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ABSTRACT:
An analysis of the underlying causes of environment destruction debunks the idea that the poor are the principal cause of environmental degradation in present-day societies. The paper also identifies some of the major areas of economic theory and institutional biases in market economies that generate obstacles to the "proper" functioning of markets. As a result, even the more advanced prescriptions of modern environmental economics are incapable of explaining the deepening of social and economic polarization and the worsening of the environmental conditions in which poor people must exist. The paper ends with a proposal for overcoming this growing crisis through local participation and action.

Key words: political ecology; sustainability; polarization; heterodox economics; development alternatives.

INTRODUCTION

Victor Toledo♥

Since being universally consecrated at the Earth Summit in 1992, the concept of sustainability and/or sustainable development has been adopted and adapted by such a large variety and quantity of authors, interpreters and promoters, that today the term is perceived as banal and confusing or at least multifacetic. In spite of this, paradoxically, the term continues to be the "life sign" of a growing (maybe even explosively) number of local, national, regional, and global initiatives, promoted by a whole range of institutions: from the World Bank and national governments to the international foundations, the conservation and environmental organizations, and social institutions of all types. In the academic realm, sustainable development has been the theme of hundreds of articles and dozens of books, in addition to innumerable colloquia. In this context, then, what is to be done with sustainable development? Is it still a concept that can be rescued? Is it worthwhile trying to create a legitimate version?

For the good fortune of serious and committed thinkers. beyond the intricate jungle of publications, a firmly grounded theoretical reflection about sustainable development continues to grow, stealthily. Often unnoticed, this reflection appears to confirm the idea that it is possible to generate a really transformative or "subversive" version of the concept of sustainability, with an enormous potential for a new type of social mobilization and political struggle. This theoretical reflection, profound and coherent, has been the particularly difficult task of conceptual decantation in several dimensions: for example, the construction of a new economic theory (H. Daly), the definition of its ecological foundations (R. Goodland), its systemic perspective (G. Gallopin), or its relationship to global phenomena (E. Goldsmith), to cite but a few of today's most notable efforts.

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David Barkin extends this work, attempting an adequate definition of sustainable development, before it becomes, irreversibly, converted into an "ideological instrument" of the dominant system. The greatest merit of Barkin's essay is that it dares to focus its analysis on the problem of poverty, an aspect that has remained outside, or at least marginal, in most of the proposals about sustainability. With this, it places itself squarely in a "Southern" perspective(1) that from the outset offers a different perspective than the theorizations coming from "Northern" authors.

Although I leave it to the reader to select what s/he considers to be its principal contributions, I cannot but note several really important revelations, especially in the last part of the essay, where a set of new proposals is offered. Starting from the idea that "sustainability is a process rather than a set of well specified goals", Barkin points to several promising lines for careful analysis. Joining other authors (among whom I include myself), Barkin recognizes that the basic canons of a truly sustainable development must include: diversity, self-sufficiency, local control and participation, grassroots democracy and autonomy. Of special interest is the theme of social control, especially the control by individuals and the society as a whole over the productive process (production, distribution and consumption), a subject that I have used to propose the idea of sustainable development on a community scale, (2) and which is already being implemented, independently of academic theorizations, in innumerable rural settings Finland, Japan, Australia, Peru and especially in Mexico.

I conclude by leaving testimony that Barkin's essay, together with many other recent contributions, appears to suggest that the most convincing discussion and the theoretical reflection about the concept of sustainable development will inevitably have to lead to a theory of the political economy of sustainable development. In other words, although the concept of sustainable development apparently possesses an apolitical origin, or at least is politically neutral, it will end up becoming contaminated by the conflicts for power and control among social groups or sectors. In the final analysis, it is not possible to distinguish the expoliation of nature from the mechanisms of social exploitation. Boldly stated: all ecology, and the concept of sustainability was born and nurtured swathed in an environmentalist discourse, inevitably ends up converting itself into political ecology.

1) Smith, F. 1997. A synthetic framework and a heuristic for integrating multiple perspectives on sustainability." In: F. Smith (Ed). Environmental Sustainability, St. Lucie Press: 1-24.

2) Toledo, V.M. 1997. Sustainable development at the village community level: a Third World perspective." In: F. Smith (Ed). Environmental Sustainability, St. Lucie Press: 233-250.

WEALTH, POVERTY, AND SUSTAINABLE DEVELOPMENT

David Barkin*

I. Two Paths Diverge: One to wealth, the other to poverty

The literature on rural society in the underdeveloped world is replete with histories of impoverishment, social disintegration, large-scale emigration, and environmental devastation. While there is considerable debate over the reason for this decline, the vast majority of the world's poor live in rural areas and are struggling against all odds to survive. For them, overcoming poverty and marginality is still a major challenge. Modern debate about rural development, inspired in part by the quest for sustainability, reflects the deep chasms that permeate all dimensions of life in these countries.

Stereotypical accounts of the modernization process in rural Latin America describe the march of progress in glowing terms. The conventional analysis of agricultural development commends and rewards the small community of farmers which uses aggressive and innovative packages to modernize rural production. In contrast, poor farmers, said to be confined by inherited ethnic and social mores and a lack of knowledge and capital, destroy or waste the productive potential of their natural heritage, continue to cultivate traditional crops in inappropriate regions with outmoded techniques and unimproved seeds.

Around the world, poor people are accused of causing the declining quality of their surroundings. These allegations are then used to justify policies that further threaten the viability of traditional social groups and productive systems: their inability to modernize is identified as the cause of the social and economic backwardness in rural areas. Even in the more enlightened of societies, "blaming the victim" for their own plight and the lack of collective progress is a common phenomenon.

This popular perception that the poor are the cause of rural environmental problems is not only misleading, is is alarmingly wrong. Whereas the conventional debate bemoans the fate of millions born into poverty and focuses on the paucity of resources that can be mustered to attack the symptoms of deprivation that persist in the midst of affluence, we will focus on the unprecedented accumulation of wealth that has increased the ranks and exacerbated the plight of the poor. The reorganization of the control and use of space and resources, engendered by the intensification of rural production, is violating the basic tenets of nature and threatening the viability of rural communities. The poor do not despoil the land because of their callous waste of resources, but rather for the lack of an equitable distribution of available social wealth and the ruthless way in which the rich and powerful defend their control. The disparity in social and productive systems prevalent throughout

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Latin America is leading to disaster. With the deteriorating employment situation, and the discrimination against small-scale rural producers, it is no wonder that environmental degradation is proceeding apace.

In this alternative view, the world system is one of increasing duality, polarized between the rich and poor —nations, regions, communities, and individuals. A small number of nations dominate the global power structure, guiding production and determining welfare levels. The other nations, less privileged, compete among themselves to offer lucrative conditions that will entice the corporate and financial powers to locate within their boundaries. Similarly, regions and communities within nations engage in self-destructive forms of bargaining –compromising the welfare of their workers and the building of their own infrastructure– in an attempt to outbid each other for the fruits of global growth. This dynamic is not conducive to promoting sustainable development. The regions unable to attract investment suffer the ignoble fate of losers in a permanent economic olympics, condemned to oblivion on the world stage. In their struggle for survival within the global marketplace, many of the world's rural populations are doomed to marginality and permanent poverty.

Official development theory seeks the solutions to poverty in market-led structural changes. International development experts and environmentalists alike join in an effort to wrench marginalized groups from their regions, blending the arguments of economic efficiency with those of natural destruction to justify their removal. But these strategies raise two important questions that are at the core of this essay. First, is a new era of growth in its current mode either possible or desirable given environmental limitations? Second, given the historical record, is there demonstrated evidence that new levels of growth will provide for greater economic (and therefore political and social) equity amongst diverse groups of nations, regions, communities, and people?

The answers to both these questions are no. A market-driven strategy will not bridge the chasm between rich and poor, with all its negative consequences, characteristic of today's dualisms. Instead, we propose an approach that recognizes the limits of natural resources and capital expansion, one that addresses the issues of poverty and sustainability by offering a program of rural development for those presently excluded, a program that eventually would also ameliorate conditions in the rest of society. Both the increasing number of poor people and the accumulating environmental problems require solutions that are less market dependent, that take into account the redundancy of large portions of the population to the current framework for production and economic growth, and therefore provide for these people by creating a system in which communities can survive without complete integration into the global marketplace.

Investigations show that when given the chance and access to resources, the poor are more likely than other groups to engage in direct actions to protect and improve the environment. From this perspective, then, an alternative development model requires new ways to encourage the direct participation of peasant and indigenous communities in a

program of job creation in rural areas to increase incomes and improve living standards. By proposing policies that encourage and safeguard rural producers in their efforts to become once again vibrant and viable social and productive actors, this essay proposes to contribute to an awareness of the deliberate steps needed to promote sustainability.

In our search for some insights into the relationship between people and our natural environments,[1] we begin with a description of the dominant economic forces on the world scene by which the very accumulation of wealth creates poverty. Traditional approaches and models have not resolved the problems for the vast majority of the world's population, which lives in poorer conditions today than in recent human history. The broadening gap between rich and poor, within nations and on an international scale, offers stark testimony of the social inadequacies of this model of economic development.

The essay identifies many opportunities to reflect on the importance of sustainability, and the possibilities of implementing approaches which move us in a new direction. But it also suggests that there are significant obstacles to such progress. Overcoming these obstacles requires more than well-intentioned policies; it requires a new correlation of social forces, a move towards broad-based democratic participation in all aspects of life, within each country and in the concert of nations. Strategies to face these challenges must respond to the dual challenges of insulating these communities from further encroachment and assuring their viability.

Among the many questions raised by this discussion, some of the more important ones might be grouped into the following areas:

- What is the relationship between poverty and environmental degradation?
- Can the obstacles to sustainability be overcome by raising national per capita income levels?
- Can policies directed towards poverty eradication also contribute to reducing pressures on the environment?
- Are wealthier people around the world confronting the problems of sustainability responsibly? What is their level of responsibility to support environmental protection and conservation in areas inhabited by the poor?[2]

[1]There is a long tradition in Latin America of identifying and trying to overcome structural barriers to development –both internal and external– with specific policies (e.g. Sunkel 1993: Gligo 1990). In the same tradition, this essay is part of the school that mistrusts the “invisible hand” of the market, a hand that is far from neutral, to confront and resolve the problems that arise from the evolution of our societies.

