a complete knowledge and control of local environment. Using culturally developed strategies for addressing

social hardship, indigenous people have been able not only to survive disasters, but in some cases to flourish (Oliver-Smith 1994: 34).

Strategies for coping with natural disturbances are transmitted between generations. They could, however, be forgotten amid acculturation processes or else simply be ineffective against a disturbance that is unexpected, fast-growing, unrelenting, or intense, such as technological failure, construction of roads, and the implementation of projects like plantations and hydroelectric dams, which change the ecology of the area.

Indigenous people tend to be culturally resilient in the face of disasters, which reduces stress during the recovery process. Oliver-Smith, (1999) analyzing the responses that the indigenous peoples of the pre-Columbian Andes had to hazards, recognizes five basic patterns of adaptations: "1) control of multiple tiers, 2) dispersed settlement patterns, 3) environmentally appropriate building materials and techniques, 4) preparedness, and 5) ideology and modes of explanations" (Oliver-Smith 1999: 77). These strategies of adaptation have been successful in helping Andean people to manage the effects of disasters for centuries.

Torry (1979) studied how indigenous peoples deal with disasters and identified two approaches to explain how these societies cope with the risks in both non-disturbed and disturbed cultural environments. The first approach is the homeostatic, which is based on the ability of traditional societies to maintain long-term stability under harsh environments, and the second approach is the developmental, where a disaster agent, among other factors under the influence of modernization pressure, disrupts social stability and triggers change.
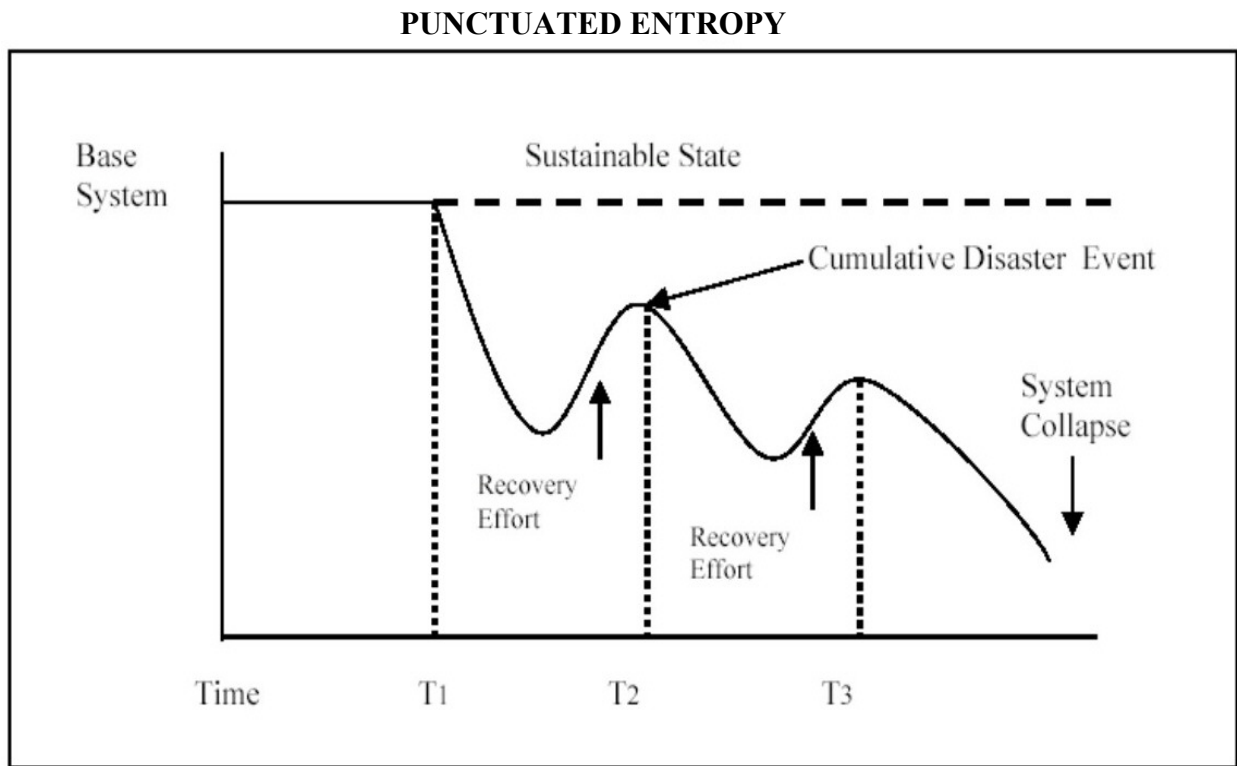
The homeostatic approach suggests that an affected society tends to maintain or return to the social settings existing before a disaster. In such cases, traditional societies use several strategies to maintain stability. These strategies include the following: *dispersal*, in which the people avert or minimize the effects of a disaster by moving to different places; *interethnic economic exchange*, which offers a chance to overcome the technological and environmental constraints that threaten prosperity under a regime of social isolation; retrenchment of social activity or cultural equilibration, wherein these societies restrict or promote some activities in order to recuperate from the effects of a catastrophe; *ritual regulations* or use of ritual devices to suppress or mitigate the effects of disasters; and *intertribal raiding*, to acquire more land for production (Torry 1979).

