

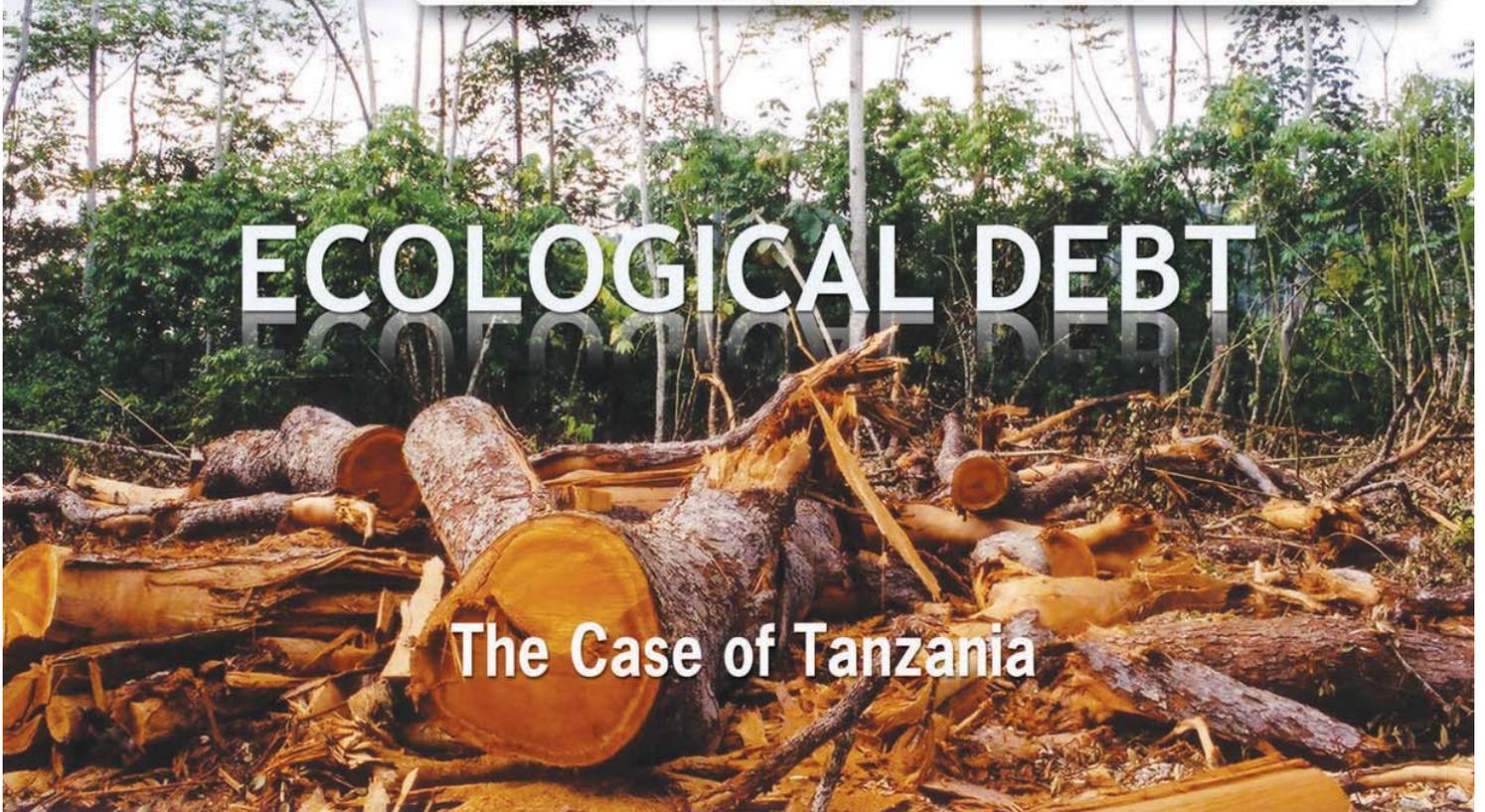


African Forum and Network on Debt and Development



ECOLOGICAL DEBT

The Case of Tanzania



ECOLOGICAL DEBT: THE CASE OF TANZANIA

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CONTENTS

ACRONYMS	6
ACKNOWLEDGEMENTS	7
PREFACE	8
EXECUTIVE SUMMARY	10
1.0 INTRODUCTION	12
2.0 CONCEPT OF ECOLOGICAL DEBT	13
2.1 Quantification of Tanzania’s Ecological Debt	14
2.2 Inability to Quantify Tanzania’s Ecological Debt	15
3.0 TANZANIA’S COUNTRY PROFILE	17
3.1 External Public Debt	17
3.2 Structure of Tanzania’s Economy and Mineral Overview	19
3.3 Environmental Overview	24
4.0 TANZANIA’S EXTRACTIVE INDUSTRY	21
4.1 Mining	21
4.2 Mineral Production	22
4.3 Economic Stakeholders	15
4.4 Ecological and Social Costs of Tanzania’s Mining Sector	26
5.0 FORESTRY SECTOR	30
5.1 Forestry Production	31
5.2 Ecological and Social Costs	31

6.0 REIMBURSING ECOLOGICAL DEBT	33
6.1 Tanzania as a Net Environmental Creditor: Environmentalspace and Environmental Justice	33
6.2 External Public Debt Cancellation	33
6.3 Delinking Development Assistance from Policy Imposition	34
6.4 Greenhouse Gas Emissions	36
7.0 RECOMMENDATIONS	37

REFERENCES	39
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List of Tables and Charts

Table 1: Tanzania End-June 2010 Debt Stocks	18
Table 2: Tanzania external debt stock by creditor	19
Table 3: African Gold Production (2006-2010)	24
Table 4: Location and level of investments in Mining sector in Tanzania	25
Table 5: Exports of forestry products	30
Chart 1: External Debt Composition by Creditor Category as at end June 2010	17
Chart 2: Percentages Share of Tanzania's Total Non-Traditional Exports	23

ACRONYMS

AFDB	African Development Bank
AGA	Anglo Gold Ashanti
CC	Climate Change
CDMs	Clean Development Mechanisms
CO ₂	Carbon dioxide
EIA	Environmental Impact Assessment
EITI	Extractive Industries Transparency Initiative
FIPA	Foreign Investment Promotion and Protection Agreement
GDP	Gross Domestic Product
GHGs	Greenhouse Gases
GGEs	Greenhouse Gas Emissions
HIPC	Heavily Indebted Poor Countries
IDA	International Development Association
IMF	International Monetary Fund
MDA's	Mining Development Agreements
MDRI	Multilateral Debt Relief Initiative
NGO	Non Governmental Organizations
NMDC	National Mineral Development Corporation
OPEC	Organisation of Petroleum Exporting Countries
SPEDCA	Southern People Ecological Debt Creditors Alliance
USD	United States Dollar
VAT	Value Added Tax
WB	World Bank

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PREFACE

The concept and term ecological debt came from a growing recognition in the 1980s by various Southern analysts of external debt, that the repayment of Third World Financial Debt was having destructive effects on the natural environments of these countries. Many debtor countries have engaged in activities that are ecologically destructive in order to meet their debt obligations. The demands of the creditors on debtor nations have forced many developing countries to undertake activities such as the overproduction of exports that has led to rapid deforestation, use of marginal lands, increased pesticide and chemical fertilizer use, and the destruction of natural habitats and human livelihoods. In addition, the construction of mega-projects such as dams and mining industries in order to pay external financial debt is destroying the basis of survival for African people by depriving them of their lands and livelihoods. Ecological debt is increasing under a system of unequal terms of trade where Southern countries are forced to export goods at prices that do not take into account the social and environmental impacts of their extraction and production.