[2]This list might also be joined by a question about the relationship between population growth, poverty and sustainability. I do not address this issues because in Latin America most research shows that the behavior of demographic variables depends on other fundamental factors relating to the nature and pace of development, such as those discussed in this body of this essay.

Sustainability is not possible in rural Latin America as long as the expansion of capital enlarges the ranks of the poor and impedes their access to the resources needed for mere survival. Capitalism no longer needs growing armies of unemployed to ensure low wages, nor need it control vast areas to secure regular access to the raw materials and primary products for its productive machine. Instead, capital has taken control of the state, modifying social and productive structures to keep wages low and buy its products inexpensively. But the market continues to force people from their communities, impoverishing them and their environments. Profound changes are required to facilitate a strategy of sustainable development: in the last section we explore such an approach, suggesting that it may be possible and necessary to promote a new form of development: **a structure of local autonomy that allows people to rebuild their rural societies and produce goods and services in a sustainable fashion while expanding the environmental stewardship services they have always provided.**

II. Wealth, poverty and environmental degradation

A. BACKGROUND TO THE CURRENT CRISES:

Rural poverty has its roots in the profound inequalities that characterize our societies: in a social structure which displays a disdain for things rural and in the exercise of economic and political power that appropriates other peoples' goods and even their rights for private enrichment. The environmental problems of rural Latin America today reflect this heritage of polarized political development. In this section we identify the major forces that are driving this process of simultaneous rural development and rural impoverishment, and discuss some of its manifestations.

Although the process differed greatly from country to country, and even within each country, the results have been remarkably similar. The colonization of Latin America gave rise to a never-ending series of displacements, appropriation and expropriation. As successive waves of colonizers and neo-colonizers laid claim to the most highly productive lands, the use of land evolved from its historical vocation, producing basic needs for human and social survival, to the present emphasis on producing crops that promise a profit to the owners. For more than 500 years, the first peoples of the Americas and their successors have been forced to seek refuge in ever more marginal conditions, in ever more fragile ecosystems.

Haciendas and plantations were but two of the variety of organizations that launched a process of productive specialization and intensification that continues to wreak human impoverishment and environmental havoc. (Wolf 1982) Productive systems from the "old world" displaced indigenous farming methods in efforts to open areas to exploitation and to produce and extract goods for the overseas markets: the minerals and precious metals, the tropical hardwoods, unknown animals, and the wealth of exotic fruits and vegetables. Small but powerful groups centralized control over the land and became influential in shaping or actually controlling national governments.

By the mid twentieth century, rural entrepreneurs began to shape a nascent scientific tradition using state and corporate resources to forge what soon would be known as the "green revolution". Displacing agronomists who had been working in the peasant tradition, technical staffs introduced agrochemicals and machinery using non-renewable energy sources to increase productivity. Responding to the neo-malthusian specter, policymakers urged the multilateral financial and development institutions (e.g., FAO, IBRD, IMF) to expand the reach of the green revolution. Insisting on the need to extract ever greater volumes from commercial farms, development practitioners focused their efforts to promote agricultural development on those social groups best prepared to respond: those integrated into modern institutional settings, including the elitist political structures and credit system.

Their ready access to credit and their control of the most fertile lands allowed a privileged few to employ the most modern technologies to raise productivity and select the most

valuable crops. They use machines to reshape the earth, equipment to channel water, and agrochemicals to control plagues and compensate for the decline in soil quality. Guided by an optimistic vision of the powers of technology in which nothing seemed beyond their reach, they unleashed the productive potential of high-yielding germplasm, forged in the new biotechnology laboratories, to produce valuable commercial products for local markets or export. Even when they sowed the more traditional staples of the local diet, they often were able to realize record levels of productivity. Similarly, modern commercial enterprises in livestock, fishing and forestry significantly raised output, going beyond the "green revolution" package of mechanical and chemical inputs, to incorporate rapidly the newest advances in biotechnology. Finally, the social and political structure facilitated their access to the distribution channels and thus allowed them profits that eluded other producers.

Their profligate use of water, energy, and agrochemicals has been a logical response to the developmental incentives created by ill-considered development policies that stimulated output with subsidized prices for key agricultural inputs. In the name of progress, and to counter the Malthusian threat, the modernizers reshaped the whole hemisphere: making the deserts bloom, clearing the tropical rainforests, denuding the mountains, filling in the wetlands and cutting the roots of the mangrove swamps.

Little thought was given to the long-term impact of the new "input package" on the soil, or on other dimensions of the physical environment, such as climate or water quality. The health risks to workers and consumers were addressed only belatedly and partially. No importance was attached to the objections that such advances would further impoverish the majority of farmers for whom credit was rarely available; virtually no resources were available for research and technical assistance to address the needs of traditional farming groups.

The human toll continues to be extraordinary. Throughout Latin America, agrarian communities have been displaced from valuable lands and forced into inappropriate settings, banished to regions of most difficult access, with the poorest or most unsuitable lands, and the most precarious availability of water. Lured or trapped into untenable regions and employments, they find it difficult or even prohibitive to continue the important tasks of soil and water conservation and management that were an integral part of their ancestors' normal practice. They have no choice but to devastate their own environments in their desperate struggle to survive.[3]

Even when they possess tillable land, poor farmers are mired in a morass of bureaucratic restrictions. Without access to credit, they cannot choose to cultivate valuable commercial

[3]This appears to parallel the well-known thesis of the "tragedy of the commons" popularized by Gerrit Hardin (1968). It is significantly different, however, because the analysis of the problem of degradation presented here focuses on unequal access to resources and the resulting social polarization, rather than on increasing population pressures.

products or modern varieties of their traditional crops. With declining terms of trade,[4] many small farmers have no alternative but to seek employment elsewhere, and frequently are forced to sell, transfer or simply abandon their lands. People are being forced into the labor pool at a time when real wages and rural incomes are declining. As technological and scientific achievements are integrated into industrial and entrepreneurial settings, a declining proportion of this vast and expanding working class is needed to produce the commodities now being consumed in a market-dominated society.

Furthermore, the pernicious juxtaposition of social groups imposed by the normal working of the market economy not only severely limits the opportunities of the masses of workers and peasants to material advancement and political participation, it converts many of these groups into new waves of migrants who search for new places to survive, frequently in areas unsuited for such settlements due to their fragile ecosystems.

The accelerated expansion of the modern segment of rural society is, therefore, broadening the range and increasing the severity of environmental problems observed in recent decades. Workers are being poisoned in the fields, while their families suffer the effects of chemical and organic contamination in their communities. Peasants suffer intolerable working conditions as laborers or challenge militarized states in their struggle for a measure of dignity. Although environmental strains have been accumulating for decades, their rhythm and intensity have quickened to such a degree that they now represent a great threat to the viability of uncountable species of flora and fauna, as well as to human society itself. The outcry of citizen groups and organized environmentalists is testimony to this phenomenon.

B. POLICIES THAT PROMOTE ENVIRONMENTAL DESTRUCTION AND RURAL POVERTY

In response to the devastation, many in the entrepreneurial sector are now obliged to "rationalize" their use of natural resources. After having reshaped nature, they must now turn to protecting their investment. Some react to the controls placed on imported products by the richer nations, using chemicals more sparingly or changing to less harmful formulations. Efforts by Latin American countries to promulgate an adequate set of protective regulations have also prompted some producers to modify their practices, but in many places bureaucratic distortions make effective enforcement difficult. Others respond to new policies that removed subsidies from all manner of products, using resources more carefully or changing techniques to reduce costs or increase productivity. For this sector, a combination of enlightened self-interest and market and administrative mechanisms,

[4]The terms of trade define the system of relative prices that producers receive when they sell their crops. Historically, small-scale producers are victimized by a process that systematically depresses prices for the goods they sell while raising prices for the commodities that they have to purchase to survive and produce. Prebisch (1950) offered the first formulation of this hypothesis that now bears his name.

reinforced by appropriate social oversight, can be expected to lead to a progressive reduction in environmental damage, in regions already occupied by the commercial sector.

But, while policy initiatives to promote environmental protection are moves in the right direction that should be encouraged, few steps have been taken to protect the endangered populations that inhabit the environments in question. Moreover, the crucial policy link addressing correlations between expropriations of the environment and the exploitation of people remains the domain of the grassroots: NGOs, women's groups, some environmental groups, workers rights organizations, and the direct producers themselves. In spite of the ample experience that demonstrates how sustainable development fits into a broader picture of economic justice, human rights and cultural diversity (such as a growing movement that confronts "environmental racism"), the policy environment for rural development continues to reenforce social processes that penalize the poor. Official analyses, which blame the victims for the dilemmas they face, combine with devastating critiques of government institutions created to support the underclasses to reinforce the view that the "free" market produces a much more efficient use of resources and a higher rate of economic growth.

Modern production systems continue to expand, challenging peasant and indigenous claims to productive lands and valuable resources. Official institutions, domestic and international, promote new strategies to reward the commercial farmers for their contributions to national development, assuring them continuing privileged access to the most valuable resources in the modernizing society: land and natural resources, technology, credit and marketing channels. Poverty is accentuated by this expansion, which frequently condemns certain regions and the people who live there to devastation. In the new policy arena, the struggle of the poor is increasingly difficult. At best, marginal groups can attempt to claim a small proportion of official budgets for their efforts; they now look to the worldwide non-governmental community for understanding and support or resort to various forms of resistance to advance their claims. Even when massive reforms forced a redistribution of land to peasant and indigenous groups, as in Mexico, Bolivia and Nicaragua, the complementary financial and technical resources needed to help the new owners take full advantage of their opportunities were invariably put to other uses.

C. THE DYNAMICS OF RURAL POVERTY

Underlying all of these factors, rural poverty is the historical consequence of existing systems of economic organization that continue to discriminate against direct producers. When compared to producers in other sectors, they are not endowed with comparable amounts of equipment to permit them to raise the productivity of land and labor. Even more distressing, however, the evolving organization of agricultural production in the Third World not only places rural producers at a disadvantage with regard to people in other sectors, but also in their struggle to compete against farmers in the richer countries. They

lack access to the technical, financial and institutional support that protected these farmers in earlier historical periods from the threat of competitive pressures.

