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**Macroeconomic  
Policies, Livelihoods  
& Sustainability**





Front cover:  
*Fog in the Forest, Japan*  
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# POLICY MATTERS 18

Special Issue  
**Macroeconomic Policies, Livelihoods  
and Sustainability**

ALEJANDRO NADAL  
Co-chair, TEMTI  
Guest Editor



**POLICY MATTERS 18**



*Maize  
Credit: Archive,  
Prensa Indígena*

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# FOREWORD

BY AROHA TE PAREAKE MEAD  
CHAIR CEESP



*Amazon Rainforest  
Credit: Palpaha,  
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This special issue of Policy Matters 18 innovates at several levels. It is the first time we are devoting an entire issue of our flagship Policy Matters journal to the analysis of economic policies and their impact on sustainability. It is also the first time a CEESP publication explores the highly technical topics of macroeconomic policies in their relation to sustainability. In these two respects, the special issue of Policy Matters is a welcome addition to our interdisciplinary work on the economic, social and cultural factors that shape our relation with biodiversity and the natural resource base.

The Commission on Environmental, Economic and Social Policies (CEESP) is inaugurating a new period of productive work organized around the full range of economic policies in order to study their implications for environmental stewardship and for social responsibility. This work is being undertaken by the CEESP Theme on the Environment, Macroeconomics, Trade and Investment (TEM TI). In previous years, the working group that pre-existed TEM TI carried out important analyses on the effects of trade and investment policies, now this analysis has been expanded to the gamut of economic policies to include macroeconomics and, as a result, sector level policies. The studies contained in this special issue of Policy Matters are an important contribution as they inaugurate a key avenue for policy-oriented research.

Everyone knows that macroeconomic policies play a decisive role in our daily lives. But too many people see them as belonging to a mysterious and complex field that complicates or even forbids our having access to the way in which priorities are decided upon. In fact, the whole field of macroeconomics is usually seen as a discipline that only experts in central banks or the treasury department (or professors in academia) are able to understand. In many ways, this explains why the most important decisions in economic policy are left to the experts, while the rest of the population passively acquiesces and submits to these policy priorities. Even parliaments and congresses frequently are unable to monitor and influence these policy decisions.

The crucial point is that the priorities that are chosen within the framework of macroeconomic policies affect in a decisive manner the allocation of resources for social and environmental sustainability. These policies affect interest rates, taxation and income distribution, exchange rates, subsidies and the conditions for access to credit in the banking system. By affecting the production strategies of every agent in the economy, whether a giant corporation or a small-scale agricultural producer, these policies also shape resource management practices and therefore, the relation to the environment and the natural resource base. The studies that are published in this special issue show that in many instances, macroeconomic policies can spell the difference between life and death for peoples' livelihoods.

In addition, macroeconomic policies influence the allocation of resources for environmental stewardship and sustainability at the economy-wide level. This is evident if we consider that priorities in fiscal policy determine the rate and direction of public expenditures. For example, the public monies that are allocated to health, education, housing, sanitation services and natural protected areas, just to mention a few examples, can be significantly reduced when the ministry of finance decides that fiscal spending needs to be curtailed. Thus, in the realm of fiscal policy the linkages between macroeconomics and sustainability are easy to see.

Yet, in spite of these self-evident facts, very few policy-oriented studies have been carried out on the direct and indirect impacts that macroeconomic policies have on sustainability. TEMTI is making here a very important case for redeploying part of our energy and resources to the analysis of this critical problem area. One could say that its underlying message was that it is high time to recover this ground for policy making and really putting it at the service of social and environmental sustainability.

