

How the current ecological crisis demands pluralistic, cooperative, and decentralized decision-making processes

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A Introduction

The specter of a global ecological crisis is here. I define the current ecological as the simultaneous degradation and resultant collapse, of many different aspects of ecospheric functioning in many different locations around the globe. Increasing numbers of scientists and other experts agree that the biosphere is being taxed to its limit in its ability to continue to function in its three major roles: as a source for raw materials, as a sink for "wastes," and (a somewhat overlapping "catch-all" category) as a provider of ecological services. Of these three major functions of "the environment,"² the most difficult to replace, as I will touch on below, is the ecosystemic aspect. Below I have listed some eye-opening statistics which talk about the global situation. I give these statistics to give the reader a flavor of the enormity of the problem, and some idea of why I call it a crisis.

- Human actions have transformed 1/3 to 1/2 of the globe's surface(ZPG 1999)
- we now use more than half the available surface fresh water on earth; and distributional problems have resulted in severe water shortages for at least 300 million people world wide(ZPG 1999)
- current extinction rates are between 100 and 10,000 times the geologic background rate (Chapin 1998)
- just in the US alone, we lose 100,000 acres of farmland to salinization per year (Orr 1999)
- > 40% of world's original tropical forests have already disappeared & continue to disappear at a rate of 30k-37mi²/yr, (82-101 mi²/day) (Ekin 1992)

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² From my studies in ecology, I have inherited a wariness of the personification of "nature" to "the environment." In the course of my study of environmental issues in the popular, as well as scholarly literature, I have often been reminded of the dangers of this practice. Breaking the natural world into categories is necessary in order to talk about environmental issues; however it is important to recognize that these decisions are somewhat arbitrary, and that there is an interconnectedness between categories.

•6mhas are added to the worlds deserts every year (Ekin 1992)

Put simply, the threat of ecological collapse, which these statistics hint at, is the result of modern western society's lack of regard for the interdependence of the ecosphere, of which we are a part.

One of the emerging (and sobering) facts about ecological damage, is that the complex nature of ecosystems tends to create negative feedback loops which magnify damage above a certain threshold level. It appears that especially in resource-poor ecosystems, species are closely evolved to their environment and there are few "duplicate" species. In other words, in ecosystems like rainforests for example, many plants have only one or two species evolved to pollinate them or distribute their seeds; what this means is that very few species would be able to adapt into the functional role of another species, if the latter were to go extinct. There is evidence that once an ecosystem, especially resource-poor ecosystems, has been changed outside of a certain threshold, those same interrelationships would take hundred or thousands of years to become reestablished (Chapin 1998).³

Science has finally come to the point where it is increasingly being recognized that the way that we are interacting with the planet is destroying it. What we need, then is to evaluate why we have arrived at this terrible juncture, and what can be done about it. In this paper I examine current western culture, human nature and centralized power as three potential causal agents of the crisis and then some potential cultural, political and economic solutions.

³ex: irreversible loss of rain in topical forests post-clearcutting and the ecosystem destroying loss of soil symbionts in Pacific northwest forests, to name two.

B. Why

1. Introduction

In the below three sections, I will consider three different possible causes of the current ecological crisis. Firstly, I examine western culture and its anti-environmental aspects, which have been emphasized recently. Secondly, I look at the Hobbesian view of human nature which is intermeshed with the cultural explanation and also supports the need for centralized power. Thirdly, I examine the issues surrounding centralized power directly, as manifested in the World Bank, the IMF and the WTO.

2. Western culture

This ecological crisis has occurred due to many complex and interrelated factors, however, it has become apparent that perhaps the most salient, the over-arching cause is that of Western culture's attitude of control towards the natural world. What perhaps started this cultural idea was the idea of Francis Bacon envisioned putting nature on the rack and forcing her to divulge her secrets though unwilling she may be. This idea has continued currency, embodied in an attitude of hostility and exploitation towards the environment. We have regarded science as being able to wrest the secrets of the natural world forth, so that we can employ them to our benefit. In this view, nature is frequently envisioned in mechanistic metaphors, able to be controlled if only we know how it functions. Nothing spiritual forms a part of this perspective, in fact this worldview lies closely to the economic worldview which tries to value everything in monetary terms (Williams 1980; Bowers 1993).