These fundamental problems can be most easily examined by identifying some of the principal causes of rural poverty, which will enable us to develop guidelines for an alternative strategy of sustainable rural development.

1) *Discriminatory macroeconomic and sectoral policies*: Like the colonial regimes of a past era, production and export taxes, complex systems for controlling foreign exchange and trade (overvalued exchange rates and protected tariffs for industrial products), and price controls on various commodities are tools commonly used to extract surplus from rural producers. In the post-World War II period, new forms of fiscal and monetary regulation were added to this toolbox, leading to the transfer of wealth from rural communities to the banking system and from there to the financing of industrialization. Wage increases were limited through regulatory mechanisms controlling commodity prices. The high costs and arbitrary impacts of these programs left the crops produced by the rural poor (and sometimes those of wealthier producers) at the mercy of the world market in agricultural commodities, frequently controlled by international cartels.

Other facets of the public policy agenda have the effect of increasing output while exacerbating the social inequalities that characterize most rural societies in the Third World. The benefits of the green revolution, that led to significant productivity increases, were captured by those groups able to gain access to technical know-how, finances and infrastructure. Similarly, public investment in irrigation and colonization schemes to expand the productive frontiers tended overwhelmingly to promote large-scale commercial agriculture amenable to mechanization. (Barkin 1972; Hecht 1985) Such programs not only have devastating effects on the environment, but also are socially destructive. Local populations are relocated or even exterminated, while the productivity of newly exploited ecosystems soon declines. Small-scale traditional producers are displaced from their historic communities, while the new systems generate wealth for a small group which rarely has to account for the environmental damage it occasions.[5]

A different program would be required to counter the destructive effects of the corporate agenda. The new program would call for the application of the lessons from agroecology to small scale agriculture, reducing reliance on destructive practices and agrochemicals developed for commercial crop production. Renewed emphasis would be placed on popular foods produced by the peasantry and or their environmental priorities, such as micro-scale projects for land and water management. (Altieri 1987) It is not a coincidence

[5]There is an abundant literature on both the fierce paradigmatic struggles between agronomists working with peasants and those associated with modern farmers and on the "second generation" effects of the green revolution on communities and social structures (e.g., Hewitt 1976; Barkin and Suárez 1983; Jennings 1988; Barraclough 1991).

that such policies are also conducive to creating sustainable development systems, as we shall see in the last section.

2) *Inadequate and polarized land tenure systems*: Inequality of access to land and insecure tenure arrangements are major obstacles to maintaining and improving environmental quality. Land ownership in much of the Third World remains highly concentrated in spite of numerous attempts at land reform. Throughout Latin America, the increased number of small farms (2.2 percent per annum during the post-World War II period, 1945-1980) and shrinking plot sizes have created a peasantry that is being pushed/pulled "away from being primarily farm producers and toward increasing integration into the labour market" as larger farms continue to command most of the land, and a greater share of other rural resources. (de Janvry, et al., 1989: 406-407)

Inadequate property rights exacerbate the discriminatory impact of scarce and high-cost credit and discourage local initiatives to engage in soil and water conservation tasks. These problems become even more serious when the lack of clear titles and defined rules for access affect "the commons," that is, resources which are generally available to many people (production units). The "tragedy" of overuse in such cases is so familiar as to have spawned its own group of scholars, and a series of proposals that would contribute to approaches for sustainable development. (McCay and Acheson, 1990; Olson, 1990; Ostrom, 1990, 1993)

Ironically, land reforms also can have pernicious effects on the ability of recipients to improve their conditions and protect the environment. In many situations, the regulations limit or even prohibit various kinds of land transactions (e.g., renting or leasing) and limit the beneficiaries to seeking credit from government banks, thus excluding them from the commercial banking system. The application of these restrictions by inefficient and corrupt government bureaucracies reinforces a system of privilege which has placed a brake on social mobility and agricultural improvements. Unfortunately, the headlong race to enact legislation that "frees" up land for use in its most productive form by titling ownership and encouraging rural communities to associate with private capital can exacerbate existing problems. The peasantry must have independent access to capital markets and technical assistance to assure that it has the ability to negotiate effectively with potential investors.[6]

3) *Anti-peasant bias in development institutions*: The anti-peasant (or urban) bias among development agencies, and within rural institutions, is particularly egregious. Resources are systematically denied for "peasant" approaches to problem solving and social organization. Peasants are considered to be backward and incapable of incorporating innovations into their productive systems. The economic effects of this bias are especially troublesome: even as labor is cheapened, natural resources are devalued by competitive

[6]This is a concern with the way in which Article 27 of the Mexican Constitution regulating the ejido system was modified. In 1992, private land sales and the subdivision of commons were permitted. Much of this process is documented in the issues of *Cuadernos Agrarios* (Mexico).

pressures from specialized producers who enjoy cheap credit and productive inputs. This is evident in the differential manner in which peasant and commercial products prices are manipulated by regulatory agencies, and the types of decisions about the import of basic commodities which negatively impact small-scale and rain-fed agricultural zones more often than larger, irrigated farming sectors. As a result, many of the scale-neutral innovations of the green revolution and biotechnology have been transformed into mechanisms for further social polarization, in spite of the intentions of their inventors.

The emergence of NGOs as a mechanism for challenging this bias both globally and within local bureaucracies is a notable feature of institutional change, one which is directly related to the broadening of alternative strategies for rural development to which we will return.

4) *Unequal distribution of income and political power*: Related to the previous topics, but worthy of separate mention, the existence of regional or provincial bosses (caciques) is frequently a major obstacle to progress for poor people in rural areas. (In rare cases, a powerful patriarchal leader may retain control in a poor region by ensuring that resources are equitably distributed and that social and political problems are resolved with local resources, when possible.) The various forms which bossism takes are too numerous to be listed here, but the effects are remarkably similar, and reminiscent of the stories told about manorial lords in the middle-ages. A power hierarchy, sometimes tied to political parties, which extends from the state into local communities, often plays a determining role in the availability and distribution of desperately needed aid packages, work projects, and welfare programs.

5) *Inappropriate employment policies*: Although the rate of population growth is generally declining, it remains above the growth of the productive labor force. Throughout the Third World, one of the most serious problems facing planners is the creation of remunerative employment. Traditionally an important source of livelihood for large parts of the population, agricultural employment has been declining precipitously in recent decades.

The trends are striking. Between 1960 and 1980, peasants as a proportion of the economically active population in rural Latin American increased from 60 to 65 percent of the total, yet the total agricultural labor force declined from almost one half of the total to less than one-third in this period. (de Janvry, *et al.*, 1989:399-402) This change reflects the incorporation of new labor-saving technologies into commercial agricultural sectors, leading to a falling share of labor in this area and stranding workers in the peasant sector for want of better alternatives.

The opening of economies to international competition complicates matters in two ways. First, traditional productive activities are becoming unprofitable as imported consumer goods displace locally produced goods and the locals themselves find it more profitable to import than to produce. Second, foreign investment brings new technologies and increases the scale of production, reducing the rate of job creation below social needs.

6) *Pressures against local cultural institutions*: As peasant farmers have been transformed into "proletarianized" workers. They have all the problems of such groups, with none of the benefits that might come from having a steady income in return for productive work. (Barkin, 1985) This transformation of the labor force is notable in many rural communities where traditional systems of mutual self-help and voluntary labor to construct community projects are rapidly disappearing without adequate replacements. The authority of the traditional community is being eroded and displaced by new forms of authoritarian imposition.

The long-term process of pushing indigenous groups to increasingly marginal lands is one of the most important factors contributing to the loss of cultural identity in the Third World. In many cases, the new settlers have no access to or ignore inherited information about how to manage the ecosystems they have occupied. This is further compounded by official commitments to technological approaches imported from the temperate zones, that are rarely suited to the newly occupied areas, often located in the tropics. In many of these cases, as we shall see, it becomes necessary to generate a new type of appropriate knowledge so that the settler populations can be sensitized to sustainable approaches to productive survival.

7) *Migration and the feminization of poverty*: Women's role in rural society has changed dramatically in recent decades. With the proletarianization of the labor force and the greater difficulty of satisfying social needs with on-farm and rural community production, the typical family has had to develop complex survival strategies that involve migration and greater participation in the wage-labor force. Even while more women are wage laborers and migrating, there is also a world-wide tendency towards more rural households being headed by women. Unlike the past, when women's dominant role was household management and child-rearing, throughout the world increasing numbers of women are now being forced to shoulder the additional burden of actually providing for the basic subsistence and other needs for their families. To make matters worse, these new duties have not led to a lessening of discriminatory practices that limit women's access to education and economic opportunities.

As the environment is degraded, life in the rural sector has become more difficult, making women's tasks more difficult. With deforestation, the search for kindling requires longer treks and often requires the sacrifice of younger trees on steeper slopes; similarly, the task of assuring water supplies is also becoming more arduous. Such an overload of burdens affects household nutrition, as family farm plots where fruits and vegetables were cultivated and small farm animals reared on household and garden wastes are frequently renounced because of the pressure of other activities.

8) *The urban factor and rural poverty*: Urbanization in the Third World is creating networks of densely settled areas, fed largely by rural migrants. Increasingly, rural families count on the cities Äand even international migrationÄ for their very subsistence. As the urban areas expand, they make enormous demands for resources and for places to deposit their

wastes, without any corresponding improvement in their ability to address the problems of the majority of poor people (Hardoy, Mitlin, and Satterthwaite, 1992).

In this complex interweaving of rural and urban, peasant and proletarian, the dichotomies of former epochs are not helpful. Off-farm income is now an integral part of rural incomes, and the technical and other skills acquired in these employments could contribute to diversifying the economic base of rural areas. Conversely, rural populations and experience also have a great deal of potential to contribute to improving the urban experience. Throughout the Third World, the important differences in productivity and incomes between industry and agriculture have formed a barrier to integrating a concept of a more balanced urban development program that would include a much more diverse land use pattern. For example, the possibility of food production in reserved urban areas as part of a response to growing unemployment might lower transport costs and lower urban growth rates.

With the deteriorating employment situation, and the discrimination against small-scale rural producers, it is not surprising that environmental degradation is proceeding apace. People are being thrust into the labor force while real wages and rural incomes are declining. Increasing numbers must take refuge in peasant communities, and are obliged to resort to destructive techniques for their very survival. From this perspective, then, corrective action requires a new program of productive job creation in rural areas to increase incomes, improve living standards, and protect the environment.

