1 INTRODUCTION TO ECOLOGICAL DEBT

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Overview

Since the 1975 Assembly of the World Council of Churches in Nairobi, Kenya, ecumenical churches have been advocating for "just, sustainable and participatory societies" in affirmation of the integrity of God's creation and in recognition of the linkages between economic, social and environmental dimensions of life. Put in another way, the World Council of Churches asserts that struggles for socio-economic justice are inextricably intertwined with struggles for environmental justice such that, ultimately, one cannot be achieved without the other. It is in this vein that the World Council of Churches initiated the ecumenical programme on ecological debt as part of its overall work on globalisation and debt.

In contrast to the financial debt being claimed from many countries in the South at huge cost to its peoples, ecological debt refers to the responsibility held by Northern industrialised countries, including their collaborators in the South, for the continuing degradation of the earth as a result of their resource-intensive production and consumption patterns and the imposition of neoliberal "one size fits all" development models. Ecological debt is argued to be much larger than financial debt; and an important starting point for recognising and discharging ecological debt is the unconditional cancellation of Third World financial debt which was largely incurred under illegitimate or odious circumstances and has in any case been paid many times over.

While the problem of financial debt has been on the international development agenda for at least a couple of decades, ecological debt is a relatively new concept[2] that has received sparse political attention to date. Thus the World Council of Church's programme on ecological debt aims, first of all, to build awareness, provoke discussion as well as strengthen the processes for the recognition of ecological debt. This is being done by working closely with church-based and civil society organisations, movements and networks as well as conducting and disseminating research and analyses among churches, congregations and individual Christians.

Recognition is believed to be the first step in achieving the related goals of establishing responsibilities and sanctions, attaining indemnity and halting the accumulation of ecological debt. In line with these objectives, the World Council of Churches has supported the conduct of four case studies of ecological debt in the continents of Asia, Africa and Latin America. This volume compiles and presents the compelling findings of these regional investigations.

The first two case studies authored by Luis Corral[3] and Francis Ng'ambi[4] account for the social and ecological impacts of mega-dams.

"Sowing Deserts: The Social and Ecological Debt Generated Through External Financing of the Jaime Roldós Aguilera Multipurpose Project" puts an initial figure on the social and ecological debt arising from the Jaime Roldós Aguilera Multipurpose Project, particularly the Daule Peripa Dam and Santa Elena Peninsula Water Transfer System in the Guayas River Basin in Ecuador. Though assessed to be financially unfeasible and lacking proper social and ecological impact assessments, foreign banks approved and extended loans amounting to US$1.6 billion towards this project that largely benefited foreign contractors and concessionaires. The study contends that indigenous peoples, peasants, local communities, and the Ecuadorian people in general are creditors in relation to the massive financial, social and ecological debt that this mega-project has created. It demands compensation for affected peoples, restoration of the environment, exoneration of the external loan acquired to finance the project and sanctions on responsible institutions and companies.

"Dams on the Zambesi River as Sources of Ecological Debt to the People of Mozambique" focuses on the proposed Mphanda Nkuwa Dam as well as the World Bank-funded Kariba and Cahora Bassa Hydroelectric Dams, which have been linked to the devastating floods in 2000 that claimed hundreds of lives, left close to 500,000 people homeless and inundated rich agricultural lands. The study argues that the purported benefits of the dams, e.g. electricity,

have not accrued to the people of Mozambique. Rather, it has imposed huge burdens on local communities and the habitat. The study calls for a stop in the implementation of all planned dam projects, particularly the Mphanda Nkuwa Dam, and for the unconditional cancellation of the external debt of Mozambique as a significant way of stopping the increase in ecological debt, particularly by freeing up resources for addressing recurrent flooding and related environmental problems.