So, as a result of this attitude towards nature, we have assigned great value to scientists and

other experts in being gable to pose the questions and then to answer them (Mary Tiles). This technocratic attitude of policymaking seems want, at its worst, to essentialize and generalize, which ignores the heterogenous nature of our planet to the detriment of our harmonious relationship with it.

Julian Simon, is the most outspoken proponent of the prevalent idea that more technology will solve any and all problems. The ultimate resource for Simon is human creativity for inventions. Simon's ideology epitomizes this aspect of western cultural attitudes toward nature; for him not only is his focus on the human being acting in and on the world, he also incorporates an idea that we do not have to worry about our practices because there are not limits to our progress. This perspective is a contributing cause of the ecological crisis, basically because it denies the possibility of such a crisis. In many ways, Simon's view is a continuation of Bacon's that the earth is there to be exploited without care for anything external to the human sphere.

The reason why Simon is a contributor to the ideological roots of the crisis, is that his faith is misplaced; he has ignored the overwhelming preponderance of evidence which indicates that we in fact cannot survive without a healthy environment. "Simonists" might get support of their ideas from humanity's success in overcoming first Malthus's prediction of imminent famine due to overpopulation, and then The Club of Rome's prediction that we would run out of natural resources soon. However, the situation today is different. Whereas these previous two studies focused on the *source* capacities of the environment (food and raw materials respectively), we are currently facing a crisis in the *ecological services and sink functions*. Whereas raw materials can be replaced by other materials, such as plastic or metal for wood, replacing ecosystem services would be much more difficult. In a recent evaluation by Robert Costanza, et al.(a very rough first approximation of) the value of the earth's ecosystem services and natural capital was derived as \$33 trillion dollars, almost double the global GNP at the time (Costanza 1994). This value, however is a very rough estimate of the value of the services and in many respects quite a few are irreplaceable.

As we will see later, this type of ideology has manifested itself in the activities of development organizations like the world bank, which generally prescribe technical fixes, rather than social or political ones.

3. Human Nature

A hobbesian view of the nature of humanity lends support for the need for centralized control over decisionmaking. A Hobbesian view of humankind posits the need for a Leviathan, a sovereign ruler, to adjudicate our conflicts. If such a situation does not exist, that is if the governmental mechanism for adjudicating does not exist, then it is “a perpetual and restless desire of power after power that ceaseth only in death,” otherwise known as the war of all against all (Hobbes, 610). By this rationale, humans are born to take all they can get without concern for anyone or anything else, including the environment.

Robert Putnam, in his studies in the nature of social capital in Italian communities and in America as a whole interprets his results with a different spin on this idea. He states:

For a variety of reasons, life is easier in a community blessed with a substantial stock of social capital. In the first place, networks of civic engagement foster sturdy norms of *generalized reciprocity* and encourage the emergence of *social trust*. Such networks facilitate *coordination and communication*, amplify reputations, and thus allow *dilemmas of collective action to be resolved*. *When economic and political negotiation is embedded in dense networks of social interaction, incentives for opportunism are reduced*. At the same time, networks of civic engagement embody past success at collaboration, which can serve as a cultural template for future collaboration. Finally, dense networks of interaction probably broaden the participants' *sense of self, developing the "I" into the "we," or (in the language of rational-choice theorists) enhancing the participants' "taste" for collective benefits*. (Putnam 1996, my emphasis)

In other examples, such as the movement of Indian peasants to stop Monsanto and other western agricultural multinationals from patenting Indian crops, and introducing their agribusiness practices, the idea that we are unable to cooperate without being forced to by a leviathan seems questionable (Ainger 1999). There is no doubt that social mechanisms of lawmaking and

enforcement are crucial, but these can be cooperative, and participatory rather than monarchical, and, I argue is more effective if it is.