In the developmental approach, the traditional societies' strategies to maintain stability are radically affected by political and economic pressure. In these cases, environmental crisis arises because of three factors: 1) alien political economic imperatives, which undermine local management practices to deal with natural hazards or disasters; 2) inadequacies in governmental mechanisms to manage community responses to peril; and 3) changes in land-use practices, which transform the physical environment and thus, promote new sources of hazard (Torry 1979: 523). In the context of development, the customary practices for coping with hardship are likely to fade away and be replaced by technocratic solutions not locally devised. As a result, this situation makes the process of recovery difficult.

When multiple disturbances overwhelm a traditional society- for example a combination of a drought and a contaminated river,- the capacity for resilience could decline until eventually the social system will collapse if help is not received. This process

is explained by Dyer (2001) as the "punctuated entropy" model for understanding how human environments could decline as a consequence of repeated or cumulative disturbances. He defines this model as "a permanent decline in the adaptive flexibility of a human cultural system to the environment brought on by the cumulative impact of periodic disasters events. It predicts and explains the non-recovery of human systems after a disaster. The accumulation of impacts means that the opportunity for recovery is compromised by repeated disruptions to the human system" (Dyer 2001: 164). Dyer understands cumulative disasters as serial or extended social or natural events that are difficult to recover from. Cumulative disasters include serial earthquakes, extended droughts, and state policies promoting development projects that disrupt local social stability. The persistence of these events does not allow affected people to exercise adaptive responses and therefore leads to a "punctuated entropy" (see Graphic 1). In this model, the cultural, social, and economic impacts are called "secondary disasters" (Dyer 2001: 165).

Graphic 1

PUNCTUATED ENTROPY

Source: Dyer 2001: 164

Threats and disturbances to social and ecological systems could be natural or they could be man-made, like forest fires, eruptions, state policies, and economic activities. A traditional society's culture and way of life is most persistently threatened by socio-economic policies.

GLOBALIZATION AND ITS DISTURBANCES
IN SOCIAL AND ECOLOGICAL SYSTEMS

Economic development and technology have been regarded as two of the most powerful disturbances to social (UNDHA 1995, Pelling 2003) and ecological systems (Vitousek et al 2001, Holling 1996). Both types of disturbances could cause sudden and irreversible negative changes from which the affected system could not recover. But since economic systems and technology are ideological causes of change, they are not always perceived as negative by the entire social system.

Globalization is a form of development that results from improvements in technology, particularly in the areas of transportation and communications. This new form of development is seen as an opportunity or a threat for the economy of countries or societies (IMF 2002). But in practice, it provides extensive opportunities for a few and negatively affects the majority of the world population (Ghai 1992). The economic globalization involves societies and ecosystems and could impact them as they have never been before.

The world's social and natural landscapes have changed since the emergence of globalization, the new stage of economic development. There has been in the last two decades a shift from an economy guided by state regulations to one with "increased reliance on market forces and [a] reduced role of the state in economic management" (Ghai 1992: 4). A set of policies known as structural adjustments, which encouraged free trade and international investment, provoked the new economic trend that led the world's economy toward globalization. Since the occurrence of the structural adjustments and of globalization, productive processes have increased everywhere, even in areas where capitalistic economic relations have been limited or non-existent.