In the third case study, Mans Andersson and Orjan Bartholdson[5] evaluate the operations of the Swedish-owned Veracel pulp and paper company in the Bahia region of Brazil as an example of ecological debt in "Swedish Pulp and Paper in Brazil: The Case of Veracel". Financed primarily by the Nordic Development Bank, the US$1.25 billion pulp and paper project amounts to one of Brazil's biggest private investment. However, the project has encountered tremendous resistance from community-based movements because of the numerous social and ecological problems linked to tree plantations and paper mills. In general, the study concludes that there are many reasons for questioning the long-term social and ecological sustainability of pulp and paper production in Brazil.

In the final case study entitled "Ecological Debt: A Case Study from Orissa, India", Sanjay Khatua and William Stanley[6] conduct a community assessment of the social and ecological costs of mining and mining-based industries to the Adivasis or indigenous tribal people in Orissa, India. In exchange for their mineral-rich lands, the Adivasis were guaranteed livelihood, housing, hospitals and clean water – summarised as "development" – by the National Aluminium Limited Company (NALCO). Instead the study records a trail of broken promises. It further argues for the need to completely rethink current development models promoting extractive industries and the need to demonstrate community-based alternatives to such models.

Defining ecological debt

Ecological debt is a broad and arguably fluid concept open to various interpretations and applications that are explored to some extent by the case studies. Nonetheless, there have been several attempts to concretely define the term by non-government and civil society organisations conducting research and advocacy on economic and environmental justice[7].

According to Aurora Donoso (2002: 1-2) of Acción Ecológica, an Ecuadorian organisation at the forefront of ecological debt recognition and financial debt cancellation campaigns in Latin America, ecological debt is:

> "…the accumulated, historical and current debt, which industrialised Northern countries – their institutions and corporations – owe to the countries of the South for having plundered and used their natural resources, exploited and impoverished their peoples, and systematically destroyed, devastated and contaminated their natural heritage and sources of sustenance…Industrialised countries are also responsible for the gradual destruction of the planet as a result of their patterns of production and consumption, and environmental pollution that generates the greenhouse effect".

Based on this definition, exploited peoples in the South are the principal creditors of the ecological debt, while the debtors are industrialised countries of the North. Needless to say, the concept of ecological debt offers a radical framework since it reverses traditional debtor and creditor positions of countries with potentially transformative implications for power relations between "rich" and "poor" countries.

Consistent with the view that ecology, society and economy cannot be de-linked from each other, the concept of ecological debt has evolved social aspects related to the disintegration of indigenous and peasant communities, deterioration in people's living conditions and loss of cultural heritage and values, among others. The consideration of social concerns in fact serves to strengthen the position of Southern peoples as creditors.

Overall, however, ecological debt, in contrast to financial debt, remains difficult to pin down with precision. In part, this is because ecological debt is often incurred over long periods of time (sometimes over centuries) and indeed may be traced back to the early period of colonisation. It may involve something or some dimension of nature or culture which cannot be priced (perhaps precisely because it so valuable). It has negative repercussions not only in the present but possibly far into the unforeseeable future[8]. These characteristics also contribute to the difficulty in quantifying ecological debt, as will be further discussed in the succeeding paragraphs.

Notwithstanding the above, there is a close association between ecological debt and financial debt that sheds light on the ways through which the former is accumulated through the latter.

The relationship between ecological and financial debt

There are several aspects to the relationship between ecological debt and financial debt (Martinez Alier, 1998). The first aspect deals with the undervaluation of exports and the occupation of environmental space. For instance, as indicated in the case studies on mining in India and Veracel's activities in Brazil, minerals and paper products are among the major exports and sources of foreign currency for these countries. However, such exports are actually extremely undervalued because the massive pollution caused by extraction, smelting, land clearing and pulp bleaching, among others, are not accounted for in the prices of these products. In economic parlance, the costs of pollution are "externalised".