4. Centralized Decisionmaking and Globalization: The World Bank, the IMF, and the WTO

a. Introduction

In short, concentrated power will never achieve an ecologically balanced society. My point is simply that large organizations like the world bank have a culture, which I describe below, which has blind spots in areas crucial to solving the environmental crisis. The unattainability of objectivity and impartiality has been recognized and theorized since at least Hobbes's Leviathan, where his ruler was not to be and it has recently received persuasive modern becoming increasingly clear that (cf Young 1990; Hobbes 1651). As a result, the technocratic idea that an elite cadre of experts can decide matters of policy for the populace that may be economically efficient, but only at the cost of great inequity, and policy out of step with both the needs and desires of the people and the ecological reality. The basic idea is that the further one gets removed from an issue in question, the more difficult a time one has in being able to render an accurate verdict. This is especially true in complicated matters such as those arising in the ecological crisis.

Compounding this problem is the way in which our modern policymaking structures call upon scientists to provide their input before they have had enough time to consider the matter fully. When scientists have analyzed a question for long enough, they sometimes can crystalize opinion around a particular verdict, even if they can never be absolutely certain ($p \text{ never} = 0$, for ex). In

these cases, there is a clear role for the experts to make the decision about this question. However this ideal scenario rarely occurs in practice for at least two main reasons:

1) Scientists are forced to provide input to policy before scientific opinion clearly favors one answer.

2) There are always more than one way to phrase the problem. If we leave the phrasing up to the scientists, then we have made the policy decision to privilege their opinions over those of the public. In a democracy, shouldn't the populous decide, rather than a scientific oligopoly? The reply is that elites can do a better job than the common citizen. Suffice to say that there is evidence to refute this point of view,⁴ especially when dealing with environmental problems with many complex interactions, what we decide is relevant for consideration is important, for the picture shifts dramatically depending on what we allow our gaze to consider. Shouldn't we allow local expertise to the table as they can have been interacting with these systems for a very long time and thus have insights from a valuable different perspective. Part of that perspective involves looking at the system as a whole, rather than breaking it down into pieces the way that most scientists do. Farmers, for instance, certainly do practice "science" through trial and error, test and control plots and other such means. However, unless we are talking about factory farms or Monsanto-esque agribusiness, the farmers are experimenting with part of the system IN the system.. that is, they are not removing it to the lab.. so they have a valuable, and in some cases, potentially better understanding of the way that the system operates, even if they cannot give confidence intervals or degrees of variance. We need all these sources of knowledge at the table if we are going to make effective decisions in time to save ourselves from mass destruction. We need to use all of the knowledge and information we have available in the most efficient and effective manner possible: why reinvent the wheel with studies done by western scientists, when local knowledge has

⁴To compare the extreme of elite decisionmaking to a more moderate form: The FED and the Supreme Court, the two most independent political bodies in America have not made decisions any better than congress has in term of % of actions which actually achieved the end they sought to achieve (Vallely, 1997)

answered the question (or at least has a vast store of knowledge about it) due to decades, if not centuries of experience of experimentation and trial and error⁵.

b. The Bretton Woods Organizations

(1) Introduction

We are witnessing the triumph of the idea of the near-religion of "free" multilateral trade.⁶ The three main current embodiments and executors of this dogma, are the World Bank, the IMF, and the WTO.

The World Bank and the IMF were created in 1944 in Bretton Woods, New Hampshire, and are thus known as the Bretton Woods Organizations. The World Bank (the Bank) is constituted by four organizations, however the International Bank for Reconstruction and Development (IBRD) is the largest component. The IBRD is generally what is being referred to when the "World Bank" is written about and likewise, what I am referring to. The Bank is charged with poverty alleviation, and the IBRD carries out this mission by borrowing money at very low rates of interest and loaning it to developing countries⁷ at rates much lower than they could get on the open financial market. The Bank is controlled by its donor nations proportional to how much money they give the Bank.

The IMF has two main functions. First, it The IMF loans money to member countries on the

⁵see Jasanoff for a thorough discussion of these issues.

⁶I am indebted to David Orr for and turning my thoughts towards this idea.

⁷Developing Countries are those with a per-capita income of less than \$9,636

condition that they restructure their economic policies as the IMF sees fit. IMF "Structural Adjustment Programs." as their economic restructuring requirements are called, almost always involve a reduction in government regulation and government services, in the aim to make the countries more integrated with the global economy.

(2) Analysis

This has had some disastrous effect. In the words of an 1997 Amnesty International report, the changing dynamics in the global arena are creating a situation "in which rights of people are frequently given less weight in public policy than the interests of capital" or, I might add, the interests of those notoriously fictitious individuals, corporations (Ekins 1992, p35).