Climate change also possess as an ecological debt problem because it represents a large group of society living increasingly beyond its means. Africa as a whole is already witnessing impacts of climate change while it contributes only about 3.8% of total Greenhouse Gases. African countries are among the most vulnerable to climate change yet compensation for amounts spent by African Governments and citizens adapting to climate variability are often given as loans by culpable northern leaders. Simply stated there is a disproportionate resource flow to the rich nations from the poor nations and with very minimal or inexistent environmental regard. It is for this reason that African countries should be compensated of the exploitation born from northern countries. Thus the issue of ecological debt is critical to address these imbalances in Africa.

This study clearly demonstrates Tanzania's ecological debt by analysing the concept in the Tanzanian context. The study demonstrates how Tanzania, as a country has taken up activities that are ecologically destructive in-order to meet her debt obligations. Also discussed in this report are climate change, aid, power relations, foreign investments and their relationship with ecological debt. In totality, the report brings forward activities and actors creating the Tanzanian ecological debt. The report makes recommendations and points out possibilities

for compensation and how new ecological debt can be avoided. With this study, AFRODAD hopes to contribute to environmental justice and socio-economic justice that Tanzania deserves.



Collins Magalasi
Executive Director
AFRODAD

EXECUTIVE SUMMARY

The aim of this study is to establish the ecological debt of Tanzania. The report is based on secondary data and supplemented by consultations with Ministry of Energy and Minerals, Ministry of Trade and Business and other authorities. The study elaborates the Ecological Debt of Tanzania by linking it to foreign investment, external debt, extraction of natural resources and climate change.

The findings of this report reveal that Tanzania is owed an ecological debt by Northern countries and their entities. One of the key findings is that Tanzania has been pressured by global political and economic forces to promote policies such as export oriented growth in pursuit to service external debt. This overproduction of exports has led to rapid deforestation, use of marginal lands and the destruction of natural habitats and human livelihoods. A recommendation to this finding has been the cancellation of Tanzania's external debt and the revision of the terms of global trade that have put the country in a vulnerable position.

In addition, the report shows the failure of investments in natural resource extraction sector of Tanzania to significantly contribute to poverty reduction and economic growth. Instead investments in resource extraction sector have further impoverished and marginalized the rural communities in mineral rich areas. Foreign entities especially those that invested in the extractive sector have plundered Tanzanian resources while maintaining very low tax levels and taking advantage of Tanzania's weak regulatory system. Mining companies have polluted the environment in the localities where they conduct operations, subsequently endangering the lives of local people. The majority of companies in mining and bio-fuel industry in Tanzania have immense commercial presence in Canada (Barrack gold mine operating the biggest gold mine) and western countries like United Kingdom, Germany, Sweden, the Netherlands and America. The report recommends that foreign entities investing in Tanzania conduct their activities in a manner contributing to the wider goal of sustainable development. Further, in order to protect the environmental space of the Tanzanian people, the report recommends the Tanzanian Government take lead in enforcing of all existing environmental, health and labor standards by capacitating overseeing agencies with technical, financial and human resources.

The limitation to this study is the inability to quantify Tanzania's ecological debt due to challenges such as insufficient data or difficulty in accessing existing data. Another cited reason is that quantification of nature is a difficult process and normally flaws with ambiguities on methodologies. Therefore the study does not make any monetary claim. The report concludes by stating that although the ecological debt has not been quantified, Tanzania's ecological debt must be recognized.

1.0 INTRODUCTION

Tanzania possesses vast mineral resources including petroleum, gas and huge tracts of forest. In 2010 Tanzania was Africa's fourth largest gold producer after South Africa, Ghana and Mali. Mineral extraction accounts for nearly half of Tanzania's exports. Yet, in spite of this bountiful natural endowment, it is still one of the poorest countries in the region today.

Despite the end of colonialism, the global economic system still facilitates the skewed extraction and exploitation of natural resources that has led to the excessive plunder and exploitation of mineral resources by Northern Countries. There has been and there still is, a disproportionate resource flow to the rich nations from the poor nations with very minimal or in-existent environmental, social or economic redress. The impoverished countries of the south continue to subsidize the rich countries of the north through the provision of raw materials, commodities, labor and other services. Ironically, the North comprises only 25 percent of the world's population, yet consumes around 75 percent of global resources.¹

The drain of natural resources and raw materials has greatly undermined the capacity of Southern countries to move their people out of poverty. In Tanzania, practices by foreign companies/entities especially in the extractive sector, have been characterized by plunder, exploitation and have left no visible development in the local communities². Instead of boosting economic growth, these resources have been detrimental to economic development and have caused vast ecological damages.

1 Peralta pg 126:2006

2 TEC-Muslim Council of Tanzania-Christian Council of Tanzania; 2009:

2.0 CONCEPT OF ECOLOGICAL DEBT

The concept of ecological debt was coined by a South-American Non-Governmental Organization called *Accion Ecologica* in the nineties, to refer to, the responsibility held by those who live in industrialized countries, as well as their accomplices in the south, for the continuing destruction of the planet due to production and consumption patterns driven by neo-liberal global market economy. *Accion Ecologica* defines Ecological debt as:

“...the responsibility that the industrialized countries have for the gradual destruction of the planet caused by their production and consumption patterns. Patterns characteristic of the present development model that are being spread throughout the world and which are threatening local economies. Ecological Debt includes the illegitimate appropriation of the atmosphere and of the absorption capacity of the planet. It is the obligation and responsibility that the industrialized countries of the North have with the countries of the Third World, for the looting and use of natural goods: petroleum, minerals, forests, biodiversity and marine resources; to the cost of human energy of their people and of the destruction, devastation and contamination of their natural heritage and sources of sustenance³”.

This definition identifies the exploited peoples of the south as the principle creditors while the debtors are the world’s wealthiest citizens. Not only are those ecological debtors not held accountable, international institutions and governments have yet to acknowledge and measure the size of the ecological debt. Meanwhile developing countries are paying over and over again their financial debt to rich countries.

Tanzania, as a developing country is owed an ecological debt by the North in terms of CO₂ emissions (climate change debt), agricultural production for export (sisal, forestry products) at the expense of local food security and extraction of natural resources with no environmental or social regard. The ecological debt of Tanzania encompasses all of the environmental and human rights damages wrecked by colonial powers in historic times and by countries and multinational companies in post-colonial times. The definition by Southern People’s Ecological Debt Creditors Alliance (SPEDCA) shall be used to discuss Tanzania’s ecological debt. Environmental debts towards future generations, environmental tax evasion, or bio-

3 Accion Ecologica : 1999

piracy are difficult to quantify. The fact that these cannot be precisely quantified does not imply that they do not exist.

Therefore, Tanzania's ecological debt is broadly defined as:

- The extraction of natural resources: such as the petroleum, minerals, marine, forest and genetic resources, that is destroying the basis of survival of the people.
- The ecologically unequal terms of trade caused by goods being exported without taking into account the social and environmental damages caused by their extraction or production.
- The use and degradation of the best lands, of the water and air, and of human energy, for the development of export crops, thus putting at risk the food and cultural sovereignty of both local and national communities.
- The contamination of the atmosphere by the industrialized the countries through their disproportionate emission of gases, which are the main cause of Climate Change and of the thinning of the ozone layer. For the illegitimate appropriation of the atmosphere and of the carbon absorption capacity of the oceans and vegetation.