III. The internationalization of capital

The international economy insinuates itself into every aspect of life. Its growing influence on seemingly independent and isolated rural communities is poorly understood in analyses of rural change and virtually nonexistent in discussions of sustainability. International expansion, however, has transformed the dual economy into a global phenomenon, systematically creating structures that polarize society and accelerating processes that threaten social welfare and the environment.[7]

For centuries, the expansion of the world market has left its mark on local societies and their ecosystems. (e.g., Wolf 1982) Endless waves of "boom and bust" characterized this process in Latin America and throughout the third world. Many of the earliest producers and merchants who introduced new crops and created new markets for existing products became immensely rich. Lured by promises of vast markets and personal enrichment, successive waves of producers imitated the initial success stories, planting cotton, grains, tropical fruits, coffee, chile and myriad other crops, but on a smaller scale and with fewer resources than their forerunners. The longer the process continued, the greater the number of people who failed in their attempts to produce and market the products profitably.[8] On a global scale, Raul Prebisch identified this problem early in the post-World War II period, and summarized the concerns of an important group of Latin Americans who observed a secular decline in the terms of trade of raw materials and food crops in relation to industrialized products.[9] His admonition still haunts us: long-term relative prices of many commodities produced in the third world, especially for those produced by the poorest, are still systematically declining.

In many countries in the Third World, external pressures and domestic policies prevent farmers in poor communities from cultivating the crops that supply people with their basic food needs. The effects of this process have been devastating: low productivity and deteriorating environmental conditions make it difficult for workers and peasants to

[7]For a more complete discussion of the internationalization of capital and its impact on society see, for example, Froebel, Heinrichs and Krey 1979; Barnett and Cavanagh 1994; and Barkin 1985.

[8]The difficult adjustment process in markets for rural products is an example of the famous "cobweb theorem" in standard economic analysis. Because there is a lag in the supply process, important differences in demand and supply at prevailing prices often leads to unstable fluctuations in supply and significant changes in market prices which invariably affect the majority of smaller, less well capitalized producers more seriously than their more affluent competitors.

[9]Clearly the analysis in the text of the short-term cycles facing individual producers is considerably different than the long-term phenomena facing society as a whole, discussed by Prebisch (1950, 1959). His discussion of the terms-of-trade is based not only on the type of demand and supply analysis offered here, but also on the long-term price and income elasticities of these products as compared to the industrialized products. The argument would be even more striking, if the comparison were made with the behavior of services in international markets. Although, northern neoclassical economists are quite critical of this argument, the empirical evidence assembled by southern analysts remains persuasive.

compete with producers from abroad who are better financed, enjoy greater institutional support for training workers, have ready access to technological innovation, and can depend on integrated marketing systems for distributing their merchandise. As a result, throughout the developing world basic food stuffs are being imported and rural families impoverished. (Barkin, Batt and Dewalt 1990) The loss of food self-sufficiency magnifies the impact of international competition, forcing significant numbers of people to migrate in search of income with which to buy food. For those remaining in the countryside, the task of maintaining the increasingly fragile ecosystems to which they have been relegated becomes overwhelming, compounded by restricted access to credit, technical assistance and productive inputs.

In contrast, agribusiness interests are occupying the best lands, planting export products and transforming vast regions into pastures. This tendency is often celebrated in the institutional circles of development bankers and neo-liberal multilateral research organizations, a reflection of the success of years of arduous labor to persuade or coerce governments around the world to restructure production to take advantage of the gains from specialization in international trade.

A cornerstone of this new world order is the push towards eliminating the barriers to international trade. The broadening of the GATT framework in the new World Trade Organization (WTO) and the consolidation of regional trading blocs (e.g., EU and NAFTA) are symptomatic of the rapid changes that are affecting national economies. Local producers everywhere are threatened by the discipline imposed by the specter of imports.

Transnational corporations are thriving in this new regime. Their move south is part of a global strategy to exploit abundant supplies of raw materials, lower costs of production, and guarantee access to emerging markets. Although they create new jobs, the gains are rarely sufficient to counterbalance the massive displacement of people from traditional industries and rural pursuits. In most of Latin America, national economic adjustment has reduced employment or shifted people into part-time and low income jobs with a generalized fall in living standards and social welfare indicators. The result, is a rapid and profound transformation of these societies into specialized production systems and off-shore assembly and procurement centers.

These trends are common to all primary producers. National fisheries and deep sea fishing are plagued by problems of over-harvesting while coastal ecosystems are menaced by contamination; commercial demands lead governments to transfer rights from traditional fishing communities. Foresters face competition from imported wood products, even while they seem forced to intensify their cutting beyond the capacity of the woods to support the new levels of extraction. (Place 1993)

Small- and medium-sized industrial producers, like peasant and indigenous communities, must compete in their local markets with similar products imported from other parts of the world. Producers transform themselves into merchants, finding it easier and more

profitable to import basic consumer goods from the global marketplace than to forge a modern competitive industrial facility. The obstacles they face range from inadequate technological information and advice, to expensive, limited credit and serious bureaucratic hurdles.

The debt crisis of the eighties created yet another opportunity for the financial community to accelerate the pace of internationalization. Structural adjustment programs (SAPs) not only dismantled the complex structure of government regulation and direct public sector intervention in the economy, but also lowered the real wages of workers and limited the autonomy of peasants and other independent workers. The SAPs were structured to "correct" the excesses of the past. Their initial contribution to national development was squandered as governments throughout the hemisphere abused their power, supporting inefficient industries belonging to wealthy and/or powerful elites. By opening local economies, they unraveled a highly protected industrial apparatus created during the period of import-substituting industrialization to promote the production of capital goods as well as consumer goods;

The multilateral development community (World Bank, International Monetary Fund, regional development banks), joined with the private international financial community and some national development agencies to enforce these "shock" programs. According to their view, costly subsidy programs and direct government intervention had produced economic structures ill-suited to the realities of these countries. Throughout the Third World, private initiative had been stymied by a regulatory morass and inadequate incentive systems. These distorted systems often benefitted a small elite, but they rarely moved these societies onto a path of dynamic economic growth.

The movement towards freer international trade was joined by a process of regional integration. Market mechanisms replaced bureaucratic councils, allowing greater freedom for capital and guiding investment decisions by entrepreneurial groups. Competition among financial groups surged as they took advantage of the opportunities offered by the international economy to create new industries and modernize old ones, to bring new technologies to bear to solve old problems and to reposition the society and its people to confront the challenges of international competition. The development community began to finance the institutional and productive changes that were needed to push dozens of countries around the world into the world market. The new approach to national economic management created the conditions for private producers (often foreign corporations) to profit handsomely by attending to the demands of the international marketplace and a new group of very prosperous local consumers who are the principal local beneficiaries of the new strategy. By strengthening local capital markets (especially for trading securities), internationalization also opened one more avenue of vulnerability, as speculative movements of capital could now more readily influence productive decisions. Latin America quickly felt the destabilizing effects of capital movements: international financiers imposed narrow strictures on the ability of national governments to promote broad-based sustainable development and exacted particularly heavy costs from workers and peasants.

A. TRADE AND THE ENVIRONMENT: THE FAILINGS OF THE STATE

The high profile negotiations of the NAFTA and the GATT and WTO made us aware of the heavy burden that international trade and regional integration were placing on the environment. Specialization is accelerating with the internationalization of the global economy, hastening the pace of ecosystem degradation and destruction. By creating new opportunities for investment and profit and accelerating the dynamics of internationalization, the new institutional arrangements are further polarizing nations in both north and south; the greater concentration of wealth and the spread of poverty is making the task of controlling and reversing environmental damage increasingly difficult. This problem sparked a heated continuing debate about the tradeoff between improvements in economic welfare for a few generated by increases in trade and investment, on the one hand, and the widespread decline in living standards for workers and peasants who cannot find productive employment, on the other. Meanwhile, a small group of industrialists and financiers offered unlimited support for economic integration, promising that it would generate great benefits for everyone concerned, as a result of increases in trade and investment. Environmentalists point to the heavy costs that this trade will occasion in terms of contamination from transport and wastes of the production process and a more rapid use of natural resources, especially energy. Other critics go further, objecting to the rapid dissemination of an unattainable and unsustainable model of development based on increasing consumption as the basis for propagating improvements in human welfare.

In the final analysis, the debate focuses on the spread of poverty and the deterioration in the quality of the environment. Skeptics argued that these problems would accelerate because national governments are unable to oblige the winners from this opening (fundamentally local entrepreneurs tied to international capital) to invest sufficient amounts to assure "clean and safe" production processes while compensating the losers (peasant communities and poor urban neighborhoods) for their sacrifices; the compensation problem is all the more difficult because it involves a broad range of issues from industrial health and safety for workers to the large-scale loss of traditional jobs, as well as the increased pressures on the environment occasioned by the much larger scale of production.

Just as serious, the increased economic activity is coming at a time when national governments are being forced to shed traditional functions and sacrifice parts of their revenue base to attract new investment. They are devolving responsibilities to regional (state or provincial) and local administrations that are unprepared to confront the challenge; their lack of technical personnel and modern administrative systems sharpens the problems occasioned by their narrow revenue base. This heightens the cause for concern

about deteriorating environments and heightened polarization as international traders reap the benefits of the new opening in the international system.[10]

B. THE FAILINGS OF THE MARKETPLACE

Another major concern of the impact of internationalization on the environment is the difficulty of using marketplace mechanisms to compel companies incorporate the full social cost of their operations in their decision-making and their balance sheets. Even worse, these corporations are often able to influence policy makers to offer incentives that reflect the very opposite of what economists believe to be the real costs to society. Their economic and political power oft-times affords them the opportunity to negotiate subsidies or exemptions from various kinds of public service charges (including local taxes, municipal infrastructure fees, and energy tariffs) which lead to technological choices that are not in the best interests of the country or of the planet as a whole. These programs frequently lead to an increase in the capital and energy intensity of production and absolve the new installations from contributing to the substantial public investments in public services required to assure production. As a result, new production facilities often come at the expense of a deterioration in the quality of the services available to the growing populations who relocate to work there, as local governments choose to support new industrial projects without attending to increased infrastructure nneds of the people.