There is just too much uncertainty to leave it up to the market to decide. the market is riddled with "market failures" caused by barriers to entry, externalities and imperfect information, to name a few. By advocating unfettered multilateral trade, what we are doing is to let those market failures be exploited by those with the power to do so.

In the case of World trade, market failures might take the following forms: 1) differences in power resulting in all benefit going to one trading party or an unjust distribution of benefits between partners. 2) dependency relations (often jumpstarted through IMF loans) which effectively remove freedom not to trade as countries need to get foreign capital to pay off their loans (ekins 35).

The destruction of public regulatory mechanisms in the name of free trade insures that actions are taken based upon private, rather than social marginal cost-benefit calculations. That is to say that corporate (which are hierarchical and resemble the command and control economies of the soviet block) decisions rule the marketplace. When we eliminate the ability of societies to enact social control over marketplace externalities, the end result is akin to Garitt Hardin's tragedy of the commons. Simply put, public property, not owned by anyone individually, will be exploited by

self-interested people until their cost in doing so is greater than their benefit from doing so. The important point here is that if the *social cost* of the degradation caused is greater than their private benefit they will still exploit the land, unless they are made to "feel" that social costs through regulatory mechanisms.

Herman Daly, in his parting speech to the World Bank before quitting his post as Chief Economist there, asserts that globalization is destructive to the workers, society and the environment (Daly 1994). In leading to that conclusion, Daly provides two main critiques of globalization, which I find persuasive, and which highlight the holes in Gore's plan.

First, Daly points out that international institutions such as the World Bank and the International Monetary Fund are established to be "communit[ies] of communities." That is to say that such institutions were never meant to replace nation-states, but to be fora within which national communities could reach agreements, and make policies. What Daly points out here is important; if countries are forced to open their borders, and tear down their regulatory protection and safeguards, then they are going to be in no position to *enforce* the international agreements that they are a party to! We have seen a version of this phenomenon in the below-mentioned sea turtle example: If the United States is not allowed to regulate a prohibition

Secondly, he highlights a point which is a theme through this paper, and which I will return to in my conclusion with an example from Costa Rica. Simply, his point is that because the prospect of a world government is both undesirable and unlikely, the problems of externalities which I mentioned in the introduction to this section would be exacerbated in a world of free trade. Put another way, if there is no body which can pass and enforce regulations which would safeguard society from the tragedy of the commons, or uphold basic human rights, then there will simply be a race to the lowest common denominator. His answer is unequivocal: we must "renationalize capital" so that nations can enforce appropriate (equity and efficiency producing) regulations. If we do not act based upon these two points, then globalization will continue to be destructive to

workers, society and the environment (Daly 1994).

c. GATT and The WTO

(1) Introduction

The General Agreement on Tariffs and Trade (GATT) was signed in 1947. The agreement was designed to endure free and unfettered multinational trade. currently over 100 countries are members, and these countries account for 80% of world trade.⁸ In 1986 the World Trade Organization (WTO) was created, and in 1994 it was initiated, with a mission of enforcing and adjudicate GATT. Although GATT contains provisions in its 500 pages which purport to protect the environment and labor laws, the below example illustrates that what has emerged from the WTO has been a posture wherein free multilateral trade trumps all other concerns.

(2) Sea Turtles, shrimp and the United States.

The WTO ruled this year that the US law which prohibits the purchase of shrimp harvested without turtle excluder devises (TEDs) violated the spirit of GATT and thus was an unfair trade practice. the WTO's stance in its verdict striking down the US law was that international regulation needs to be adopted via international treaty and that NO actions taken by countries by them selves , whether to achieve increased social marginal profit, or not, can interfere with multinational trade. That is to say that in the international arena, it privileges economic decisionmaking processes and

⁸ Source: the Sea Turtle Restoration Project. Available: <http://www.earthisland.org>

guiding mechanisms over others such as scientific or political process. As some observers have noted:

The WTO rules allow for trade restrictions that are either "necessary to protect human, animal or plant life or health" or relate to the "conservation of exhaustible natural resources." The TEDs requirement satisfies both tests. Nevertheless, the organization has consistently overruled such considerations in favor of free trade. ⁹