2.1 Quantification of Tanzania's Ecological Debt

Many studies of ecological debt espouse the view that quantification of the debt is unimportant, what is important is the recognition of the existence of an ecological debt. Few studies have quantified ecological debt, the flagship being a study by U Thara Srinivasan *et al* (2008)⁴ which quantified some components of ecological debt and divided the results out into low income, middle income and high income nation groups. Others like Paredis *et al* (2004)⁵ suggest that there are four methodologies for quantifying ecological debt: systems of indicators, ecological footprint analysis, environmental space analysis and material flow analysis. All methods start with a physical accounting of environmental and social impacts and then proceed to monetizing these impacts.

Monetary valuation of environmental services is a hotly debated topic in environmental economics, especially when the consequences for the environment can be irreparable. The purpose of monetizing the environmental damage in these cases is to be able to compare economic benefits with environmental costs, and thus to give a true accounting of the costs of a good, project, or service because markets do not exist for most environmental services.

4 T U Thara Srinivasan *et al* : 2008

5 Paredis Erik *et al* : 2004

Different approaches to monetization have been used, amongst these are revealed preference approaches, such as willingness to pay, and stated preference techniques such as contingent valuation. Monetary valuation of ecological debt can be useful because the financial language is the one used in business and politics, and only by using this language can the victims of the damage receive compensation. It can also be an incentive for damage not to occur in the first place. However, financial compensation to communities for ecological damages incurred could have a perverse effect of leading to more damage, as poor people see it as a way to earn money. Additionally, environmental damage is often permanent and money is a poor substitute for destroyed environmental services. However, monetizing ecological debt can be useful when it is used as a counter argument to external debt⁶.

2.2 Inability to Quantify Tanzania's Ecological Debt

Various factors make it difficult to calculate the ecological debt of Tanzania because until today there is no quantification of nature which has been done in any sensitive areas in Tanzania for instance, considering the mining sector, it is easier to estimate the value of the whole mine and how much can be generated out of the mine once everything has been extracted. However, the environmental damage of mining including loss of lives of people through eviction has not been done properly. In certain cases mining causes great environmental impacts. Other reasons for failure of quantification include:

- i) Lack of information/ data: The country has an *ad hoc* data gathering system which becomes very difficult to clearly calculate environmental damage of mining let alone an ecological debt. For instance for a while mining contracts and activities were done behind doors without public access. Some mining contracts have been agreed and negotiated in secrecy. In addition, there are about 22 environmental inspectors for the entire country which make the inspections task cumbersome.
- ii) Quantification also seems difficult because of the environment's lack of objective monetary value. The empirical data that could be accurately translated into monetary value is difficult to access. Foreign companies, state agencies and international institutions are reluctant to divulge information on their projects.
- iii) Lack of human, technical and financial capital: To calculate the ecological debt requires human, technical and financial capital. Quantifying these damages at every mine, commercial forestry site or commercial fishery site in Tanzania is clearly a herculean task,

⁶ Paredis Erik, et al :2004

which would take months of fieldwork and the time of highly qualified and specialized ecologists and economists.

Due to the above limitations, the report will focus on natural resources extraction in the era of pro-foreign investment with emphasis on mining and forestry sector.

3.0 TANZANIA'S COUNTRY PROFILE

3.1 External Public Debt

Tanzania's total debt stock as of June 2010 was 6,854.4 US million representing an equivalent of 31.5% of GDP 71 % of this was external debt while 29% was domestic. At the end of 2010, the debt stood at 7,171 US million. The majority of Tanzania's external debt according to the June 2011 Medium Term Debt Management strategy was owed to multi lateral creditors which took up 85.9 % of Tanzania's external debt while the remaining 11.5 was owed to bilateral creditors. Some of the multilateral sources were the International Development Association (IDA), African Development Bank (AFDB), International Monetary Fund (IMF), European Investment Bank (EIB) and OPEC fund.

Chart 1: External Debt Composition by Creditor Category as at end June, 2010

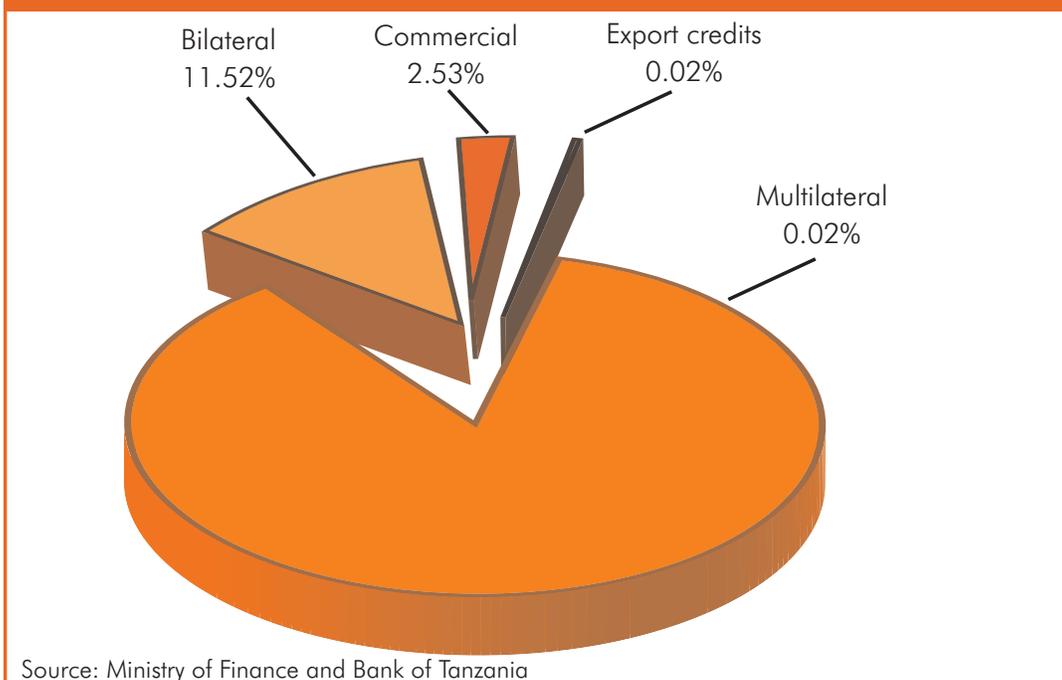


Table 1: Tanzania End-June 2010 Debt stocks

End-June 2010 Debt Stocks	
External Debt (USD, Million)	6,558.3
By Creditor Category	
Multilateral Debt	4,204.8
Bilateral Debt	955.4
Commercial Debt	815.2
Other	582.9
Domestic Debt (USD, Million)	2841.7

Source: Joint World Bank/IMF Debt Sustainability Analysis. 2011

In early 2011, Tanzania's national debt stock stood at USD 11,455.4 million. Out of the total debt stock, 80.0 percent was external debt and 20.0 percent was domestic debt. External debt stock increased by USD 65.6 million to USD 9,162.6 million, with 81.0 percent being disbursed outstanding debt (DOD) and 19.0 percent interest arrears. The ratio of external debt to nominal GDP was 39.9 percent at the end of April 2011, while that of public external debt was 31.9 percent. Based on the results of the latest Debt Sustainability Assessment conducted in November 2010, the present value of debt to GDP for Tanzania was 14.9 percent compared with the sustainability threshold of 50 percent. The profile of external debt by creditor category indicates that multilateral debt was USD 5,039.7 million, up from 4,906.2 million recorded at the end of previous month. Bilateral debt increased from USD 1,659.9 million to USD 1,674.9 million. Debt owed to commercial and export creditors stood at USD 1,548.6 million and USD 899.4 million, respectively. External debt service during the month amounted to USD 8.2 million, equivalent to about 0.2 percent of export of goods and services. Out of debt service USD 3.6 million was principal repayment and USD 4.6 million was interest payments⁷.