The distortions in the price systems are not the only failings of the marketplace. Economists have long evaluated the various externalities associated with production and collective organization. International expansion raises great concerns as new investors, encouraged by their host nations' need for foreign exchange, are increasing the intensity with which they are extracting natural resources, with dire consequences for the environment. Many production arrangements are short-term, with the time horizon limited to the period required to amortize the investment (frequently less than five years). As a result, investors have a strong incentive to raise the intensity of the extraction of value, a problem that is becoming particularly acute in the plantation and monocropping areas of the Third World. The increased intensity of extraction by one region often leads to impoverishment in others, as traditional methods of husbanding the forests or the coastal areas prove too costly to allow most groups to compete in national and international markets. These specialized production systems, whether in agriculture, mining, forestry, oceans or urban areas, are frequently accused of being among the most notorious violators of even the most minimal norms of environmental responsibility.

[10]For excellent examples of these discussions see, among others, Low 1992, Arden-Clarke 1991 and 1992, and Daly 1992 and 1993.

C. THE SEPARATION OF CONSUMPTION AND PRODUCTION

Affluence and the accumulation of wealth represent a serious threat to the sustainability of the global system. Consumption patterns in the richer countries are shaped by a productive apparatus which only thrives by generating new demands for goods in order to continue growing, rather than by attempting to define a socially desirable package of individual and collective goods that would satisfy basic needs. At present, creative energies are directed towards increasing the volume of goods with a concomitant rise in the use of energy and other natural resources, often sacrificing society's capacity to meet its larger social goals.

With a growing consciousness of the impending environmental crisis, pressures are growing for more responsible production technologies and consumption patterns. In select cases, resources are being used more efficiently and greater attention is being directed towards reducing and recycling waste streams.[11] Initial steps have been taken and further advances are foreseeable in this regard, but the underlying problem of the imperative for further growth on the basis of increased consumption of a more diverse basket of goods and services means that more resources and energy will be required to assure economic growth. This creates an unsustainable model that affluent societies are still unprepared to contain, much less reverse.

But there is a fundamental contradiction in a system that promotes an increasing separation between consumption and production. Urbanization certainly contributes to this separation. In the urban areas, people lose their perspective on the relationship between consumption and the processes of production. Throughout society, even as people are acquiring a greater consciousness of the need to care for the environment, the growing complexity of production processes and the characteristics of urban consumption lead them to lose touch with the intrinsic relationship between environmental well-being and human welfare.

With changing settlement patterns and important migratory flows uprooting people from their communities, there is a widespread breakdown of the relationship between cultural traditions and practices that perfected and transmitted through the generations mechanisms to protect environments and species. The plethora of case studies which examine the rapid displacement of inherited wisdom by modern productive solutions (some of which are included in the bibliography of this essay) offers ample evidence of the complexity of these mechanisms which used to assure a diversity of approaches to provide for social needs while creating systems that protected the environment from unmanageable degradation; obviously, some of these traditional approaches failed. The

[11]Throughout the corporate community, more attention is being paid to environmental matters. In an attempt to forestall more public intervention, the private sector has created an international standard for self-regulation (ISO 14000). Many analysts are skeptical that this will be sufficient, in view of the profound problems relating to the overall structure of society, such as those discussed in this essay.

pressures of social and productive reorganization, however, have now gone far beyond the capacity of many of these societies to adapt, with the result that many of them are witnessing or actually participating in accelerated processes of environmental deterioration. We now need to examine the contributions that new technologies and adaptations of old ones might make to enhance deteriorated landscapes and productive systems; as our understanding of traditional knowledge systems advances, it may be possible to "cross-fertilize" particular social systems with environmental management approaches from other societies.

D. THE ECONOMIC ANALYSIS OF THE 'PROBLEM'

Like the field of development itself, many of the leading international institutions reacting to the challenges created by the demand for "sustainability" have adopted the analytical framework and the tools of economics to help them design their responses. As a result, a great deal of intellectual effort and considerable expenditure have been devoted to quantifying the problems of environmental degradation and formalizing the questions into economic models that offer ways of placing prices on resources and assigning costs to pollutants and processes of degradation.[12]

For many of the multilateral agencies facing the problem of "sustainable development," the economist's toolbox offers a comforting set of analytical instruments. Varying in degree of sophistication, their approaches explain that heightening environmental problems in the developing world are the logical result of choices by policy makers and citizens. Economists argue that, under the circumstances of poverty and capital scarcity, they would expect people with economic and political power to allocate resources to promote investment, thereby increasing the rate of growth in the short run so as to have more resources available later on to meet the many demands for postponed solutions to collective and individual social welfare problems. According to this line of reasoning, environmental quality is a relatively luxurious commodity, one that can be better appreciated when people have met their basic subsistence needs.

An "Environmental Kuznets Curve" is an heuristic device used to justify this line of thought. Some research has identified a tendency for wealthier nations to allocate an increasing proportion of their national income to improving the environment.[13] Thus, we find some

[12] An example of the spate of textbooks available from commercial publishers and international organizations to prepare technicians and professionals to construct these models and perform the environmental impact assessments required for many projects is Goodstein 1995. The World Bank has published several books oriented towards policy formulation, that cover much the same ground: e.g., Pearce and Warford 1993.

[13] The curve bears the name of Kuznets for his research showing, on the basis of international cross-section analysis, that the nations with the highest per-capita incomes had a more egalitarian income distribution, leading him to suggest that social equality might imporve with economic progress; it should be note, however, that he did not believe that quantitative analysis offers a means for modifying existing

economists interested in environmental issues arguing, for example, that the North American Free Trade Agreement (NAFTA) will contribute to improving the environment by raising the rate of economic growth and stimulating demand for a cleaner environment.[14] (Grossman and Krueger 1993)

In a similar vein, neoclassical economists offer a series of analytical conclusions and policy prescriptions on the basis of their understanding of the way in which markets function. Larry Summers, the chief economist of the World Bank at the time (and later an official in charge of international economic policy in the United States), offered a vivid example of this line of reasoning when he asked whether "the World Bank [should not] be encouraging more migration of the dirty industries to the LDCs?" He explained that "a given amount of health-impairing pollution should be done in the country with the lowest cost, which will be the country of the lowest wages." Furthermore, he pointed out that "the demand for a clean environment for aesthetic and health reasons is likely to have very high income-elasticity;" since people in these countries have high infant mortality rates, they need not worry about diseases provoked by contamination which only manifest themselves in older people. (*The Economist*, Feb 8, 1992; Foster 1993)

Poor people contribute to environmental degradation, we are told, because of the urgency to meet their current needs for survival. In technical terms, they discount the future highly, placing more value on products available in the near term at the expense of activities that will only bear fruit in the future. Thus, they must make an explicit trade-off, accepting long-term environmental degradation (by ignoring, or underinvesting in, such activities as, for example, soil and water conservation and reforestation projects which would only lead to increased output five or more years hence), to meet their immediate needs for food and shelter (such a line of thinking was attributed to Indira Gandhi by Leonard 1989:4). Economists suggest that these priorities will change with economic growth, not only because producers themselves have more resources and the greater availability of capital will reduce the social discount rate, but also because their governments will be better equipped to face the problems.[15] Thus, "only after poor farmers increase their incomes

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inequalities.

[14]From a strictly technical standpoint, this analysis is seriously flawed: the authors make claims about dynamic processes on the basis of a quantitative description in comparative statics. The analysis of likely changes in both income distribution and environmental quality cannot be inferred from a simple description of what is transpiring in a broad range of countries at a single point in time. The analysis also does not address the complex distributional issue of who pays the costs for environmental improvements and which groups enjoy the benefits.

[15]The "social discount rate" is a construct of economists to examine the way in which societies evaluate the value of future increases in production and welfare in comparison with the present-day sacrifices required for growth. These calculations do not introduce differences of such benefits and costs among social groups; skilled practitioners are now trying to include environmental considerations in the process.

can they turn their attention to reducing soil erosion and other long-term environmental problems."[16] (Leonard 1989:4)

Population growth is another culprit of environmental degradation, according to those using models of rational choice behavior. Their models have integrated this "given" into a disarmingly simple quantitative relationship now widely known as the I[=]PAT formula, which posits a reverse impact of population growth (I), on population size (P), affluence (A), and technological advance (T). (Meadows et al 1992:100-103; Ehrlich and Ehrlich 1991; UNFPA 1991:16-21) When discussing problems of the developing world, analysts adopting this perspective emphasize the high rates of fertility among women in poor societies and environmentally sensitive areas to support their call for stricter measures to limit population growth. Their policy prescriptions often assume that child-bearing is an unplanned or culturally obsolete result of social organization; it seems inconceivable that in many poor societies children are virtually the only insurance that a couple can acquire to provide for periods of extreme hardship or old age. Rather than admitting that population growth is frequently a symptom of the failure to incorporate poor people into remunerative activities, these analysts dismiss those groups choosing to have more children as irrational, people who have to become more responsible. Policymakers intervene with appropriate family planning, female literacy, or social welfare strategies, or more coercive measures, should the first approach fail.

In general, economists face these issues by insisting that the market is the best mechanism society has for allocating resources. Even Herman Daly, a well known critic of conventional thinking about sustainability who introduces institutional and biological considerations into his analysis, began one of his best known books with a defense of markets:

> ...we are convinced of the general soundness of the account of markets and of the affirmation of their excellence for certain purposes that is at the heart of classical and neoclassical theory alike. We believe many public purposes could be better served by the application of market principles than by the patchwork of government regulations now so prevalent. . . The analysis of the market can continue to play an extremely important role within a context that sees the purpose of the economy as the service of community. (Daly and Cobb 1989:19)

The task of how to identify and assign prices to many resources and waste flows has become a priority for economists. Economists also participate in the political arena,

[16]In fact, these claims contradict historical evidence that shows that peasant and indigenous societies invested a great deal of effort and social organizing skills in developing major systems for terracing, irrigation, and other methods that guaranteed the productivity of the land without compromising its long term fertility. These systems have been compromised or dismembered as the exigencies of the market economy have forced people to abandon traditional methods for mobilizing labor to perform collective tasks.

advocating alternative mechanisms for translating these prices into real charges to be borne by producers and consumers. These costs, they argue, would promote a more careful use of scarce resources and a more responsible attitude towards the generation and disposal of wastes. Decisions about how to express these issues in financial terms, however, are not simple technical questions; rather, they involve complex questions about the distribution of resources and benefits among different social classes and among generations, about control over resources now and in the future, about the role of technology in society. In short, the technical debates among economists mask fundamental questions about the present functioning and future evolution of society.