"If science is overruled and trade considerations are allowed to eviscerate endangered species laws, the biological diversity that is the fabric of survival for our planet is placed in serious jeopardy."¹⁰

What the WTO ruling means is that firms are left free to exploit market failures until international agreements are passed to restrict trade in that area. In explicitly placing the burden of proof on those who would seek to restrict trade, is to ignore all of the many problems within its framework, instead presenting the view that the free market will take care of everything. Even if GATT wasn't filled with anti-free market loopholes, exceptions and regulations, due to market failure, the free market would not live up to its promise. Further, this approach favors a err-on the side-of-boldness, rather than err-on-the-side-of-caution approach. This is contrary to the precautionary principle which recognizes the value in being cautious especially when uncertainty abounds (as I have treated on elsewhere).

Instead what is needed is a recognition that economics is not THE answer, but rather one answer. If we only had the option of picking one system, perhaps we might agree that economics would be the one to chose; however, our decision does not have to be so delimited. In choosing for our decisions to be made for us by the global marketplace, we are placing them out of our control and into a realm which is anything but democratic. Using our example, the WTO is

⁹Available: <http://www.earthisland.org/strp/showdown.htm>

¹⁰Dr. James Spotila, Director of the Center for Biodiversity and Conservation at Drexel University Quoted at: <http://www.earthisland.org/strp/showdown.html>

accountable to no other body and, unlike other UN bodies, NGO's are not allowed to participate directly in the negotiation process.¹¹ Money talks and the powerful rule. According to Ekins (36), intercorporate trade now accounts for 30% of all trade worldwide. Monsanto might claim that its mission is to feed the hungry in India, to use our previous example, but its defining feature or being a corporation makes it clear that profit is the only bottom line it has and that all other concerns it stakes claims for are merely marketing ploys.

C. Solutions

1. Cultural

As we examined above, the dominant cultural attitude towards nature is one of control and exploitation. However within the dominant culture lies possible avenues for change and increased sustainability and connection with nature. As Williams recounts, our attitude towards nature has dramatically changed over the years. From a belief in spirits as behind natural phenomena, to Nature as God's handmaiden, and including the current bi-centric belief in the sanctity of all life, there have been many different conceptions of the natural world; our current view of nature as a resource to be exploited is only one possible outlook (Williams 1990). In fact ideas of stewardship and reverence for all life can be easily found in Christian traditions, as well as many other dominant religions. The choice is ours, we can emphasize the aspects of domination over nature or stewardship of it. I think the latter is a more viable strategy given the current environmental crisis.

¹¹ Available: <http://www.earthisland.org/strp/wtoaboutwto.html>

I treated on Human Nature as separate than culture in the above sections. But it is important to realize that this too is culturally constituted (Shwartz). Briefly, instead of a view of humanity as simply out for the bottom line and as reliant on technology to aid us in this end, we need to shift to biomimicry and a recognition that although we are outside of most of the processes of natural selection, we still depend on and are interconnected with the natural world. (Hobbes 1651; Gore 1992, p34)

2. *politics*

a. Must Change Happen At The National Level?

My claim is that the antidote to the problems of centralized governance lie with people movements and popular control. As ekins (39) discusses, this is the only way to alleviate the poverty cycle int he third world. He lists three "requisite tasks" for improving the quality of life for the poor.

- 1)removal of factors of impoverishment
- 2)definition by villagers of how their needs can be met
- 3)development by villagers, with appropriate outside assistance of the factors of prod necessary to meet these needs.

Although I do not agree that the villagers necessarily know what is best for themselves, they certainly deserve at least a place for a representative at the table, and ideally would be consulted as a group before the final planning stages of any project.

I have two examples of grassroots political strategies. One is in the case of rural Indian peasants campaigning against World Bank sponsored dam construction and Genetically engineered

crops, which I mentioned earlier (Ainger, 1999). Space limitations prohibit me from going into these here in detail, but basically, the peasants, realizing that their lives were at stake demanded that their view be heard. They are enjoying no small success as they are collectively protesting and they have the numbers on their side. The other involves a fascinatingly complex set of actions in Ecuador to oppose a World Bank project to prospect for oil and increase agricultural production in the rainforest (Treakle, 1998). In brief, the two major indigenous groups, which represent 70 % of the indigenous population in Ecuador (40% of the country's total population) formed an alliance with a local environmental NGO, NGOs in Washington DC. The coalition managed to tap into existing fora and representatives within the World Bank (chiefly sociologists and the environment department) to get their case heard, and to change the terms of debate.