7 Bank of Tanzania: 2011

Table 2: Tanzania external debt stock by creditor

Creditor	April 10	Share %	March 11	Share %	April 11	Share %
Multilateral	4148.7	53.3	4906.2	54.7	5039.7	55.0
DOD	4131.3	53.1	4891.5	54.5	5024.5	54.8
Interest Arrears	17.4	0.2	14.7	0.2	15.2	0.2
Bilateral	1623.4	20.9	1659.9	18.5	1674.9	18.3
DOD	913.1	11.7	944.1	10.5	948.9	10.4
Interest Arrears	710.3	9.1	715.8	8.0	726.0	7.9
Commercial	1178.7	15.1	1515.5	16.9	1548.6	16.9
DOD	592.8	7.6	867.7	9.7	873.7	9.5
Interest Arrears	585.9	7.5	647.8	7.2	674.9	7.4
Export Credit	833.8	10.7	894.2	10.0	899.4	9.8
DOD	543.5	7.0	577.4	6.4	576.6	6.3
Interest Arrears	290.3	3.9	316.8	3.5	322.8	3.5
Externat Debt Stock	7784.6	100.0	8975.8	100.0	9162.6	100.0

Source: MOF and Bank of Tanzania 2011

3.2 Structure of Tanzania's Economy and Mineral Overview

Agriculture sector played the most important sector of the economy prior to the discovery of minerals. The Agriculture sector accounts for more than 25% of GDP, provides 85% of exports, and employs 80% of the work force. In 2008 the manufacturing sector accounted for 9.4% of the GDP, and mining and quarrying, 2.6%. The value of output in the mining sector increased by 2.5% in 2008 compared with an increase of 10.7% in 2007. An estimated 500,000 artisanal miners produced colored gemstones, diamond, gold, and other commodities. It is likely that artisanal mining employment declined in late 2008 and 2009 because of reduced colored gemstone production.⁸

3.3 Environmental Overview

Tanzania's forests cover over 33,428,000 ha which is 37.7% of the country's total land area. These forests contain high level of biologically diverse resources making Tanzania one of the 12 biodiversity-richest countries. Tanzania's forests are home to Africa's largest number of mammals, and contain the second largest number of plants (10,000 species), third largest number of birds (1,035 species), fourth largest number of amphibians (123 species) and fourth largest number of reptiles (245 species). In addition, the forests provide over 92 per cent of the energy resources and also support other important sectors (such as agriculture and tourism) through provision of water resources and catchments, maintain hydrological balance and soil

⁸ Bank of Tanzania : 2009- pg. 233-234

protection, recycle atmospheric gases, provide construction materials and employment. The country hosts Mount Kilimanjaro, is the highest point in Africa at 5896 m above sea level and has some of the most famous Great Lakes in Africa namely Lake Tanganyika, Lake Victoria, Lake Nyasa, Lake Manyara and Rukwa.

4.0 TANZANIA'S EXTRACTIVE INDUSTRY

The extractive industry in Tanzania encompasses forestry, mining and natural gas. The mining sector has been the fastest emerging sector with the lead mineral being Gold with an estimated 36.8 tonnes being mined in 2010. However, its contribution to poverty alleviation (ranked number 151 on the 2010 HDI a marginal change from position 164 in 2005) has been negligible. The many companies from the North have plundered Tanzania's natural resources with little regard to the environment or the people. According to a United States-based environmental watchdog Conservation International (CI), forests in Tanzania presently cover over 385,000 sqkm and of this 2,300 sqkm are disappearing every year due to deforestation which if left unchecked may result in Tanzania losing its forests within the next 100-160 years mainly because of wood felling. The rate of deforestation has also been alarming with sources of deforestation being large clearance of forest lands for mining activities and large scale agricultural production of export oriented plants.

4.1 Mining

Tanzania is richly endowed with mineral resources. However, this vast mineral wealth was largely untapped until Tanzania embarked on the liberalization and privatization of the economy in the 1990s when the country experienced an exploration boom. Tanzania's minerals include Gold, base metals, Diamonds, ferrous minerals and a wide variety of gemstones, some of which are unique such as Tanzanites. Also available is Coal, Uranium, and various industrial minerals such as Soda, Kaolin, Tin, Gypsum, Phosphate and dimension stones.

The mining sector is defined by the political, social and economic transformation that the country has gone through for several years. It is due to this transformation that the mining sector has undergone various legal and policy developments through different phases namely: colonial era (1840), socialist era (1961-1979); post independence (1979); and pro-foreign direct investments (1997-present).

Since 1979, a series of laws establishing a framework that grants licenses for private ventures engaged in mining activities and gives priority to attract large amount of foreign investment have been promulgated. These incentives and liberalized policies rendered the mining sector

to become one of the most dynamic sectors of the economy⁹. The mining sector is still the fastest growing economic field and the Gold mines are the most important revenue source of the country.¹⁰

The Africa Strategy for Mining Technical Paper of 1992 developed by the World Bank (WB) and the International Monetary Fund (IMF) played a significant role in financing and developing a blueprint for the mining sector in Tanzania through a Mineral Sector Development Programme. The main interest of this programme was to oversee the privatization and liberalization of the state-controlled mining corporations and the mining sector in order to facilitate the entry of foreign mining corporations. The strategy paper argued for the need to emulate success stories in countries such as Botswana, Gabon, Ghana, Guinea and Niger, where new mining development had been successful mainly as a result of the formation of joint ventures between the private sector and government.

However, the reform of mining sector came at a cost, whereas the previous Mining Act of 1979 required mineral- rights holders to present a plan for local procurement of goods and services, this stipulation was entirely absent in the 1998 Mining Act. This Act also provided many subsidies to foreign investors in the form of incentives including five- year tax holidays, 100% transferability of profits, 100% foreign ownership, exemptions from a wide range of taxes and from environmental impact assessments.

The law also provided for ministerial powers to enter into Mining Development Agreements (MDAs) with private foreign companies to develop mineral potential. The Minister for minerals could enter into a specific private agreement with an investor, without being restricted by other legal requirements. The Minister was allowed to give special preference including tax exemptions and environmental impact assessment exemptions privately. While providing flexibility for the Minister during negotiation, this makes it more difficult to monitor or question contract agreements and thereby undermining public accountability.