The technical discussions among economists beg some important questions about how their results are to be used. Once the decision is made about what to charge people for their use of resources and for the costs they impose on society from their damage to the environment, the question arises of how to distribute these funds. The capture of part of this value could be a source of revenues to help finance the enormous expenditures needed to reverse the damage inflicted by a long history of our carefree misuse of nature; the monies might also be used to compensate communities for the mining of their resources, a mechanism to pay for the investments required to replace the resources with new productive activities that will guarantee gainful employment in the future. The institutional reforms required by this approach involve a major reordering of political and social priorities, a theme to which we must return frequently.

E. A POPULAR RESPONSE

Confronting the official defense of the necessity to accelerate the internationalization of capital, non-governmental organizations, representing the diverse interests of "civil society" throughout the world, have begun to play a crucial role in offering alternative models of sustainable development. NGO international secretariats have been active in mobilizing national and local groups throughout the world to oppose the SAPs since their "invention" in the 1970s, because of the disproportionately heavy burden they imposed on the most vulnerable groups throughout the developing world. These organizing efforts continue to be especially effective because they are not limited to the sectoral interests of environmental groups, or others interested in human rights, women's problems, labor or peasants. Rather, they share a common analysis which identifies inequality as one of the major problems and therefore broad-based democratic participation as the over-arching strategy and principle for political action. (Barkin 1994; Gregory 1992; Johnson and Cooperrider 1991; Livernash 1992; Cruz and Repetto 1992; Mumme 1993)

Although the World Bank acknowledged their existence as early as 1975, substantive NGO participation only began after a Consensus Document was drawn up in 1987 "agreeing on the necessity of drawing upon the knowledge and experience of Southern NGOs and grassroots organizations." The NGO Working Group brings together a wide variety of national and local organizations that have been attempting to coordinate their efforts; in the

period since the 1992 Rio UNCED conference, they have been more successful in developing a "convergence of vision and collaboration between development and environment NGOs." (Arruda 1993) The combined experience of the NGOWG's permanent Secretariat and its member organizations has gradually earned the group a greater role in the design and implementation of Bank financed projects. The Bank now recognizes, albeit begrudgingly, that these organizations can be effective in ensuring the design and implementation of many development assistance programs.

An institutional base is being built for moving beyond the dichotomy between inward- and outward-oriented growth; the systematic organizing of grassroots groups throughout the world, together with the growing recognition of the failure of market solutions to provide answers to all the problems, is creating a new framework in which advocates of popular participation in the promotion of sustainable development can not only take a major place in the debates but can also participate in the design and implementation of national development programs. Of course, this does not resolve the more intractable problems of the conflict of interest among social groups within each country and region, which constitute the major barrier to sustainable development.

IV. New strategies for rural sustainable development: Popular participation, food self-sufficiency and environmental regeneration

> *"certain societies, traumatised by political, economic and ecological shocks, need **catalysers** to regain their organizational and creative capabilities."*
>
> Ben Abdallah and Engelhard (1993)

Today's dual economy is an anachronism. While internationalization promises higher profits for capital than ever before, the contradictions bred by impoverishment are provoking a world wide rebellion. Much of this essay has traced the international expansion of capital, and how it integrates resources and people into a polar system of great wealth accompanied by poverty and despoliation. The expansion has created vast extensions of land that have been denuded of their primary cover but which cannot be profitably cultivated, along with large hoards of people living in precarious conditions in rural areas or urban slums; this waste of natural and human resources imposes a huge burden on society, not only in terms of opportunities foregone, but also for the costs of managing the social control and welfare tasks.

A. SUSTAINABILITY

Sustainable development has become a powerful and controversial theme, creating seemingly impossible goals for policy makers and development practitioners. Virtually everyone now couches proposals for change in terms of their contribution to "sustainability." There is a widespread acknowledgment that **present levels of per-capita resource consumption in the richer countries cannot possibly be generalized** to people living in the rest of the world; many argue that present levels of consumption cannot be maintained, even for those groups who now enjoy high levels of material consumption.[17] In this new discourse, resources encompass not just inherited natural capital, including raw materials (such as soil, sub-soil products, good quality air and water, forests, oceans and wetlands), but also the earth's capacity to absorb the wastes produced by our productive systems; of course, the analysis of resources also includes considerations about the quality of the built environments in which we live and work. (An excellent introduction to the underlying discussion can be found in Wilson 1992.)

The concern for sustainability has become global, reflecting the widespread fear of the deterioration in the quality of life. Existing productive systems and consumption

[17] In this sense, we reject the notion that what is being sustained is growth itself, rather than a *process* that aims to contribute to improved welfare of people in an environment whose integrity is being protected.

patterns threaten the continuity of the existing social organization. The inequitable and undemocratic nature of current patterns of development raises the specter of the unraveling of present systems –social, political, and productive and even those of personal wealth. A different structure, more attuned to the earth's possibilities for supporting and reproducing life, must replace them.

To address questions of sustainability, then, is to confront the fundamental dilemmas facing the development community today. While the trickle-down approaches to economic progress enrich a few and stimulate growth in "modern" economies and "modern" sectors within traditional societies, they do not address most people's needs; moreover, they have contributed to depleting the world's store of natural wealth and to a deterioration in the quality of our natural environment.

In the ultimate analysis, we rediscover that in present conditions, the very accumulation of wealth creates poverty. While the poor often survive in scandalous conditions and are forced to contribute to further degradation, they do so because they know no alternatives. Even in the poorest of countries, social chasms not only prevent resources from being used to ameliorate their situation, but actually compound the damage by forcing people from their communities and denying them the opportunities to devise their own solutions. For this reason, the search for sustainability involves a dual strategy: on the one hand, it requires releasing the bonds that restrain people from strengthening their own organizations, or creating new ones, to use their relatively meager resources to search for an alternative and autonomous resolution to their problems. On the other hand, a sustainable development strategy must contribute to the forging of a new social pact, cemented in the recognition that the eradication of poverty and the democratic incorporation of the disenfranchised into a more diverse productive structure are essential.

Sustainability, is not "simply" a matter of the environment, economic justice, and development. It is also about people and our survival as individuals and cultures. It is, most significantly, a question of whether and the way in which diverse groups of people will continue to survive. In fact, the burgeoning literature about the move towards sustainability celebrates the many groups who have successfully adapted their cultural heritages, unique forms of social and productive organization, and specific ways of relating to their natural environments.

Sustainability, then, is about the struggle for diversity in all its dimensions. International campaigns to conserve germplasm, to protect endangered species, and to create reserves of the biosphere are multiplying in reaction to the mounting offensive, while communities and their hard pressed members struggle against powerful external forces to defend their individuality, their rights and ability to survive while trying to provide for their brethren. The concern for biodiversity, in its broadest sense, encompasses not only threatened flora and fauna, but also the survivability of these human communities, as stewards of the natural environment and as producers.

Internationalization has stymied this movement towards diversity. The powerful economic groups that shape the world economy (transnational corporations and financial institutions, and influential local powers, among others) are striving to break down these individual or regional traits, molding us into more homogenous and tractable social groups. They would position us to support the existing structure of inequality and to engage in productive employment; and, for those lucky enough to enjoy high enough incomes, to become customers.

B. REVIEW OF THE LITERATURE

In contrast to the generalized theories about the development process and sophisticated models of economic growth, the literature on sustainable development offers a mixture of high ethical principles, manuals for practical organization and implementation, and very concrete case studies of successes and failures. In this section we offer a rapid overview of some of the general approaches and solutions characteristic of this literature that might be suitable for various regions and problems. Rather than attempt to be comprehensive, this discussion is meant to convey the flavor of the discussion and the directions for future work. More than anything else, it is meant to reinforce the growing conviction that sustainable development may be an idea "whose time has come"; its implementation requires challenging not only the self-interest of the wealthy minority, but also the consumption package which is defining our quality of life. This is the real challenge we face today.

Sustainability is a process rather than a set of well-specified goals. It involves modifying processes in nature, the economy and society. It has become more fashionable as people have discovered that increasing production or even national wealth does not guarantee improving living standards; but the challenges of environmental protection are perhaps the most immediate force making the discussion so important. There are fundamental ethical questions about the sustainability of a global structure that perpetuates high degrees of international inequality while working with rural communities with little chance of satisfying even the most basic of their needs.[18] These overall questions go far beyond the scope of this paper, which addresses strategies to promote a greater degree of sustainability in rural development. But for an effort to be successful it will also contribute to modifications in national development programs conducive to greater popular participation in their design and implementation.

A strategy to promote sustainability must focus on the importance of local participation and control over the way in which people live and work. The

[18] This is the field of concern of the International Development Ethics Association, with headquarters at the University of Maryland, USA.

question of local or regional autonomy and autarchy is an important part of any discussion of national and international integration. The issues of autonomy versus cooperation and coordination are very much related to others having to do with self-sufficiency versus international specialization. The analysis of the previous sections places strategies for sustainability at the opposite end of the spectrum from the prescriptions of the neoliberal reforms. But yet, the advocates of sustainability recognize that the choices are not this simple: industrial products and technologies will not be rejected simply because they involve hierarchical control and maddeningly alienated work. The response must be more reflective, and confront the realities of an urbanized global society in crisis, with some nations incapable of providing for the most elemental needs of their citizens, while at the same time permitting others to enrich themselves while ransacking their storehouse of natural resources. In what follows we will briefly review some of the strategies proposed to promote sustainable development in different contexts.

C. FOOD SELF-SUFFICIENCY: THE RELATIONSHIP BETWEEN PRODUCTION AND CONSUMPTION

The first issue that must be dealt with squarely is that of self-sufficiency versus integration into the global trading system with a tendency towards specialization based on monocropping systems. Sustainability need not be tantamount to autarchy, although it is conducive to a much lower degree of specialization in all areas of production and social organization. Food self-sufficiency emerged as a necessity in many societies because of the precariousness of international trading systems; specific culinary traditions developed on the basis of highly localized knowledge of fruits and vegetables, herbs and spices. Although the introduction of green revolution technologies raised the productive potential of food producers tremendously, we soon found out how hard it was to reach this potential and the high social and environmental costs that such a program entailed.