Although the structural adjustments have made the economy more efficient, they only affect some productive sectors linked to transnational corporations, such as import and export products traders, oil and mining corporations, and bankers. The social cost of such economic efficiency, which benefits only some elites, has been enormous for labor; land tenure; and prices of food, medicines, health services, and other retail products. This situation will affects more negatively to powerless people.

Since the application of the adjustment measures in economically dependent countries, there has been a significant decrease in the incomes and living standards not only of the lower classes but also of the middle classes (Ghai 1992: 4).The trend of inequality has grown since the implementation of the adjustment measures in the 1980s. While the income gap between rich and poor has shown little variation during the 1960s and 70s, after the 1980s has increased significantly (see Graphic 2). According to Ghai (1992), the winners of the adjustments are

> "those deriving their income from capital[2]. The losers are those linked with production and services for the domestic markets who could not keep up with accelerating inflation. The growth of poverty and glaring inequalities in consumption has severely strained the social fabrics of these countries. Many

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[2] Included in this group favored by adjustment policies are those people "with access to foreign exchange and owners of foreign assets; those engaged in banking, finance, property transactions; commercial, agricultural and industrial enterprises in the export business and those dealing in scarce commodities, smuggling and drugs." (Ghai 1992: 17)

countries have experienced a marked increase in crime, violence, smuggling and trading in illicit goods. There is also growing reliance, as part of the survival strategy, on child labour, prostitution and intensification of female labour. An increasing number of people have taken to migration in their search for employment opportunities. Social tensions have increased and these frustrations often find expression in social explosions, ethnic conflicts and growth of fundamentalist and extremist movements (Ghai 1992: 17).

In this scenario, indigenous peoples and peasants are among the worst affected by the economic measures. Some of the adverse effects on these people are the rupture of subsistence economies practiced in rural areas until the 1980s and transference of lands from traditional peoples to capitalist projects, resulting in migration and displacement (United Nations 2002). As Ghai (1992) observed, the economic transformation caused by globalization has been positive for some and negative for many. This fact was also recognized by the United Nations World Summit for Social Development (UNWSSD) held in Copenhagen, Denmark, in 1995. The UNWSSD acknowledged the double effect of globalization on society. On one hand globalization "opens new opportunities for sustained economic growth and development of the world economy, particularly in developing countries," but at the same time, "the rapid processes of change and adjustment have been accompanied by intensified poverty, unemployment and social disintegration. [As a result] threats to human well-being, such as environmental risks, have also been globalized" (UNWSSD 1995).

Graphic 2

Global Income Disparity, 1960-1989				
	Poorest 20 per cent (%)	Richest 20 per cent (%)	Richest to poorest	Gini coefficient
1960	2.3	70.2	30 to 1	0.69
1970	2.3	73.9	32 to 1	0.71
1980	1.7	76.3	45 to 1	0.79
1989	1.4	82.7	59 to 1	0.87

Source: UNDP, **Human Development Report 1992**, Oxford University Press, New York, 1992, Table 3.1.

The effects of globalization are also negative for natural systems. Although the economic growth fostered by the structural adjustments could show some improvement in the gross national product calculation of the country, the ecological effects are devastating. Vitousek et al (2001) point out that economic activities like deforestation and expansion of agriculture frontier, cropping, forestry, urbanization, and fishing on natural systems are transforming the basic elements of land, air, and water, and then altering the earth's ecosystem. The consequences of these activities such as climatic change and loss of biological diversity, are global, irreversible, and interconnected, and "may irreversibly reduce the capacity for generating material production in the future" Vitousek et al 2001).

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The tendency of globalization to promote changes in social and natural systems has the force of a large and sustained disturbance. Ghai (1992), the UNWSSD (1995), and Vitousek et al (2001) observe substantial changes in the different world societies and ecosystems. The consequences of this ecological and social degradation are suffered mostly by those people who live in the confluence of the social and ecological systems, such as fishermen, farmers, peasants, and indigenous peoples, among others.

DEVELOPMENT, ECONOMIC SYSTEMS, AND SOCIAL VULNERABILITY

Development is a powerful mechanism of social order and as such, determines social groups and their fate. It defines, for example, the areas where the poor and the rich are likely to live, the type of food they are likely to eat, and the type of work they might get. Generally the most socially and ecologically insecure areas are home to the powerless. Poor neighborhoods are often near industrial areas, making them unsafe and polluted.