4.2 Production

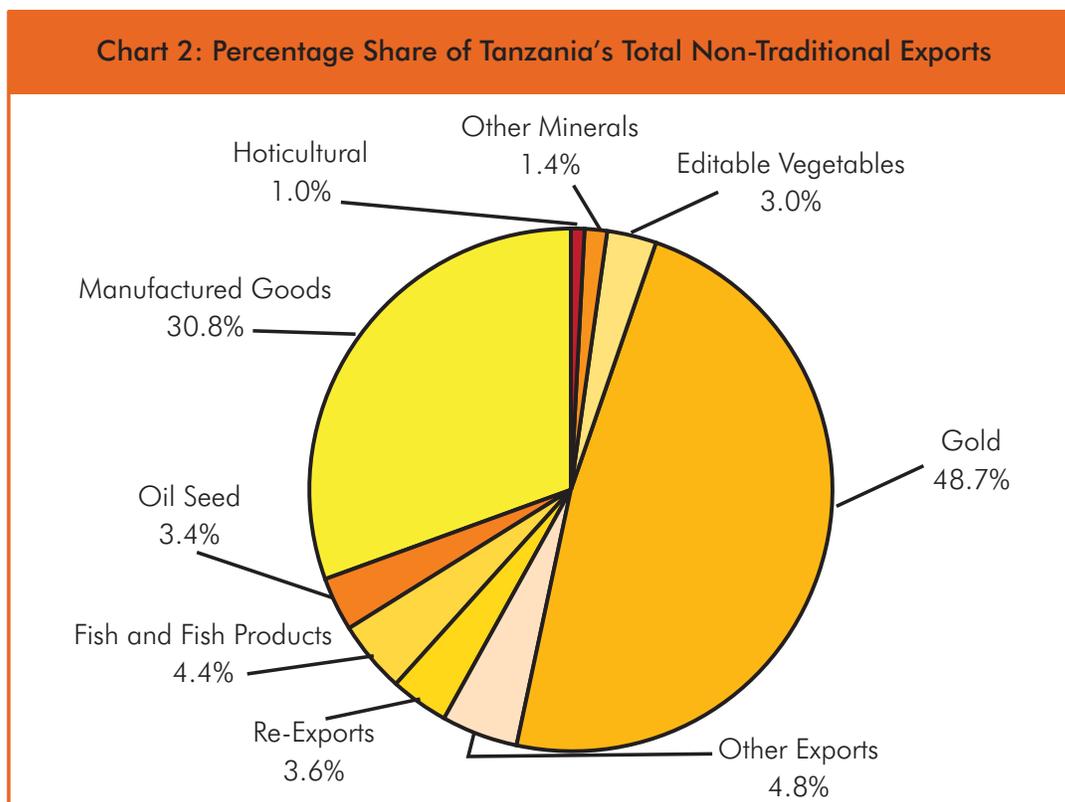
Mineral production in Tanzania is led by Gold which accounts for nearly 2% of the world's Gold output.¹¹ Gold and manufactured goods continued to constitute the largest share as

9 Reed: 2001- pg13

10 European Journal of Economic and political studies

11 George: 2010

they accounted for 79.5 percent of the total non-traditional exports (Chart 1) early 2011. The performance of gold was associated with the increase in gold price in the global market. During the first quarter of 2011, Gold prices rose by 26.5 percent to USD 1,321.17 per troy ounce mainly due to the weakening of U.S dollar against other major currencies, which in turn increased the demand for gold as a safe investment. Other, domestically significant mining and mineral processing operations included cement and diamond.



Source: Bank of Tanzania May 2011 Monthly Economic Review

Table 3: African Gold production (tones) (2006-2010)

	2006	2007	2008	2009	2010 (Jan-Jun)
Botswana	3.0	2.7	3.1	1.6	0.8
Côte d'Ivoire	1.3	1.2	2.7	6.9	2.9
Ghana	69.8	76.5	79.5	91.1	45.5
Guinea	11.0	12.6	19.9	18.1	13.7
Mali	50.0	44.9	41.2	43.1	20.8
Mauritania	0.3	1.7	6.3	7.9	4.6
Senegal	0.6	0.6	0.6	5.7	2.5
Serra Leone	0.1	0.2	0.1	0.2	0.2
South Africa	275.1	254.7	217.6	204.9	87.7
Sudan	3.2	2.7	2.3	1.9	0.8
Tanzania	40.7	40.2	36.6	41.1	20.0
Zambia	1.0	1.3	1.7	3.1	1.6
Zimbabwe	11.4	7.0	3.6	5.0	4.0
Other Africa	28.2	29.6	31.3	31.3	15.7
Total Africa	495.8	475.7	446.5	462.0	220.9
Total World	2,347.6	2,324.4	2,283.9	2,413.1	1,195.9

Source: The Economist Intelligence Unit

4.3 Economic Stakeholders

New policies in mining sector meant that Government's role changed from that of being a key player in the mining industry to that of being a regulator. Following the liberalization of the economy, the Tanzanian Government, withdraw in holding stakes in the mining business resulting in a number of multilateral and bilateral players participating in the mining sector in various ways.

Currently, six large gold mines are responsible for much of the country's mineral production. Barrick Gold, the world's largest Gold miner, runs Tanzania's largest mine, Bulyanhulu, with 12m ounces in Gold reserves. Barrick also own Buzwagi (3.3m ounces) and North Mara (3m ounces), and maintains a 70% stake in Tulawaka (80,000 ounces). Anglo Gold Ashanti (AGA)

operates Geita (5.1m ounces), and Resolute Mining Ltd own Golden Pride (2.5m ounces). India has also invested in Tanzania through a National Mineral Development Corporation (NMDC). The investment is in Kahama Gold Mine, as well as soda ash in Lake Natron. Smaller privately owned Indian companies are involved in mining and processing sapphire, ruby and other gemstones While there is also Chinese investment in nickel mining.

Most of the companies operating in Tanzania have immense commercial presence in Canada and are among the 1,223 mining companies listed on the Toronto Stock Exchange¹². Canada mining interest is mainly gold with four major mines in the country (North Mara, Tulawaka, Buzwagi and Bulyanhulu).

Table 4: Location and level of investments in Mining sector in Tanzania

Name of Mine	Total Investments (million USD)	Total Payment of Taxes & Royalties	Proven Reserves (million ounces)	Current Annual production (ounces)	Life span of the mine (years)
Buzwagi Gold Mine	372	Production yet to start	2.4	225,000 (expected)	10
Bulyanhulu Gold Mine	610	15.18 (Royalties); 5.5 (other taxes)	13.2	330,000	30
North Mara Gold Mine	Figures not available	9.5 (Royalties); 20.92 (other taxes)	3.8	269,000	12
Tulawaka Gold Mine	Figures not available	2.0 (Royalties); 5.2 (other taxes)	0.565	120,000	5
Geita Gold Mine	450	36.0 (Royalties); 37 (other taxes)	16.95	560,000	20
Golden Pride Gold Mine	370	11.4 (Royalties); 16.95 (other taxes)	2.47	180,000	12
Mwadui Diamond Mine	Figures not available	8.4 (Royalties); 16.9 (other taxes)	50.9 millions carats	250,000 carats	Figures not available
El Hillal Diamond Mine	Figures not available	0.30 (Royalties other taxes)	Info not available	Up to 2007 managed to produce 30,000 carats worth US\$ 6 million	Info not available
Tanzanite One Mine	20	1.47 (Royalties); 5.5 (other taxes)	Info not available	Info not available	Info not available

Sources: Adapted from the presidential committee on mining review (2008b)

¹² The Extractive Resources Industry in Tanzania: Status and Challenges of the Mining Sector, Society for International Development, 2009, Ascent Limited, Kenya.

4.4 Ecological and Social Costs of Tanzania's Mining sector

Environmental costs of the expansion of mining have been tremendous. Studies in the Arusha, Mwanza and Tanga regions depict a widespread water contamination, deforestation, biodiversity loss and degradation of agricultural fields¹³. Land surfaces and water resources, for example, have been seriously affected by the gold mining. Mining methods used to unearth the gold expose the land surface, create waste dumps and leave great pits open which eventually lead to landslides and soil erosion. The forests in the region, on the other hand, are to disappearing.

Furthermore, the lands around the open pits are becoming useless for agricultural activities. The most serious problem regarding the gold mining activities is the water pollution in the Lake Victoria, which is the most important natural resource for the local people's livelihoods¹⁴. Toxic chemicals used to extract gold have leaked into people's drinking water¹⁵. These chemicals are highly dangerous to human beings and all other living creatures.

These problems have been compounded by the lack of official regulations and weak legislations. The destruction of the land caused and loss of soil fertility has adversely affected agricultural productivity thus, threatening the livelihoods of small scale farmers and local food security.