The second aspect is closely related to the first and has to do with ways in which national obligations to pay external debt and its interest have resulted in environmental destruction (and therefore an increase in ecological debt). Under the current neoliberal trade and financial architecture, Southern countries are pressured through structural adjustment programmes or loan conditionalities, multilateral and bilateral trade agreements and other mechanisms to export more and more products in order to service their debt and interest payments. In other words, these countries are required to produce a surplus (i.e. production greater than national consumption) that comes largely from the impoverishment of populations as well as through the abuse of nature. Combined with the under pricing of exports and a global trend of rising interest rates, this has led to a situation described as "ecologically unequal exchange"[9] (Martinez Alier, Rijnhout and Simms, 2003). It is important to note that countries like India and Brazil are relatively "poor" and powerless such that they are unable to impose environmental taxes on their exports or diversify into other export products. It is equally important to note that while financial debt keeps on increasing through compound interest rates, the natural world is not able to grow at the same pace. The high interest rates that are engendered by the present global financial system therefore serve to undervalue the future such that environmental concerns are discounted in favour of the present.

The third aspect describes a more direct relationship between ecological debt and financial debt wherein huge projects are financed through external lending by international financial institutions with little consideration of their social and environmental consequences. As documented in the studies done by Ng'ambi and Corral, international banks provided the bulk of funds for the construction of mega-dams in Mozambique and Ecuador without proper assessment of

their effects on communities and the environment, thereby enlarging both the external debt owed by these countries as well as the ecological debt owed to these countries. The Jaime Roldós Aguilera Multipurpose Project in particular cost an astounding US$1.3 billion to build; yet less than 0.5 percent of the funds were allocated to the development of a social and environmental management plan and to reparations for social and environmental damages.

For all of the above reasons, the process of recognition of ecological debt demands, first of all, the annulment of the illegitimate financial debt held by Southern countries.

Social and ecological costs and human rights

The four case studies presented in this volume provide more than ample evidence of the tremendous social and ecological damages associated with big dams, tree plantations and mining industries. These damages often constitute a violation of human rights, including economic, social and cultural rights, which enshrine peoples' right to self-determination as well as to dignified work and basic needs such as land, food, shelter and water.

The dislocation of entire communities is an experience that is common to all four case studies, lending currency to Khatua and Stanley's statement that displacement is largely a development phenomenon. Indeed, development projects have forced out millions of people, many of them indigenous peoples, from the ancestral lands they are dependent on for their survival and way of life. To cite one out of many examples, the building of the Cahora Bassa Dam in 1975 evicted nearly 60,000 people deriving sustenance from the Zambesi River. More often than not, resettlement areas are poorly, if at all, planned and leave much to be desired in terms of availability of economic opportunities as well as health and sanitation facilities. Many displaced people face economic hardship, water-borne diseases and mental and psychological health problems as well as the disintegration of their communities. The construction of the Daule Peripa Dam as part of the Jaime Roldós Aguilera Multipurpose Project also resulted in the isolation of 100,000 people living in the river basin. These people face tremendous difficulties in transporting themselves and their produce from one place to another.

The ecological costs associated with the projects discussed by the case studies are profound and oftentimes irrevocable. These include: the disturbance to terrestrial and aquatic habitats and, consequently, the irreversible loss of sensitive flora and fauna; the erosion and/or flooding of prime agricultural

lands that are crucial to food sovereignty; the pollution and drying up of rivers, streams and aquifers; and the increased incidence of natural disasters such as earthquakes. For instance, Andersson and Bartholdson call attention to the fact that Veracel's eucalyptus tree plantations and pulp mills happen to be located in the Brazilian state of Bahia, where 95 percent of the Atlantic rainforest has been destroyed and where scientific research indicates that further land clearing and/or disturbance will increase rates of extinction of plant and animal species.

The case studies by Corral as well as by Khatua and Stanley also present information linking the Daule Peripa Dam and bauxite refineries to rising temperatures, which, in turn, cause unpredictable and extreme weather conditions. Dam reservoirs are now known to be major sources of greenhouse gas emissions that contribute to climate change (WCD, 2000).