Just as development affects poor people, it also is increasingly affecting indigenous or traditional people, determining their forms of dwelling, their employment opportunities, and even which sickness might affect them. Thus, the development process is a disturbance; it creates changes that affect the social groups involved, in different ways.

In the case of indigenous people the changes promoted by development are not restricted to the material aspects of social life only. Economic development negatively affects traditional societies in two ways. First, ideologically, it plants the idea of the backwardness of indigenous people, so there is a psychological and politically pressure to change these societies. Second, physically, development promotes changes in land tenure and land use, in settlement and population patterns, altering habitats and ecosystems.

The developmental notions of state policies have largely misunderstood the way of life of traditional peoples. The role of the natural environment in traditional peoples' live has been completely ignored by these policies, which target these peoples' lands for massive developmental projects such as extractive industries, hydroelectric dams, plantations, and roads without their prior consent (see Bodley 1990). These projects "are typically characterized by the arrival--uninvited--of outsiders who wield overwhelming technological, economic, and political power. For the most part, these powerful outsiders define the rules of engagement and dramatically transform natural and social environments" (Kimerling 2002: 525). These transformations include negative physical effects like displacement, environmental damage due to soil erosion, water and air pollution, the destruction of the forests, and epidemics.

The problems caused by developmental projects are interconnected with social maladies like the rupture of social networks, loss of cultural intimacy due to the presence of outsiders (workers or colonizers), confrontations within the traditional community regarding whether or not to accept certain activities in their territories[3], as well as confrontations with strangers who try to gain control over indigenous lands and natural resources. These problems deprive indigenous people of clean water, healthy food, and natural resources for

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[3] An example of the negative effects of development processes in indigenous lands is the bloody confrontation occurred between two groups of the same indigenous people. In May 2003, a massacre was reported in which 30 Huaorani people from the Ecuadorian Amazon region were killed in a clash with a neighboring indigenous community due to tensions over pressure from loggers to be allowed into the area. (Reuters 2003 and Associated Press 2003).

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building houses and for other cultural practices. Therefore, traditional people lose control over the economic base of their life (land, natural resources, food, and traditional skills), their cultural elements and social fabric are weakened, and the resource pool from which they get their subsistence is diminished, thus hurting their ability to promote sustainable conditions for social and material reproduction (see Box 1).

Box 1

IMPACTS OF DEVELOPMENT IN TRADITIONAL SOCIETES

> The infrastructure and practices needed for natural resource extraction and other development projects directly or indirectly affect traditional societies. Physical works like the construction of roads, oil fields and pipelines in traditional people's land cause the arrival of many non-indigenous workers to the indigenous area, which interferes with cultural activities and presents the risk of potential colonization, and spread of disease. Roads also increase social connectivity and allow a constant flow of people, which is detrimental to the traditional societies. Once access is allowed to traditional territories they could be easily populated by outsiders who compete with indigenous people for natural resources and land and introduce the worst values of the external society, like alcohol consumption and prostitution to traditional lands, so that sooner or later local people are involved in these practices. The newcomers are likely to alter the local social and cultural settings.
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> Contamination of rivers, lakes, and soil, is another direct effect of these developmental projects, which diminishes the fishing and hunting opportunities of local people. This exposes indigenous peoples to bad living conditions and creates risk of health problems.
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> The combination of these physical, social, and environmental effects of developmental activities produces immense negative effects on traditional cultures, which sometimes puts them at risk of extinction[4].

The effects of these losses and deteriorations are comparable to a great disturbance like a natural disaster or even a war. In the past few years, practically all of the lands of Latin America's indigenous people have been affected by the extraction of natural resources.[5] The above ecological and social factors work slowly toward the acculturation of

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[4] Indigenous peoples groups in some ecosystems, like the Upper Amazon basin, are of a very small population and therefore likely to be affected by the negative incidences of development. For instance, the Cofan and Achuar indigenous people have populations of less than one thousand individuals, and the Huaorany, Siona Secoya, and Tsachila do not exceeds 2,000 persons (CONAIE 1989).