13 Reed 2001:13

14 Chachage 1995:102-103

15 Knight : 2001

Impact on health

There is no doubt that the Tanzanian People have been exposed to shocking pollution and that their right to environmental justice denied. One of the many infringements to environmental justice has been the handling of extremely toxic materials by mining companies that represent a very real danger to the surrounding population and ecology. This is illustrated by the incident that involved toxic sludge spillage in the No North Mara's Tighithe River by a mine is operated by Barrick. Following the spill in May 2009, 203 people became ill, 43 people died, and 1358 livestock died. Barrick Mine is reluctant to stop polluting the river around the mine and has barely provided any health care to victims and did not provide full compensation for people affected. Even with independent investigations by scientists from Norwegian University confirming that potential life threatening levels of arsenic around Barrick's North Mara mine in Tanzania still exist. Despite that fact that these areas were tested four to seven months after the spill, this study shows that the water remains toxic for human consumption and grazing use. The villagers living in Tarime district claim they are still experiencing health-related illnesses from the water.

SOURCE: <http://www.scribd.com/doc/53693516/African-Barrick-Gold-Clean-Up-Your-Act-people-and-livestock-threatened-in-tanzania>

Due to incentives and priorities favoring large scale or middle scale mining companies and merchants, significant inequalities have occurred among people who are occupied in mining activities.

Most of the small scale miners lost their business because of the harsh competition with powerful larger scale companies and many people who live in mining areas have lost their lands and base of their livelihoods.¹⁶

Besides the environmental degradation, there are social costs associated with the mining industry. The Bomani Commission Report (2008)¹⁷ pointed out that despite the presence of a huge amount of mineral reserves, the contribution of this sector to the national economy and community development is not meeting the citizens' expectations, compared to the other sectors in the economy. This the report attributed to various factors including the fact that Tanzanian royalties on the value of gold and diamond exports were half those in other countries like Ghana and Botswana.

Twelve million of Tanzania's 39 million people live on less than a dollar per day. Over the past ten years, following the 1998 Mining Act gold production has since increased from 1-2 tonnes per annum in 1998, to 50 tonnes, valued at US\$876 per ounce in 2008. But the liquidation of Tanzania's finite resources has yet to really benefit the country, despite the recent five-year commodity boom (2003-2008)¹⁸. This

¹⁶ European Journal of Economic & Political Studies

¹⁷ Report of the Presidential Mining Review Committee

¹⁸ <http://protestbarrick.net/article.php?id=523>

Heightened Poverty

In a submission to the Extractive Industries Review of the World Bank, held in Maputo, Mozambique in January 13-17, 2003, the Lawyers' Environmental Action Team provides ample proof about the negative social, environmental and economic impacts of mining activities in Tanzania. The submission summarizes its findings in this manner:

"The investment stands as a monument to the plunder of the natural resources of poor countries such as Tanzania by the multinational corporations of the rich industrial countries of the North; and the impoverishment and further marginalization of the mostly rural communities in mineral rich areas of Tanzania and elsewhere. It is a living testimony of the proposition that where multinational corporate interests are at stake, notions of rule of law, good governance and a respect for human rights take on a secondary importance to be swept aside whenever expedient. It provides the proof to the charge that the World Bank Group almost always acts against the interests of the vast majority of the poor and the marginalized groups of society. The Group cannot, therefore, live up to its poverty alleviation credentials while at the same time maintaining support for socially ruinous projects such as Bulyanhulu Gold Mine."

SOURCE: Lawyers' Environmental Action Team, Tanzania, 2003,

depletion of resources in the long run has benefited customers in the developed countries while causing ecological damage to developing nations without adequate compensation. This is because natural resource extraction has social consequences that exacerbating population morbidity, affect land ownership, threatens livelihoods, increases the persistence of poverty and accelerates loss of traditional customs.

The legislative and legal regimes around the mining sector are argued to lean more towards encouraging foreign investment than promoting and safeguarding the interests of the wider Tanzanian population. For instance, investment and tax laws have been radically revised to offer a raft of tax incentives for mining companies. These include low royalty rates (3 per cent on gold exports), the ability of mining companies to offset 100 per cent of their capital expenditure (on mining equipment and property) against tax in the year in which it is spent, and low taxes on imports of mining equipment. The government takes no stake in the major gold mining operations, allowing foreign companies 100 per cent ownership. These incentives amount to hidden subsidies for the large mining companies.

For example, Tanzania exported gold worth more than US\$2.54 billion (bn) between 1997 and 2005¹⁹. The government has received around \$28m a year in royalties and taxes on these exports, amounting to just 10 per cent over the nine year period. The 3 per cent royalty has brought the government only an average of US\$17.4m a year in recent years. Raising the royalty rate to, say, 5 per cent would have increased government revenues by around US\$58m over the past five years. Thus, Tanzania has lost at least \$265.5m in recent years as a result of an excessively low royalty rate, government tax concessions that allow companies' to avoid paying corporation tax and possibly even tax evasion by some companies if allegations are true. This is a very conservative estimate, in that it does not cover all the gold mining companies or all figures for recent years (which are not publicly available). Neither does it cover the financial costs of other tax incentives such as VAT exemption, which are extremely difficult to estimate. These extra revenues could of course provide a huge boost to tackling poverty in Tanzania. It is estimate that the prioritization of large-scale gold mining in the country has come at the expense of small-scale artisan miners, around 400,000 of whom have been put out of work²⁰.

Tanzania is a candidate country in the Extractive Industry Transparency Initiative (EITI). EITI is a bid to publish company payments and government revenues from oil, gas and mining

19 Golden Opportunity Report

20 Ibid

with the aim to make the extractive sector more transparent and accountable. The EITI aims to strengthen governance by improving transparency and accountability in the extractives sector. However, the mining sector in Tanzania faces a number of problems relating to governance: 1) there is weak enforcement of existing legislation as many institutions are incapacitated; 2) inadequate economic structure and regulation 3) poor public participation and accountability.

These facts mean that the overall impact of investment in the extractive industries is negative and that the mining sector rests mainly in the hands of foreign companies that exploit Tanzania's wealth.

5.0 FORESTRY SECTOR

Another extractive industry that contributes large foreign earnings to the Tanzanian economy is forestry, which in 2009 contributed 2.2 percent to Tanzania's GDP with a combined value of over shs. 21.98 billion²¹. Tanzania has a total of 33.5 million hectares of forest and woodlands. Of this, over 17 million hectares are on public land without proper management, under pressure from expansion of agriculture and particularly vulnerable to deforestation and degradation. 2,739.20 exports from exports of forestry products in 2009 were estimated at 2,739.20 (USD 000')