A possible challenge to my thesis might be raised by Jones and Baumgarten, in *Agendas and instability*, when they discredit the importance of public opinion in decisionmaking and policy change. One piece of their research shows how public opinion generally comes into the picture after elite conflict has defined the battle ground; that is it trails behind the expert-dominated regulatory realm. (p1050) Thus although a pluralistic *form* of government with its varied fora for consideration of a policy, can provide an opportunity for changing policy by airing the issues in other fora than the one whose verdict an actor is opposed to, a pluralistic participation might seem less important for policy change. However, I would argue that the reasons for this are to be found in their work as well. Maybe this is, as J&B point out, because bureaucrats favor the scientific experts' opinion over that of the labor union, environmentalist or local activist. We return to the ideological issues discussed above. Regardless, the authors' analysis of pluralistic fora providing opportunities for action actually mirrors the previous Ecuadorian example quite closely. Further, I would not go so far as some, and suggest that grassroots level policymaking is the end-all-be-all. Clearly experts have something to contribute. However, I bring up Jones and Baumgarten to stress the importance of an alliance of the grassroots-level activists and expert-credentialed

insiders who can get their message heard, at the same time that I would push for a policymaking atmosphere which is even more open to dialogue with so-called “non-experts.”

3. Localized economies

Al Gore proposes that we attack global problems the same way that we did the threat of communist invasion into Europe: he argues that the nations of the world must band together to form "A Global Marshall Plan" (Gore 1992). It is here that Gore's Liberal Democrat leanings show through, and it is also here where he most misguides him. I have tried to document in section 3 some examples of why Gore's vision is doomed to fall short. If I have been successful, we have seen how centralized power is often out-of-touch with the particulars of situations, wont to generalize and as a further manifestation of elite power detached from, and somewhat unaccountable to the populace. Further, these traits make such forms non-conducive to remedying the current ecological crisis.

I sympathize therefore with those who would minimize, rather than those who would maximize, economic entanglement between nations. Ideas, knowledge, art, hospitality, travel - these are the things which should of their nature be international. But let goods be homespun whenever it is reasonably and conveniently possible; and above all, let finance be primarily national (Keynes 1933).

Other examples of the local being successful include localized economic ventures. If the regulations on a national level aren't helping you out, well then some take matters into their own hands, recognizing the importance of change. A good example as it related to environmental protection, is that in Davis, CA. their local government was able to implement changes for increased sustainability which seem to have only been affected by state or national policymaking when the standards for non-residential buildings were overshadowed by the state

regulations(Shavelson 1990, pp 84-5)¹² The Grameen Bank is also a flagship example of local self-reliance and the increased social welfare that has resulted (Gell-Mann 1994).

D. Conclusion

In this paper I have argued the causes of the ecological crisis necessitate a shift away from an ideology focused on expert-defined technological solutions, and towards one of grassroots and locally informed decisionmaking and action. I introduced the crisis, discussed three main causes and then outlined potential foci for solutions. Before I close however, I want to be sure that the focus of this paper has not misled the reader on a few crucial aspects of this ecological crisis. I have focused this paper on the global ecological crisis, and generally on large-scale examples of the causal mechanisms I raise. However, at least two caveats need to be introduced.

Firstly, in my introduction I have cited statistics which predominantly focus on the ecological aspects of the environmental crisis. Nevertheless, social, political and economic problems are an integral part of this ecological crisis I am aiming at. They are not only involved as causal agents, as we have seen, but are also negatively affected by the same mechanisms which affect ecological systems (cf Ekins 1992). The ecological crisis has brought to the fore the destruction which has been wrought by our imbalanced social, political, and economic practices.