Interestingly, Khatua and Stanley point out that, in the case of Orissa, women bear a disproportionate burden of these social and ecological costs because of gendered norms that ascribe certain roles to women. Specific tasks traditionally assigned to women, such as foraging for food, gathering firewood for fuel, collecting water and caring for the ill, become more gruelling and time-consuming with the disappearance of forests and the contamination of water sources. The finding on differential impacts on women vis-à-vis men is likely to be pertinent to other ecological debt cases and merits further analysis.

To quantify or not to quantify

Some of the case studies grapple with the following difficult question: to quantify or not to quantify ecological debt?

A comprehensive calculation of social and ecological damages – which would concern all life forms and embrace past, present and future timeframes – is technically impossible as well as ethically controversial. John Dillon (2001) stresses that ecological debt must not be measured in purely monetary terms and that the issue must never be reduced to demands for monetary compensation. The worry is that quantification in monetary terms will be used towards developing "quick fixes" that do not deal with the roots of the ecological debt problem or, worse, lead to further commodification and trading of the environment, e.g. through the marketisation of environmental services and so-called "pollution rights". This concern is particularly relevant in view of the "debt for nature" swaps[10] which, despite worthy intentions, failed to make a dent on the related problems of financial and ecological debt in any

significant manner, but helped to boost the public image of international financial institutions and rich countries.

Even as the discussion on quantification persists, methodologies have already been developed in order to put a monetary value to ecological debt. According to Joan Martinez-Alier (1998: 15), it is still "necessary to establish the principal categories and certain orders of magnitude" of ecological debt at the very least "to stimulate discussion". Martinez-Alier (1998: 14) further argues that policymakers will begin to pay attention to the problem only if it is expressed in monetary terms: "this is not a matter of commercialising nature, but of using the language and ideas of the economic 'linear thinking' dominant in global power centres, in order to pose the question of ecological debt".

It is in this light that the case study on the dams on the Zambesi River suggests several ways of quantifying the ecological debt owed to Mozambique for possible future research.

The case study on the Jaime Roldós Aguilera Multipurpose Project in Ecuador goes a step further and attempts to calculate the social and ecological debt owed to the people of Ecuador by international financial institutions and multinational corporations who were the main beneficiaries of the project. It arrives at the astounding, if preliminary, figure of US$2,843,555,123.74 – an amount that is nearly equivalent to a quarter of Ecuador's foreign debt.

Corral (this volume: 62) clarifies that:

> "Given our critical position regarding fixing a price on nature and its functions through a monetary evaluation of environmental services and the marketing of same, and also because of the irreversibility of certain degrading processes, such as the destruction of untouched ecosystems, we will use a referential value by identifying the costs of restoration of the damaged systems to their original form. Although this is practically impossible due to the complexity of the studied ecosystems, this could be a way to valuate the approximate ecological debt generated".

He further argues that estimating the social and ecological debt arising from the dam project will provide the basis for demanding environmental restoration and compensation for the aggrieved parties as well as the condoning of the external debt linked to this project.

The North-South distinction, role of Southern governments and growing resistance

In all of the four cases of ecological debt presented in this volume, governments of Southern countries have been implicated in the destructive projects financed by international financial institutions and built, managed or owned by multinational corporations. The Veracel pulp and paper project, for instance, received considerable support from the present Brazilian government under the leadership of President Luiz Inácio Lula da Silva who inaugurated the company's new paper mill in September 2005.

Moreover, large Southern nations sometimes exert influence over their smaller and weaker neighbours in the same region. Ng'ambi asserts, in the case of the Cahora Bassa Dam: the government of South Africa has an ecological debt to people of Mozambique for benefiting from cheap electricity at the expense of the people of Mozambique.

The view that the North owes an ecological debt to the South is therefore complicated by the fact that "North" and "South" are not simply geographical designations. These reflect differences in wealth and power within regions and within countries such that the "North" also exists as an echelon of the economic and political elite in the geographical South (Hallman, 1997). As Corral (this volume: 40) puts it: "national elites with strong power structures benefit directly from [external] loans and apply pressure for the fulfilment of [development] projects".