Table 5: Exports of Forestry Products

Product	2004/05		2005/06		2006/07		2007/08		2008/09	
	Volume/ Weight	Value (USD '000)	Volume/Weight	Value (USD '000)						
Tree logs	5867.48	1939.18	5,117.10	11,096.10	12,850.76	35.40	3,191.93	9.56	6,895.10	27.20
Timber (Rough sawn)	87918.30	767.11	24,859.30	66,741.20	51,908.84	137.98	79,037.73	73.35	113.90	2.70
Ebony Timber	65.24	3312.15	2,269.20	2,321.70	137.70	4.81	11,002.26	3.46	0.23	52.00
Floor Boards	75.09	300.00	107.70	378.90	140.20	0.55	5.38	1.28	28,560.40	18.90
Wood carvings/ sculptures	6655.00	66.70	45,296.90	27,271.20	63,634.70	40.54	114,937.58	28.86	-	-
Rail gauges	272.06	125.15	19.90	81.60	-	-	-	-	-	-
Sandals Tree	4964.00	178.32	398,555.50	3,011.40	550.00	1.52	-	-	1,333.00	3.30
Furniture	-	471614.00	6,504.00	4,092.10	6,504.00	6.72	183.18	2.51	-	-
Tannin	114.00	600.00	0.00	-	-	-	-	-	45	8,000.00
Mimosa Bark	15.72	11.48	304.00	1,102.00	532.00	2.00	1,417,000	7.86	-	-
Terminalia bark	1180.00	200.00	0.00	-	-	-	-	-	637.00	8.90
Tree Seeds	-	-	1,150.00	-	1,787.00	36.28	-	-	296.50	1,505.10
Bees Wax	288.00	124110.00	330.60	-	-	-	428.68	1,892.00	620.50	940.70
Honey	465.18	77971.40	315.80	-	-	-	94.00	80.89	-	-
Tree's Glue	-	-	0.00	-	-	-	-	-	27.11	172.00
Poles	904.06	8,791.80	85,000.00	-	-	0.4583	7,839	42.12	5,968	1.80
Sandals Oil	-	-	-	-	21.25	2907.44	11,325	3.15	628,201	4.10
Cinchona Bark	-	-	-	-	84.38	0.53	412,120	1.98	-	-
Handicrafts	-	-	-	-	5,667.26	3.761	-	-	-	-
Coral Tree Leaves	-	-	-	-	5.00	0.0333	-	-	-	-
Total		681375.49		11637.34		681375.49		2147.02		2,739.20

Source: The Ministry of Finance and Economic Affairs; THE ECONOMIC SURVEY 2009

21 National Forest Policy. Ministry of Natural Resources and Tourism: 1998

5.2 Production

In 2011, about 435,839.6 hectares of land have been earmarked for bio-fuels production to feed the demand from western countries.²² There are presently over 40 foreign companies showing interest in acquiring land on which to grow bio-fuels. The ambitious proposals put forward are from more than twenty European companies to establish several sugar, Jatropha and palm-oil plantations in order to produce bio-fuels. To date there are 17 investor companies in Tanzania, from UK, Germany, Sweden, the Nederland and America.²³

5.3 Ecological and social costs

In Tanzania, there has been an increase of forest clearing for purposes like mono-crops or bio-fuel farms/agriculture. In the past, the forests were commonly lost to cultivation of export crops and clearance of land by subsistence farmers.²⁴ In recent years (2009-2011), bio-fuel production has attracted a great deal of attention. There has been anticipation for substantial social and environmental benefits, while at the same time expecting sound profitability for investors. On the other hand, doubtfulness envisaging large trade-offs between the pursuit of social, environmental and economic objectives. As climate change forces economies around the world to cut carbon emissions, many investments are rapidly moving towards the development of bio-fuels (enormous carbon monoculture fields) as a replacement for fossil fuels. Many of these investments are in the developing countries and possess the emergence of another form of ecological debt due to the fact that proponents of this initiative are European companies.

The negative environmental impacts of the bio-fuel plantations range from deforestation and water depletion. Local people are no longer able to obtain a large number of building products and resources from the forests. There is also another serious negative environmental impact in particular, the indirect use of land as more carbon emissions will be released as forests and pristine land is converted from cropland to bio-fuel production. The appropriation of farmers' land by bio-fuel companies is causing problems for the local people in most cases this land is leased for 99 years.²⁵

22 <http://www.actionaid.org.uk/100621/blog.html?article=3025>

23 http://www.theecologist.org/trial_investigations/414648/jatropha_biofuels_the_true_cost_to_tanzania.html

24 Hammond, Ross :1999

25 <http://punchhunger.blogspot.com/2010/10/does-biofuel-really-benefit-tanzania.html>

Moreover, climate change is causing an ecological debt. Generally, in East Africa as a whole, climate change is expected to bring: higher temperatures; changes in precipitation patterns; increases in the frequency of severe weather and climate events i.e. floods, droughts, cyclones and tropical storms; as well as sea-level rise²⁶. These have a big impact on both human and economic development for countries like Tanzania whose economy is largely dependent on the use of natural resources, rain fed agriculture and biomass. Frequent and severe drought episodes are increasing with consequences for food production and water scarcity. The severe drought of 2005 triggered a devastating power crisis in 2006 which negatively impacted Tanzania's economic growth. The intrusion of sea water into freshwater wells along the coast of Bagamoyo and the submerging of Maziwe island in Pangani and Fungu la Nyani in Rufiji are both linked to sea level rise impacts. In 2007, soon after the prolonged drought-floods devastated most of the country's infrastructure curtailing many economic activities costing the economy about US\$ 40million to address the problem²⁷.

26 Ehrhart, C & M Twena :2006

27 State of Environment Report : 2008

6.0 REIMBURSING ECOLOGICAL DEBT

6.1 Tanzania as a Net Environmental Creditor: Environmental Space, Environmental Justice, and the Persistence of Poverty

Extractive industries such as mining, forestry and related industries that are being promoted have imposed huge ecological and social burdens on the Tanzanian people. While the ecological debt of Tanzania is hard to quantify it must be recognised. The ecological debt has accrued through adoption of privatisation and export oriented policies tied to development assistance specifically to facilitate mineral extraction. In addition, further loans are contracted to address environmental damage created as a result of the mining activities by multinationals based in the same countries that give policy-based assistance. Therefore to reimburse Tanzania of the injustices it has experienced, there is need to review its public debt, terms of trade in regard to foreign investment and also the disproportionate use of Tanzania environmental space by countries emitting more Greenhouse Gas Emissions.

6.2 External Public Debt Cancellation

Financial debt incurred that must be re-paid compels the debtor country to produce products for export far beyond what is needed for their own consumption needs. This over production aggravates environmental destruction and accrues ecological debt. In a bid to achieve economic growth and pay off external debt, Tanzania has implemented large scale mining, liberated its markets and opened up opportunities for mining by foreign investors.

In addition, any production that takes place to service external debt incurs environmental and social impacts, meaning that it incurs ecological debt. For instance, under the Brussels plan of action Tanzania is promoting and liberalizing trade especially in the agricultural and mining sector. Mining exports have increased dramatically in past years, with its contribution to exports growing from negligible levels 10 years ago to a quarter of total exports in 2010. Mineral exports in 2010 amounted to \$1,114.8 million, higher than \$995.5 million recorded in 2008, owing to an increase in exports of gold and other minerals. These growing exports however come with grave environmental and social consequences, such as tensions over land rights and problems in labor relations as well as environmental pollution problems.

These issues are not accounted for in monetary terms and therefore accumulate ecological debt, as do the unaccounted for impacts of agriculture and other export production in the country. It is important to point out that investments in mining are unsustainable since minerals are exhaustible. Once the mineral ore is exhausted, the companies move on leaving the country to deal with the aftermath. Therefore cancellation of Tanzania's debt is a big step to environmental justice.

6.3 Delinking Development Assistance from Policy Imposition

Aid has been traditionally used as an instrument through which investor friendly climates have been vigorously pursued. Most development aid or assistance is tied to economic policy reforms. In the case of Tanzania a number of economic recovery programs had been adopted without due consideration of their effects on human livelihoods and the environment. World Bank and IMF policies compel countries to focus on exports drive with undying financial support for oil, mining and gas projects. In a number of cases the borrower countries do not have adequate environmental protections in place.