[5] According to Houghton and Bell (2004), "In the Amazon, wood, pharmaceutical, and oil extraction is increasing. The Plan Puebla-Panama promotes the construction of highways and railroads, the development of oil and electricity industries, and the creation of a huge free trade zone in an area throughout Mesoamerica—an area rich in resources and biodiversity. The highlands and eastern area of Bolivia are being affected by gas and water projects. Two million hectares of the Ecuadorian Amazon have been ceded to oil companies, and 50% of the Colombian Amazon is considered by oil companies to be available for direct contracting. In Nicaragua, the Korean transnational Kumkyung has a 30-year concession on the forest resources of the Awas Tingni indigenous people. In Madre de Dios in Peru, in the Colombia Pacific, in the southern region of Chile, at the Amazonian borders of Brazil, and in Guyana—all indigenous territories— forest plantations are growing. The increase in tree plantings is intended to maintain a stock of exploitable trees to keep world paper prices low and to continue lowering the price of vegetable oils used by transnational food companies. This, in turn, has turned entire indigenous regions previously dedicated to agriculture, as in the case of Mapuche lands in Chile, or to sustainable forest harvesting, in places like Chajerado and Embera lands in Colombia, into areas used only for short-term and intensive forest extraction. Multinational and local companies mining for gold, copper, ferro-nickel, and other minerals, have transformed indigenous lands in Venezuela, Brazil, Colombia, and Panama. There is a permanent war being

indigenous people and the deterioration of the relationship with their social and natural environments. The weakening or loss of traditional institutions, of authority over land and natural resources and, consequently, of autonomy have contributed to the decline and even disappearance of adaptation and cultural resilience strategies. These changes prevent people from responding effectively to hazards (Comfort et al 1999) and from redressing social hardship. Traditional people therefore have to face social and physical risks without the cultural forms of protection from social and natural threats, and without the maximum potential for recovery (Cannon 1994). These circumstances, worsened by the economic pressures of globalization, are main causes of social vulnerability (Blaikie et al 1994).

Over decades of development projects on traditional lands, the negative impact of these activities has been hidden behind the dogmatic ideological construction that progress, development, and national security are beneficial for all people. This biased assumption is the reason why national and international laws and policies protect economic development as the main value for reproducing social life and promote the acceptance of it by every social order as something desirable, mandatory, and therefore inevitable.

The wide array of problems that indigenous societies must confront is the result of tangled threads of inequality, discrimination, racism, and intolerance to other livelihoods. These pervasive human-rights problems have victimized indigenous peoples through all the stages of economic expansion, from conquest to development, and have worsened with the policies promoted by globalization (Oloka-Onyango and Udagama 2000).

ARE TRADITIONAL PEOPLES RESILIENT ENOUGH TO COPE WITH GLOBALIZATION?

The current economic trend of growth in production and consumption is continuing year by year, with even poor countries constantly growing. This means more explorations for additional natural and energy sources to satisfy the increasing demand. Capitalism is about optimizing production by reducing costs and improving profits, and one way to reduce costs is to get natural resources from areas and regions where the cost of obtaining these resources is less. This interest of capitalist investors is matched by the structural adjustments policies devised to promote free trade and international investment for the economically dependent countries of the world. Indigenous lands are a natural target for those interested in resources and investments. In addition, most governments worldwide think that indigenous peoples need to be modernized and their lands developed.

Given the increasing evidence that traditional peoples' lands are being used for natural resource extraction projects, it is worthwhile to discuss whether these people are resilient enough to withstand the substantial negative changes in their culture, and to adapt to or recover from these changes. Social resilience is the capacity of human systems to absorb disturbances without compromising stability (Gunderson and Holling 2002). This ability is based on a set of cultural institutions designed to adapt, innovate, and change to face uncertainty. Resilience is an implicit quality of traditional societies, whose culture has an ability to deal with uncertainty. As Folke et al. (2002: 18-19), sustain "many traditional societies and local communities have long recognized the necessity of the coexistence of gradual and rapid change. These groups have developed institutions that have accumulated a knowledge

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waged by gold miners and illegal armed groups against indigenous communities residing on these and other lands, including the Yanomami, Curripaco, Baniva, and Kuna."

base for how to relate to and respond to environmental feedback, and allow for disturbance to enter at smaller scales instead of accumulating to larger scales, thereby precluding large-scale collapse."

On the other hand, resilience in modern social systems rests in administrative structures created to address specific types of uncertainties (Gunderson and Holling 2002). In this case, resilience is not "owned" by people, it is borrowed by the establishment.