Food self-sufficiency is a controversial objective that cogently raises the question of autonomy. Development practitioners are virtually unanimous in rejecting calls for an extreme position, although Mexico's declaration in favor of such a program in 1980 to the World Food Council was broadly applauded by Third World representatives. Today the discussion is more complex, for there is general agreement on two contradictory factors in the debate:

> 1) On the one hand, local production of basic commodities which can be produced equally well but more efficiently elsewhere is a luxury few societies can afford, *if and only if* the resources not dedicated to the production of these traded goods can find productive employment elsewhere;

2) On the other hand, there are probably few exceptions to the observation that greater local production of such commodities contributes to higher nutritional standards and better health indices. In the context of today's societies, in which inequality is the rule and the forces discriminating against the rural poor legion, a greater degree of autonomy in the provision of the material basis for an adequate standard of living is likely to be an important part of any program of regional sustainability. It will contribute to creating more productive jobs and an interest in better stewardship over natural resources.

There are many parts of the world in which such a strategy would constitute a wasteful luxury. It would involve the diversion of resources from other uses which could be more productive in contributing to the availability of goods for trading. But even in circumstances in which wholesale importation of basic commodities is advisable, people concerned with sustainable development raise questions about modifying local diets that are attuned to the productive possibilities of their regions; in the current scene, the tendency to substitute imported products for traditional foods is particularly troublesome with terrible consequences for human welfare in many societies.[19]

Food self-sufficiency, however, is only one facet of a broader strategy of productive diversification whose tenets are very much a part of the sustainability movement. The principles of greater self-reliance are fundamental for the whole range of products and services which a society would like to assure itself. Historically, rural denizens never have been 'just' farmers, or anything else, for that matter. Rather, rural communities have been characterized by the **diversity of the productive activities in which they engaged to assure their subsistence**. It was only the aberration of transferring models of large-scale commercial agriculture to development thinking in the Third World that misled many into ignoring the multifaceted nature of traditional rural productive systems. Sustainable development strategies directly face this problem, attempting to reintroduce this diversity, as they grapple with problems of appropriate scales of operation and product mix.

Any stratgey of productive diversification must be related to the pattern of local needs and resources. To the extent that people are not involved in the design and implementation of programs to assure their own consumption needs, they are also going to have less appreciation of the impact of their demands on the rest of society and the natural environment. For this reason, the literature on sustainability emphasizes the

[19]The complexity of the task of ending hunger is widely recognized. But recent literature has stressed the social rather than the technical (or supply-based) origins of famine and hunger; Sen (1981, 1992) is a particularly effective exponent of this point, while others have gone into greater detail about the "social origins" of food strategies and crises (Garcia 1981; Barraclough 1991). The "modernization" of urban diets in Nigeria, by substituting wheat and rice for sorghum and millet, is an egregious case of creating dependency, reducing opportunities for peasant producers and raising the social cost of feeding a nation (see Andrae and Beckman 1985).

importance of some direct relationship among the people involved in the planning of production and those examining the question of what levels of consumption are possible.

D. POPULAR PARTICIPATION, SOCIAL JUSTICE, AND AUTONOMY

Sustainability is about direct participation. If there is one constant in the diverse literature in the area, it is the recognition that the movement has emerged from the grassroots to participate in and support intermediate level NGOs that claim to speak for the extraordinary proliferation of community groups and civic organizations which are beginning to demand an increasing role in the national policy debate.

These demands and the responses from official agencies on the multilateral and national levels are quite instructive. There is a generalized agreement among practitioners that sustainable development policies cannot be designed or implemented from above.[20] To be successful they require the direct participation of the intended beneficiaries and others who might be impacted. But there is also general agreement that this participation must involve more than a mere consultative role. For such an approach to work, it requires that the powerful become aware of the need to integrate people into real power structures in order to confront the major problems of our day; this entails a redistribution of both political and economic power. This is a fundamental prerequisite for any program for sustainability, as most of the technical analyses point out that existing patterns that perpetuate these inequalities lead to increased environmental degradation. (e.g., Boyce 1994; Goodland and Daly 1993)

In this formulation, sustainability is not simply about environmental preservation. It is about the active participation of people in the understanding of the dynamics of natural systems and the redesign of productive systems that will allow them to be productive while conserving the planet's ability to host uncounted future generations. It is an approach to the problem of “empowerment”; another word which has also become popular. Perhaps, the most telling aspects of the literature on sustainability is the cumulus of examples of the way in which people can and do “act in solidarity with each other when the state isn't watching” to solve common problems and initiate creative experiments for social innovation. (Friedmann, 1992:168-171; also see Ostrom, 1990; 1993) Of course, the life work of Albert Hirschman offers countless examples of the

[20]This is the theme of Stiefel and Wolfe's book (1994), summarizing a broad range of experience about popular participation. They point to the "declining state capacity to provide services and reduce income inequalities," accompanied by an equal reduction in "public confidence in the legitimacy of its efforts." When joined with the processes of political democratization, it is not surprising that the international community is "looking to 'participation' as a means of making their development projects function better, helping people cope... [and] as an indispensable dimension of the environmental policies ... that can no longer be evaded or postponed." (p. 19)

ways in which the NGOs and other grassroots groups have been successful in exerting pressure to modify development projects as part of their own (local) perception of development priorities.[21] Interestingly enough, however, under special circumstances, the state itself may (be forced to) play a creative role in encouraging or "liberating" creative participatory energies to promote programs of local development and social justice which also contribute to moving the society in the direction of sustainability (Alves, 1994; Tendler, 1993).

Lest we become too sanguine, much of the literature shows how and why the state does not operate to "empower" the downtrodden. The difficult juncture of the late 1980s forced the Mexican government to finance grassroots development schemes through local mobilization in communities dispersed throughout the country; the Solidarity program was highly regarded by the international press and development community as an effective welfare (and vote-getting) program, but did little to create permanent productive opportunities for the participants, who were rarely able to continue once the official programs were terminated; Colombia's later copy of the program promises to offer no more opportunities for the poor. In his path-breaking examination of problems of soil erosion, Blaikie goes further to explain that market signals generally push government into programs which benefit the rich and that much of the productivity enhancing research is misguided, but his most general criticism is one that neatly encapsulates much of the criticism of development experience of the past half-century: "the emphasis is upon particular commodities isolated from social, economic and environmental context." (1985: ch.2)

In the final analysis, a program focusing on sustainability must also deal with poverty. There is a widespread recognition that poverty and environmental destruction go hand in hand, although less thought has been directed towards the enormous environmental problems occasioned by the present consumption standards of the affluent, throughout the world. In the coming period, economic progress itself will depend on involving the grassroots groups to help the affluent find ways to control their consumption and in the organization of development programs which offer material progress for the poor and better stewardship of the planet's resources.

E. A STRATEGY OF DEMOCRATIC PARTICIPATION FOR RURAL DIVERSIFICATION AND PRODUCTIVE IMPROVEMENT

Sustainable development is an approach to productive reorganization that encompasses the combined experiences of local groups throughout the world. The

[21] In a recent book, Rodwin and Schön (1994) offer us the opportunity to explore Hirschman's singular contributions to development theory and practice. Emphasizing the importance of placing people at the center of the process, we have learned from Hirschman that to succeed these actors must become integrated into the larger processes of which they are a part.

techniques for implementation vary greatly among regions and ecosystems. A single common denominator pervades this work: the need for effective democratic participation in the design and implementation of projects; its centrality is evident in the titles of some the excellent writing on the subject: Ben Abdallah and Engelhard, 1993; Calderon, et al., 1992; Machado, et al., 1993; Nuñez, 1993. Another lesson from recent experience is the importance of creating networks to support and defend this work; without the mutual reinforcement that the international grouping of NGOs provides, the individual units would not be as effective in obtaining funds for their projects, in obtaining technical assistance for their implementation, and political support against intransigent or incredulous local and national politicians and institutions. (Arruda, 1993; Friedmann and Rangan, 1993) The successes are due, however, not just to the tenacity and sacrifice of committed organizational workers and local participants, but also to the forging of a support structure, nationally and internationally, of workers, peasants, scholars and activists, who are willing to mobilize to support the spontaneous or well-organized efforts of individual groups throughout the world who are promoting projects of democratic participation for sustainable development. Organizations are forming, alliances recast, experiences reevaluated; in Latin America one of the most promising is the RIAD (Red Interamericana de Agriculturas y Democracia, 1993) with headquarters in Chile.

Sustainable development, however, is not an approach that will be accepted, simply because "its time has come." The opening of the multilateral development community to the NGOs and other grassroots groups, including the long term commitment of organizations like the InterAmerican Foundation in the USA, the IICA in Costa Rica and numerous foundations from western Europe to support such efforts, is not just a token gesture by powerful agencies to the powerless; rather, it reflects the recognition that these base level groups have been effectively mobilizing people and resources to achieve measurable improvements in living standards while contributing noticeably to protect the environment. Such victories signal the beginning, not the end of a process.

Furthermore, recognition does not mean acceptance of the goals or even the principles of the sustainable development community. As we have repeatedly stressed in the preceding pages, the prevailing model of industrial development has created structures of concentrated wealth and power which systematically generate social and environmental problems on a global scale. In the process, small but powerful elites have consolidated their control in many societies, and countless others benefit from the spoils of a consumption model that the system has engendered; this is an unsustainable pattern of production and consumption, a model which can be made to be more efficient, less contaminating, but which in the end will continue to be inviable. Vested interests actively deny access to resources, to employment opportunities, to even the minimum standards of amenities to enormous segments of humanity, while wasting exorbitant amounts on ostentatious expressions of consumption for a privileged few.

Sustainable development, in the final analysis, involves a political struggle for control over the productive apparatus. It requires a redefinition of not only what and how we produce but also of who will be allowed produce and for what ends. For organizations involved in projects of sustainable development in rural areas, the conflict will center around control of mechanisms of local political and economic power, and the use of resources. The struggle to assure a greater voice in the process for peasants, indigenous populations, women, and other underprivileged groups, will not assure that their decisions will lead to sustainable development. But such broad-based democratic participation will create the basis for a more equitable distribution of wealth, one of the first prerequisites for forging a strategy of sustainable development.