Debt relief initiatives like the Heavily Indebted Poor Countries (HIPC) and Multilateral Debt Relief Initiative (MDRI) are pre conditioned on the country having a program with the IMF whose conditions includes economic liberalization as a conducive environment for the attraction of foreign direct investment. However, it is important that development

Necessary costs to development

'Throughout Tanzania's history, the unlimited exploitation of natural and mineral resources has always been taken for granted as a "necessary cost" of economic and political "progress." Even today, such issues are part of the agenda only because of pressure from external forces. This explains why there has been hardly any serious intervention on environmental issues in mining'

In short, natural resources, including minerals, are seen as a fundamental source for a developing country to become a part of the global economy. However, as it is seen in Tanzania, environmental problems of the Third World do not just reflect policy failures of national governments; they also demonstrate the influence of global political and economic forces

Source:
"The Meek shall inherit the Earth" by
S.L.C Chachage 1995.

aid or assistance should not constrain government space to negotiate effectively and most importantly, aid should not be tied to industrial or investment policy frameworks.

This is despite the World Bank's own Extractive Industries Review finding that increased aid to the extractive industries does not have a positive effect on development²⁸. The review found that in Tanzania with the exceptional economic growth performance, the overall effect of these policies was negative. The Review states "the structural reforms appeared to exacerbate macroeconomic imbalances, including: vulnerability to external shock; declining government revenue ratios; increased economic dependency on primary commodities; and significant negative pressure on balance of payments from increased energy imports associated with the mining sector boom²⁹".

In order to mitigate the negative impact of extractive industries on the environment, employment and health the World Bank put in place complementary projects. However these projects coupled with the expansionary measures of structural reforms have led to unnecessarily high social and environmental costs, some of which are highlighted below:

- No evidence of poverty reduction
- Extractive Industries Operations tend to take place in more socially and environmentally sensitive areas. In Tanzania, for instance, uranium exploration has been taking place in the Selous, a World Heritage site, renowned for its biodiversity.
- Increased insecurity surrounding natural resource tenure –development of Extractive Industries and the strengthening of commercial land rights has induced more tenure insecurity of natural resources for local peoples, including conflicts over land and water rights.
- Increased overall environmental degradation – Marginal gains in environmental mitigation linked to donor assistance have not offset the overall increase in environmental degradation associated with the significant expansion in exploration and production of Extractive Industries. Electricity deficits and increased air pollution – A significant increase in energy demand from the expanding mining sector has produced electricity deficits in Tanzania.³⁰

28 Heike Mainhardt-Gibbs (2003): "The World Bank Extractive Industries Review: The Role of Structural Reform Programs towards Sustainable Development Outcomes"

29 Heike Mainhardt-Gibbs (2003): "The World Bank Extractive Industries Review: The Role of Structural Reform Programs towards Sustainable Development Outcomes".

30 Heike Mainhardt-Gibbs (2003): "The World Bank Extractive Industries Review: The Role of Structural Reform Programs towards Sustainable Development Outcomes"

6.4 Greenhouse Gas Emissions

Tanzania is an environmental creditor to the north as it is a net sink of Greenhouse Gases (GHGs). The carbon planet in 2010 estimated that an average Tanzanian emits 0.13 (CO₂e t/person/year) per year.³¹

Although Tanzania is not a leading emitter of GHGs, it is more vulnerable to the impacts of global warming because it has limited human and financial resources, weak institutions and heavily relies on climate sensitive sectors for its economies. Research indicates that Tanzania along other poorest countries will continue to benefit from the emissions trade, but the outcome was not clear on the magnitude of gains for a given country is³². According to Thara Srinivasan et al³³ *“accountability for climate change among nations and regions has been estimated by using a variety of indices. Still, our understandings of whose actions are driving ecological degradation in general and who is paying the costs remains limited.”*

The production of bio-fuels in Tanzania may also result in carbon emissions. The Bio-fuel projects are not factoring in the fact that the energy needs of the local people are met almost entirely by firewood. Homes and livelihoods will be destroyed to give way to ethanol production for the European market. The displaced communities will be forced to clear other woodland areas for settlements, farming, fuel-wood and grazing.

In addition to this deforestation, organic matter in the soil will also be transformed into carbon dioxide. Northern countries, on the other hand, will be better off because the reduction of CO₂ emissions while the increases will be in countries like Tanzania.

In order to prevent, reconstruct and adapt to these Climate changes, many developing countries have succumbed to financial assistance/borrowing.

31 http://www.carbonplanet.com/country_emissions

32 COP15 & COP16 are the official names of the Cancún summit, which are the 15th & 16th Conference of the Parties (COP) under the United Nations Framework Convention on Climate Change (UNFCCC).

33 Thara Srinivasan et al : 2008

7.0 RECOMMENDATIONS

7.1 Avoiding the emergence of new ecological debt

7.1.1 *Government of Tanzania*

- 1) Enforce all existing environmental, health and labour standards, even within the context of international investment contracts. Proper enforcement by the overseeing agencies can only be achieved by fully capacitating institutions with financial, technical and human resources.
- 2) Reduce the fiscal incentives to mining companies, in order to increase their contribution to Tanzania's tax revenue and GDP. Regular public reporting of revenues from mining should be instituted not just at the international level but also at the local level.
- 3) Allow full public scrutiny on Environmental Impact Assessments and Social Impact Assessments and mandate companies to publish EIA/SIA reports.
- 4) Ward off environmental degradation through reforestation initiatives for deforestation, and an environmental rehabilitation fund for mining activities that degrade the environment.

7.1.2. *Foreign Entities Investing in Tanzania*

- 1) Should respect the laws and regulations in the countries which they operate by taking due account of the need to protect the environment, public health and safety.
- 2). Conduct their activities in a manner contributing to the wider goal of sustainable development.

7.1.3 *African Nations*

- 1) To stand together for the fight against exploitation of their ecology by foreign entities. Ecological debt should be infused within the discourse of international negotiations especially those focused on environmental degradation and climate change.

7.1.4. *Civil Society, Church bodies and Media*

- 1) Continue their role in exposing and monitoring of the unjust practices of foreign entities while at the same time providing information to citizens about their rights to a just environment.

7.2 Compensation

7.2.1 Debt cancellation

- 1) The first measure to compensation is the cancellation of Tanzania's debt. This should also tally with looking further into the revision of the terms of global trade that put Tanzania in a vulnerable position.

7.2.2 Seeking compensation from Foreign Companies

- 1) There should be stringent mechanisms put in place to make it possible to claim compensation from foreign entities. State governments should ensure that multi-national corporations originating from their countries cooperate with their hosting countries laws as they would in their own countries.
- 2) There should be proper documentation and evaluation of areas before companies begin activities so that it easy to monitor and evaluate any damage incurred.

7.2.3 Research

- 1) Concrete commitment to the issue of ecological debt should be established through research. Research will produce new insights, official statistics and up-to-date information that can be used as cases of evidence and advocacy.

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African Forum and Network on Debt and Development

Organisation Overview

The African Forum and Network on Debt and Development, AFRODAD, is a Pan African civil society organisation born of a desire to secure lasting solutions to Africa's mounting debt problem which has impacted negatively on the continent's development process. The organisation aspires for an equitable and sustainable development process, leading to a prosperous African Society. Its mission is to secure policies that will redress the African Debt Crisis based on a human rights value system.

Ecological Debt Portfolio

This project aims to examine, understand and explain ecological debt as a new phenomenon to Africa's debt crisis. The major purpose of this portfolio is to initiate research and debate that would lead to the formulation of a new global framework of economic development that will take care of socio-economic justice and climate change issues in a manner that facilitates the attainment of MDGs and sustainable development.

The African Profile

AFRODAD intends to profile the Ecological Debt of all African nations. This compilation will help to establish the magnitude of ecological debt and will also assist in recommending key policy areas for Advocacy.