In both traditional and modern societies, resilience is ensured by well-structured social orders. Resilience is proportional to the degree of internal social coordination and the presence of institutions that allow the society to adopt measures to redress the effects of disturbances. Among the elements that determine strong levels of social resilience are:

- Knowledge of local and micro-regional environments (immediate area of dwelling and surroundings)
- Command over land and natural resources (land tenure and decision-making over land use)
- Cultural institutions for natural resource management (how to use, care, and maintain sustainability of natural resources)
- Social capital (relationships, coordination, identity)
- Consolidated modes of production (of subsistence or limited economic accumulation)

A socially resilient traditional society adopts binding resolutions (power of decision making) to cope with the disturbances it has to face. By applying some culturally rooted strategies, these societies may achieve any of the following goals: a) adapt to new situations, b) achieve a sustainable well-being, c) avoid or reduce vulnerability, and d) recover from a disaster. As Tory (1979) and Olivers-Smith (1994) show, traditional societies in normal conditions have the needed elements for resilience, adaptation, or recovery from any physical or social disturbance.

Box 2

DEVELOPMENT IN THE RAIN FOREST

In 1989, Petro-Canada, an international oil company, began building an oil well platform in the Ecuadorian Huaorani people's territory. When several Huaorani clans arrived at the well site and started competing for the gifts offered by the company, Petro-Canada feared intense inter-clan conflict. To separate the clans, Petro-Canada constructed twelve huts for the Babeiri (a Huaorani group) in an area along the so-called Auca road where the clan leader's grandfather had lived. The Babeiri settlement grew as relatives joined the clan. The Babeiri lost their insularity as a steady stream of colonists, military personnel, and oil crews moved into the vicinity of the settlement and, consequently, the clan's social fabric began to disintegrate. The clan's leader began drinking and eventually entered a mission detoxification program. Some of the women began working as prostitutes for the oil crews, and some of the men regularly visited local brothels. After they replaced their diet of wild game with sugar, rice, and canned tuna, the Babeiri began to suffer malnutrition (Brady 1997: 296).

As a form to evaluate social resilience in minorities, it is important to find out how traditional societies are affected by developmental projects (oil, mine, and timber extractions, for example) in terms of their capacity to absorb the multiple negative social

and ecological effects that these projects promote. To answer this question, it is necessary to consider that the natural resource extraction projects that generally affect traditional peoples' lands are also directly affecting the key determiners of social resilience (control over land and natural resources) and indirectly affecting the people's ability to maintain natural resource management and social capital. In most cases the traditional means of subsistence are destroyed. In these conditions, indigenous societies become increasingly dependent on external means of subsistence and adopt alien values that drive them toward social dislocation (see Box 2).

As an effect of developmental activities in indigenous lands, these communities lose their ability to maintain their traditional customs and culture, resulting in a reduced capacity to deal with social crises.   This does not mean that these traditional societies lose their resilience entirely, but it is considerably weakened, leaving these groups less adaptable and more vulnerable. Therefore, vulnerability, which is the reduction or loss of ability to anticipate, cope with, resist, and recover from the impacts of hazard (Blaikie et al. 1994:9), is a direct result of the encounter of traditional people with developmental activities (see Box 3).

Box 3

Some Social Effects of Developmental Projects on Indigenous Peoples

> **Weakening of the local command on land and natural resources**: This effect works in several ways: governmental concessions to transnational companies to exploit natural resources, colonization by squatters attracted by economic activities, illegal logging, etc. The indigenous Chachi community, from the Western Ecuadorian rainforest, for example, suffered such a loss of control over their lands as a result of timber extraction projects (see Robalino 1997).
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> **Colonization:** This is the most extended threat to indigenous peoples' lands. It is promoted mainly by road construction but could be also be triggered by any economic activity implemented within or near indigenous peoples' lands. After the construction of a road for oil exploration in the Ecuadorian Amazon area, the Huaorani people suffered massive colonization in their lands, resulting in multiple social and cultural problems, which included internal confrontations (see Real 1994, Reuters 2003).
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> **Health problems:** Indigenous people are not biologically protected against certain illness unknown in their territories. A massive influx of outsiders (workers, squatters, etc.) increases the chances of spreading illnesses. This is the case with most of the Ecuadorian Amazons groups affected by the oil industry. The Siona-Secoya, Cofan and Huaorani are among the people affected as a result of such economic intervention.. (CESR 1994).
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> **Environmental problems**: All developmental activities produce contamination. Mining, oil exploitation, tree plantations, and other projects produce chemical wastes and/or ecological alterations. These problems prevent people from fishing, hunting, or collecting natural resources (see Sponsel 1997, Rose Johnston 1994).
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> **Disruption of subsistence economy and disruption of social sustainability:** Due to developmental projects, indigenous peoples lose access to lands or certain resources on which their non-monetary economies are based. Often indigenous peoples find other means of subsistence in temporary economic opportunities like tourism, trade of