The implication is that while the "North-South" distinction remains particularly relevant in stressing the main responsibility of Northern, industrialised countries for imposing neoliberal development models that generate ecological debt, a more nuanced approach to addressing the problem is simultaneously made necessary by existing regional and national complexities. Such an approach would entail social mobilisation, vigilance and control over resources and structures of governance in local contexts and realities. It is worthwhile to point out that this is already being practiced to some extent. As cited by Andersson and Bartholdson, grassroots ecological networks such as the A Rede Alerta Contra o Deserto Verde (Red Alert Against the Green Desert) in Brazil – a group of environmental and human rights organisations as well as movements of landless peasants that are opposed to the expansion of tree plantations and the pulp and paper industry – are calling their governments to account even as they challenge international banks and multinational corporations. According to Khatua and Stanley, many struggles for the protection of life and

livelihoods and against mining practices have also erupted in Orissa, India. Led by Adivasis, peasants and women, these protests have been labelled as "anti-development" and have often been met with violence by policemen acting in line with corporate interests.

Rethinking development and neoliberal economic globalisation

The four case studies demonstrate that ecological debt has accumulated, both historically and in the present, in the name of development. Over the last two decades "sustainable development", "development with a human face" and "poverty reduction" have become important catchphrases in the international community, sparking vibrant debates and, albeit to a lesser degree, "new" initiatives to deal with economic inequality and environmental degradation, e.g. poverty reduction strategy papers, "debt for nature" swaps and carbon emission trading. Yet, in essence, today's dominant economic system, institutions and policies – summed up as neoliberal economic globalisation – continue to define development primarily as economic expansion or continuous increases in production, income and consumption. Thereby, it continues to fuel as well as legitimise the exploitation of peoples as well as the earth's resources. Ecumenical churches have been asking (Hallman, 1997: 6): "why is the goal of sustainable development…growth in the production of goods and services on environmentally-sustainable terms, instead of growth in the health of persons and the rest of nature in communities within their respective habitats?"

In examining "ecologically unequal trade" between countries, the case studies help to establish some of the linkages between environmental destruction and social and economic inequities among and within counties that are created, maintained and aggravated by the prevailing development paradigm. To cite an example, the destruction of forests and rivers by companies like Veracel and NALCO, as a direct consequence of economic globalisation processes which promote the export of paper and aluminium products to markets in the North, have been particularly detrimental to the livelihood and health of small peasants and indigenous peoples in the Bahia region and the Adivasis in the hills of Orissa. These groups are often excluded in their own societies to begin with. Activists and academics (e.g. Michael Dorsey, 2000) have referred to this phenomenon as environmental racism.

While the unconditional cancellation of the external debt of Southern countries continues to be an integral part of ecological debt advocacy, as affirmed by Ng'ambi and Corral, it is but an initial step. Khatua and Stanley

argue that, in the long run, if we are to stop the accumulation of financial as well as ecological debt, what is needed is nothing less than a paradigm shift in development thinking and values.

Towards just, participatory and sustainable communities

The Swedish Nobel laureate in economics, Gunnar Myrdal (cited in Söderbaum, 2003), once averred that economics is political. In the same vein, others (e.g. Leroy, cited in Dillon, 2000) have emphasised that ecological debt cannot be reduced to its economic dimensions; it is largely a political issue that demands genuine changes in the current model of development. Ng'ambi further points out that, for ecumenical churches, ecological debt constitutes, at core, a moral and ethical question. Taking all of the above into consideration it becomes patent that addressing ecological debt requires fundamental transformations in political and economic systems, institutions and policies as well as in people's lifestyles and values, since the latter clearly influences the former (and vice-versa).

What are some of the implications regarding strategies?

First of all, any paradigm shift entails civil society resistance to the status quo and challenging the current balance of power in the political and economic order at different levels. Thus, there is a need for people's continuous engagement with the main proponents of neoliberal economic globalisation, i.e. international economic institutions such as the World Bank and World Trade Organisation as well as the governments and corporations that exert influence over these institutions. The aim is to make these influential bodies accountable and responsible for policies and actions that promote socio-economic injustice and ecological debt.