If I were to flesh this paper out further, I might include examples in the section on the IMF on its direct and impacts on the poor and distemperoid of the countries it lends to. To say a bit more

¹²In other instances, such as the Solar Center in SF, regulations allow the businesses to stay afloat (in this case, when the tax reform act of 1986 removed incentives for solar energy, the business went bankrupt).

here, the centralized power structures which I introduced as prevalent in the Bretton Woods and World Trade organizations, are mirrored in most Less Developed Countries (LDC's), only amplified. That is to say that in many LDC's the ruling elites which negotiate with the IMF and other international bodies not only frequently ignore and exclude the perspectives of the common citizen when negotiating, but they also have been known to steal and abuse the resources loaned. To give two examples, in Côte d'Ivoire, the president built a replica of St Peter's Basilica in the middle of the jungle using 9 acres of french stained glass and italian marble. This was paid out of international loans at a cost of US\$200m, 5% of the GNP and the same as it spent in 1998 servicing its US\$8b debt (Ekins 1992, p25). Another egregious example is that of Mobutu, the leader of Zaire, who is thought to have stolen US\$5b out of international loans, the sum total of the country's debt (Ekins 1992, p25). Instead of this money going to fund living-standards-improving projects for the citizens which end up paying for the loans with higher taxes and government services reductions, they are lining the pockets of the elites. Those who have no voice the marginalized in the "3rd world" as well as in other oppressed areas around the world, bear the cost of the misdirection of the global machine, with local elites acting in cahoots with the external power structures (cf Bullard 1993; Freire 1984; Gaventa 1980). Further, these abuses have contributed greatly to the large percentage of their GDP's which is spent on servicing their international debt (Gore 1992, p 297).

This debt service is related to the ecological crisis in many significant ways. In large part because it need to earn foreign currency to pay off its loans, for example, Costa Rica has shifted its production towards an emphasis on export goods. These goods can lessen the monetary debt through the capital they fetch, but because export crops (eg bananas and pineapples) are generally grown by large-scale and unsustainable methods, they greatly contribute to environmental damage in the country. As a further result of this emphasis on global trade, tax breaks and subsidies have been shifted away from the goal of nationally self-sufficient food production, towards attracting multinationals, and local farmers are increasingly displaced by corporate agribusiness. Further, as

a foreign-currency-based economy replaces a subsistence-based system and a large percentage of the population moves to the cities to find wage-paying work, community-based sustainable farming strategies have been documented to collapse due to a massive disruption of traditional communal management strategies (Garc'a-Barrios and Garc'a-Barrios 1990).

Secondly, despite popular sentiment to the contrary, a focus on the global can be deceiving and counter productive. One should always keep in mind that behind every "global" environmental problem there are many local and regional incidents which have constituted its appearance.¹³ It is useful shorthand to group everything into the largest meaningful category, the ecosphere; and as the sea turtle example attests, some problems are, in fact of a trans-regional nature and need to be addressed globally. However, most, if not nearly all environmental problems are the result of the combined effects of many local actions. Finally, I have focused my section on the causes of the environmental crisis on global agents, because the dogma of free international trade is so prevalent and in need of visible debate and refutation. I have focused on the global realm to demonstrate how profoundly I disagree with Al Gore's proposed Global Marshall plan (Gore 1992). Ultimately, while global organizations are useful to solve some problems, and even crucial to solving others, they are too removed from the local social and economic, and perhaps especially ecological realities to mount an effective strategy to solve the current ecological crisis.

This solution can only be effective if it is rooted in more democratic, cooperative, and decentralized forms of decisionmaking and action, such as those documented above. If we are to survive as a species, we must internalize this reality and act quickly to (radically) change our

¹³cf Taylor 1997 for further discussion of the nature of "global environmental problems." To say a bit more in defense of using global statistics, It is true that previously there were lots of local and regional environmentally destructive incidents and incidents of ecological collapse. Perhaps those were and are equally deserving of being called crises, or "turning points where decisive change is imminent" (Oxford English Dictionary) especially for people in those areas. I think this is correct. However, as I allude to in the text, a crisis is in large part constructed out of popular awareness of the situation. Perhaps a dire situation is not as much a crisis if no one notices and in part we have now reached a crisis because of our recognition of the global extent of the ecological damage humanity has wrought, through statistics such as these.

current practices. I welcome and invite all who are willing to join in the search for a more effectively balanced, harmonious and sustainable society.

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