wildlife, and others. When these situations occur, the social sustainability of indigenous societies decline because sooner or later these new subsistence sources will disappear.

Interference in cultural reproduction: Affluent outsiders living in indigenous lands often restrict traditional activities or force them to change.   Traditional foods, medicine, architecture, games, etc., are superseded by industrialized products.   Food products like noodles, sugar, candies, and sodas brought to indigenous lands as a result of developmental projects drastically change the regular diet of indigenous peoples and promote malnutrition (see Brady 1997).

Decrease of well-being: The quality of life of indigenous peoples changes dramatically after developmental projects. Illnesses, as well as foreign vices like alcoholism and prostitution, affect their quality of life. The indigenous communities affected by oil activities, for example, show higher rates of malnutrition and sickness than the ones that are not affected (see CESR 1994).

Discrimination and human rights problems: Workers and administrators of development projects do not respect traditional peoples' ways, which are considered poor, obsolete, and backward (see Kimerling 2002).

Loss of social confidence: After experiencing a chain of problems instigated by developmental projects, indigenous people feel defenseless and unconfident.

Internal problems: Changes of customs and adoption of new values after development projects cause internal frictions. Alcoholism and prostitution cause family problems. Disagreements arise among different groups within an indigenous community. For example, mining and oil companies usually reward some groups in order to gain internal support and reject others to prevent communal unity (see Brady 1997, Associated Press 2003, and Reuter 2003).

CONCLUSIONS

The discussion of the impacts of development and globalization on traditional peoples and the meaning of these impacts for these peoples' cultural and physical survival is relevant to the field of human and political rights. Of interest in this discussion is the analysis of how an economic order determines that certain social groups must be exposed to vulnerability and risk. This issue has been discussed in the field of environmental human rights (Rose Johnston 1994 and 1997) as well as the field of risk, vulnerability, and disaster assessment (Bankoff et al 2004, and Beck 1992). By involving indigenous peoples and/or their lands in developmental projects, the modern society's productive system apply to them its implicit power to render people vulnerable (Bankoff et al 2004: 3) and to distribute risk[6] (Beck 1992: 19).

Traditional societies are among the social groups most affected by the modern productive system. The risks that development and globalization have created, pose a major challenge for indigenous people to keep their culture and economic customs alive. In most cases the best areas for extracting natural resources are indigenous lands (Huenchuan

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[6] Of course, such distribution is not equal; it is correlated with cultural, geographic, economic, social, and sexual biases. For example "dirt" industries are more likely in poor countries and lower class neighborhoods. To this fact could be applied what Beck (1992) call losers and winners of risk (Beck 1992: 227).

Navarro 1999: 5, and Maggio and Lynch 1997). Instead of bringing progress to "backward" areas, the new economic machinery of globalization seeks lands from which to extract natural resources in order to satisfy the current demands for production and consumption, forcing new territories to integrate into the global economic system without providing benefits to local peoples.

The impacts that traditional societies are subjected to from developmental projects are directly affecting key elements for social resilience. Basically these societies lose the authority over their lands and natural resources, which means that they cannot make decisions over these resources to convalesce (avoid and/or recover) from these impacts. Their subsistence mode of production is likewise affected, which is overwhelmed by external economic forces. The other elements of resilience, cultural institutions and social capital, are also severely affected as a result of the combined effect of cultural and economic values that are introduced in indigenous people's social environment.

The new ways that global economic interventions impact traditional lands are completely different from the forms of social and natural stresses that traditional societies are prepared to control or adapt to. The number, intensity, and cumulative effect of these stresses exceed indigenous peoples' capacity for resilience and leads to gradual cultural and physical disintegration.

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