F. THE VARIETIES OF SUSTAINABLE DEVELOPMENT

1) *The regions that get left behind* International economic integration will not affect all peoples equally. In the case of the NAFTA, for example, large segments in all three countries will remain in the backwaters of international progress. To some degree, these people are in regions that have the unique opportunity to take advantage of their status as marginal. Many of these regions are peopled with groups of indigenous origin who still treasure much of the experience that has been passed down through the generations; recent research in the Third World on ethnobotany, ethnobiology, agrobiology and agroforestry is attempting to capture some of this wisdom. This work is showing that the productive potential of traditional agriculture is many times what is currently obtained, that there are cultural factors which prevent the full application of this knowledge (including, of course, the prevalent disdain for indigenous culture, except as a consumption good for tourists and eccentric intellectuals), and that some of our discoveries about these systems are transferable among cultures, as well as useful in improving cultivation systems used by "modern" farmers. Finally, as we conduct more research on these native cultural practices, we are learning that the native practitioners have begun to integrate more recent technological advances to improve productivity and reduce the amount of labor required in production.

In these regions the redevelopment of the "peasant economy" is both desirable and urgent. It is not simply a matter of rescuing ancient cultures, but rather of taking advantage of an important cultural and productive heritage to provide solutions to the problems of today and tomorrow. **It is not a question of "reinventing" the peasant economy**, but rather of joining with their own organizations to carve out political spaces that will allow them to exercise their autonomy, to define ways in which they will guide production for themselves and for commerce with the rest of the society. Once again, the technocratic identification of productive mechanisms and the cataloging of systems of indigenous knowledge (which, for example, are now the order of the day among transnational corporations looking for new sources of germplasm for their biotechnological advances), are not going to reverse the structure of discrimination, unless accompanied by effective political participation. (Nuñez 1993)

These regions that get left behind will have many opportunities to explore ways in which to use their resource endowments in creative ways. Among the most important are projects administered by local community groups which begin to diversify their productive base, using sources of renewable energy, and evaluating the natural environment to develop new products or find new ways of adding value to traditional technologies and goods; projects mentioned in the literature include the harnessing of solar, geothermal, and aoelic energy for food processing, improving the quality and increasing the output of artisan crafts (or marketing them so that they command better prices), developing facilities for recreation and institutional arrangements to permit outsiders to gain an appreciation of indigenous cultures. The opportunities to seek out new ways of organizing the natural resources base are great and the initiatives to implement such programs are gradually finding respondents interested in exploring this and other alternatives. (Barkin, 1992)

2) *The centers of biodiversity*: The world's scientific and environmental community has mobilized to identify and protect an increasing number of particularly valued areas. These "biosphere reserves" in the wilds and urban "heritage" centers are guardians of part of the ecosystem's natural and produced treasures. But they are also controversial battlefields where science and community are struggling for an operational definition of environmental protection and sustainability. The lines are drawn most clearly in the efforts to create nucleus areas in the designated biosphere reserves where people are not permitted to intrude; in some cases, the designation -or some similar status, such as national park- actually involves the removal of local inhabitants from the area in the name of the environment. On a more general level, the growing concern for protecting endangered species has led to conflicts between local populations which have traditionally coexisted with these species, exploiting them in sustainable ways, until the powerful forces of the market led to increased kill rates that threatened their very survival.

While there is no one generalized solution to the conflicting needs and goals of the groups involved in these regions, it does seem that the philosophical approach of "sustainability" does offers some insights. One promising proposal suggests creating "peasant reserves of the biosphere" or "neighborhood restoration clubs" in which local communities are encouraged to continue living within a region, husbanding the resources. In exchange, the "outside world" would accept the obligation to ensure that the community was able to enjoy a socially acceptable quality of life with economic opportunities similar to those of other groups and full political participation at all levels. (One particularly interesting example of this approach is the attempt to create such a model in the Chimalapas region of southwestern Oaxaca in Mexico, an attempt that has overcome many political obstacles, but still has not been completely successful.) Other approaches embodying this approach involve organizing the local communities which formerly were engaged in predatory activities to participate in (or actually help design) protective activities as part of a strategy of productive diversification for community

development; this would include ecotourism but could not be limited to this type of activity, because research has shown it to be too sporadic and insecure to offer economic security for most communities.

G. AUTONOMOUS DEVELOPMENT: A STRATEGY FOR SUSTAINABILITY

Sustainable development is not consistent with the expansion of "modern" commercial agriculture. Specialized production based on use of machinery and/or agrochemicals that emerged from the “green revolution” approach to technological development has produced vast volumes of food and other primary products; the social and environmental costs, however, are proving to be unacceptable. Commercialized rural development has brought in its wake the progressive marginality of peasant and indigenous populations.

Global integration is creating opportunities for some, nightmares for many. Domestic production is adjusting to the signals of the international market, responding to the demands from abroad and importing those goods that can be acquired more inexpensively elsewhere. Urban-industrial expansion has created poles of attraction for people and their activities that cannot be absorbed productively or healthfully. Urban slums and deteriorating neighborhoods house people seeking marginal jobs while local governments are overwhelmed by the impossible tasks of administering these burgeoning areas with inadequate budgets. At the same time, peasant communities are being dismembered, their residents forced to emigrate and abandon traditional production systems. they also cease to be stewards of the ecosystems of which they are a part.

In this juxtaposition of winners and losers, a new strategy for rural development must be considered: a strategy that revalues the contribution of traditional production strategies. In the present world economy, the vast majority of rural producers in the Third World cannot compete on world markets with basic food stuffs and many other primary products: the technology and financial might of farmers in the richer nations combine with the political necessity to export their surpluses to drive down international prices, often below the real costs of production in the third world, especially if these farmers were to receive a competitive wage. Unless insulated in some way, their traditional products only have ready markets within the narrow confines of communities that are suffering a similar fate.

Marginal rural producers offer an important promise: if encouraged to continue producing, they can support themselves and make important contributions to the rest of society. In contrast, if prevailing rural policies in Third World countries define efficiency by the criteria of the international market, based on the political and technological structure of the industrialized nations, peasants will be driven from their traditional planting programs, and food imports will begin to compete for scare foreign exchange

with capital goods and other national priorities, as has happened in many countries. (Barkin, Batt and DeWalt 1991) The approach suggested by the search for sustainability and popular participation is to create mechanisms whereby peasants and indigenous communities find support to continue cultivating in their own regions. Even by the strictest criteria of neoclassical economics, this approach should not be dismissed as inefficient protectionism, since most of the resources involved in this process would have little or no opportunity cost for society as a whole.[22]

In effect, we are proposing the formalization of a autonomous production system. By recognizing the permanence of a sharply stratified society, the country will be in a better position to design policies that recognize and take advantage of these differences to improve the welfare of groups in both sectors. A strategy that offers succor to rural communities, a means to make productive diversification possible, will make the management of growth easier in those areas developing links with the international economy. But more importantly, such a strategy will offer an opportunity for the society to actively confront the challenges of environmental management and conservation in a meaningful way, with a group of people uniquely qualified for such activities.[23]

Local autonomy is not new. Unlike the present version of the dual economy that permeates all our societies, confronting rich and poor, the proposal calls for creating structures so that one segment of society that chooses to live in rural areas finds support from the rest of the nation to implement an alternative regional development program. The new variant starts from the inherited base of rural production, improving productivity by using the techniques of agroecology. It also involves incorporating new

[22]This is a crucial element. Many analysts dismiss peasant producers as working on too small a scale and with too few resources to be efficient. While it is possible and even necessary to promote increased productivity, consistent with a strategy of sustainable production, as defined by agroecologists, the proposal to encourage them to remain as productive members of their communities should be implemented under existing conditions.

In much of Latin America, if peasants ceased to produce basic crops, the lands and inputs are not often simply transferable to other farmers for commercial output. The low opportunity costs of primary production in peasant and indigenous regions derives from the lack of alternative productive employment for the people and the lands in this sector. Although the people would generally have to seek income in the "informal sector," their contribution to national output would be meager. The difference between the social criteria for evaluating the cost of this style of production and the market valuation is based on the determination of the sacrifices *society* would make in undertaking one or the other option. The theoretical basis for this approach harks back to the initial essay of W. Arthur Lewis (1954) and subsequent developments that find their latest expression in the call for a "neostructuralist" approach to development for Latin America (Sunkel 1993).

[23]Much of the literature on popular participation emphasizes the multifaceted contribution that the productive incorporation of marginal groups can make to society. (Friedmann 1992; Friedmann and Rangan 1993; Stiefel and Wolfe 1994) While very little has been done on specific strategies for sustainability in poor rural communities, it is clear that much of the experience recounted by practitioners with grassroots groups (e.g. Glade and Reilly 1993) is consistent with the principles enunciated by theorists and analysts like Altieri (1987).

activities that build on the cultural and resource base of the community and the region for further development. It requires very site-specific responses to a general problem and therefore depends heavily on local involvement in design and implementation. While the broad outlines are widely discussed, the specifics require concrete investment programs from direct producers and their partners.Our work with local communities in the over-wintering area of the Monarch Butterfly in west-central Mexico is an example of this approch to development.[24]

What is new is the introduction of an explicit strategy to strengthen the social and economic base for an autonomous production system. By recognizing and encouraging the marginal groups to create an alternative that would offer them better prospects for their own development, the approach suggested here might be mistaken to be the simple formalization of the "war on poverty" or "solidarity" approach to the alleviation of the worst effects of marginality. This would be an erroneous understanding, because the key to the proposal is not a simple transfer of resources to compensate groups for their poverty, but rather an integrated set of productive projects that offer rural communities the opportunity to generate goods and services that will contribute to raising their living standards, and those of their fellow citizens, while also improving the environment in which they live.

[24]For the more general discussion, see Adelman 1984 and Barkin 1990, ch 7. FUNDE (1994) offers a specific program for the reconversion of El Salvador based on the principles discussed in Section 4 of this paper. The proposals of groups like the IAF and RIAD offer specific examples of ongoing grassroots efforts to implement initiatives like those discussed in the text. The Centro de Ecología y Desarrollo (Chapela and Barkin 1995) is pursuing a program of regional development consistent with the proposed strategy.

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