At the local level, the Brazilian example of the A Rede Alerta Contra o Deserto Verde network, which has been particularly active in countering the operations of Veracel in Brazil, and the ongoing community protests against mining in Orissa, India have already been mentioned.

It is clear, however, that there is now a "globalisation of environmental problems" (Borghesi and Vercelli, 2003), e.g. global warming, that is linked to policies associated with economic globalisation being advanced by global economic institutions. In short: a global response – yet one that is grounded in local struggles – to ecological debt is necessitated. In this regard, the

Southern People's Ecological Debt Creditor's Alliance – launched in 2000 in coordination with Jubilee South and Friends of the Earth International and composed of a broad membership of movements based in the global South – has become an important global forum calling for the international recognition of the historical and current ecological debt as well as the recognition of the illegitimacy of external financial debt as made evident by ecological debt.

Second, and perhaps more importantly, there is an urgent need to develop, compile and reproduce a wide range of unorthodox proposals not only to recompense or avoid amassing ecological debt in the future, but also to present strong evidence that things can be done differently. Notwithstanding the prevailing neoliberal logic to the contrary, options do abound. For one, the Putsil community in the state of Orissa, India has effectively shown that it is more than possible to electrify an entire village by building and managing a micro hydro plant based on the principles of sustainability and equity. It presents a concrete alternative to mega-dams that have widened external as well as ecological debt.

The continuing challenge, however, is to disseminate, support and popularise such alternatives, thereby promoting just, participatory and sustainable communities, and eradicating ecological debt once and for all.

NOTES

1 The author coordinates the Ecological Debt Programme of the Justice, Peace and Creation Team of the World Council of Churches.
2 The concept was first used by the Chilean non-government organisation (NGO) Instituto de Ecologia Politica (IEP) in 1992 as a counterargument to external financial debt (Paredis et al, 2004).
3 Luis Corral (Ecuador), a researcher, was assisted by a consultative group composed of Aurora Donoso, Cecillia Chérerez, David Reyes and Cesar Viteri of Acción Ecológica. The case study was edited by Aurora Donosop and translated by Erik Vorbeck
4 Francis Ng'ambi (South Africa) is connected with the Economic Justice Network of the Fellowship of the Council of Churches in Southern Africa.
5 Commissioned by the Christian Council of Sweden (CCS) to undertake the study, Mans Andersson and Orjan Bartholdson (Sweden) work with Swedwatch, a non-government organisation monitoring Swedish corporations in developing countries. The case study opens with a foreword authored by Lennart Mollin (CCS).
6 Sanjay Khatua (India) is an independent development researcher based in Bhubaneswar, Orissa, while Dr. William Stanley (India) works with the Integrated Rural Development of Weaker Sections of India (IRDWSI) based in Koraput, Orissa. The case study was edited by Gabrielle Marcus, consultant to IRDWSI.

7 Paredis et al (2004) in a report entitled "Elaboration of the Concept of Ecological Debt" provide a comprehensive discussion on the definition of ecological debt.

8 It should be noted that some of these negative repercussions might not be obvious now. Hence, the "precautionary principle" has become prominent in debates on sustainability. It states that if the consequences of an action are unknown, but are judged to have some potential for major or irreversible negative consequences, then it is better to avoid that action.

9 This builds on Raul Prebisch's and Han Singer's (1950) declining terms of trade and unequal exchange theory that basically posits that countries in the South face structural deteriorating terms of trade for their (primarily) resource-intensive exports and therefore have to export more and more in order to meet their usual bill of imports.

10 "Debt for nature" swaps were first formulated in the 1980s by the World Wildlife Fund to minimise the adverse effects of financial debt on poor countries as well as to address environmental destruction. Some donor agencies and countries in the North become interested in such agreements wherein financial creditors forgive some of the debt of poor countries in return for the protection for instance of large rainforests within the debtor countries.

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