The world is immersed in a dangerous economic and financial crisis that will have multiple ramifications in

our societies. This global economic and financial crisis is essentially a macroeconomic event of the first order of magnitude. It is not the result of an external shock (i.e., an oil embargo or a war) but rather the consequence of endogenous forces inside the most advanced capitalist economies of the world. It is the consequence of a failed economic model that will not put us in a trajectory of sustainable development. Unfortunately, the policy response to the crisis is now based on the premises of that same failed model. As a result, the crisis will be deeper and last longer, affecting the jobs and livelihoods of millions of people in the world. Yet, for all the evident importance of this, the preparations for next year's UN Conference on Sustainable Development (Rio+20) are not even considering a meaningful discussion on macroeconomic policies and their relation to long term sustainability. Through the work in TEMTI we hope to send a clear message to the UNCSD that the macroeconomic policies of the failed model that gave us the global crisis are incompatible with an agenda for long-term sustainability.

I wish to acknowledge and thank all the contributors to this edition of Policy Matters, and particularly to the Editor, Dr Alejandro Nadal, Co-Chair of TEMTI. We welcome your feedback on the ideas and analysis expressed in PM18.



Aroha Te Pareake Mead  
Chair, IUCN CEESP  
Wellington NZ, 19 September 2011

# OVERVIEW: MACROECONOMIC POLICIES FOR SUSTAINABILITY

ALEJANDRO NADAL



*Arid Land*  
Credit: Hannes Grobe,  
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## INTRODUCTION

The world is caught in the deepest financial and economic crisis since the Great Depression. The extraordinary expansion of the financial sector over the past three decades has given way to a crippled financial system, with wealth destruction going into the trillions. Astronomical financial rescue packages (bailouts) will leave an ugly scar that will mark fiscal policies well into the next decade. The fate of the once powerful US dollar is even at stake as a result of this gigantic crisis. And the frenzy of deregulated markets, so characteristic of neoliberalism and globalization, has put millions of people worldwide in poverty.

At the same time, the world is trapped in a vicious environmental predicament. We are not only threatened by stagnation, deflation, unemployment and poverty. Our world is also menaced by climate change, deforestation, soil erosion, polluted aquifers, over-exploited fisheries and a man-made event of mass extinction. The severity of this environmental crisis is a threat to the survival of humankind.

These two crises are intimately related to each other. Both point to a series of critical flaws in economic thought and policy-making. The economic crisis is not the result of what could be called a rare probability event (“a perfect storm”) but rather the unavoidable outcome of an economic paradigm that dominated

policy-making since the early eighties. The policy package behind this was able to sustain growth only through the formation of a series of bubbles in different classes of assets. In this process, financial markets took control over manufacturing corporations, and they sacrificed long term investments for short term profitability. Not only were wages put under pressure, but under the logic of finance, the environment simply became another asset. It is clear that if we want to advance towards long term environmental sustainability we need to change this state of affairs.

That this model was also unable to promote growth with rational environmental stewardship is an understatement. To put it another way, the same macroeconomic policies that generated the worst crisis since the 1930’s affect the rate at which we cut trees, catch living marine resources, emit greenhouse gasses, deplete aquifers or exploit open pit mines. The reason is that activities related to these phenomena are conditioned by interest rates and inflation, exchange rates, credits, securities’ performance, subsidies, taxes, depletion allowances, etc. It is no coincidence that some of the speculative bubbles that mark the latest crises were based on commodities that are, by definition, close to the natural resource base (for example, grains and foodstuffs).

There is no doubt that inter-capitalist competition is the determinant

force behind the exploitation of the natural resource base. But the economic forces behind environmental exploitation (and the current financial crisis) are shaped by macroeconomic policies. The corollary of this is that macroeconomic policies will be a critical frame of reference as we move away from a wasteful economy and shift course towards sustainability. These policies will have to be redefined in order to direct investment flows towards renewable energy sources, energy efficient manufacturing, retrofitting of infrastructure, sustainable agriculture, etc. Macroeconomic policies can be a potent driving force behind our efforts to consolidate good environmental stewardship, or they can be a mighty obstacle in our effort to shift to a sustainable economy.

Macroeconomic policies are based on relations between economy-wide variables.<sup>1</sup> They are powerful engines that can be used for stability or change. They include monetary and fiscal policies. They also cover financial, banking and capital account regulations, as well as the determination of some key economy-wide prices (prices for energy inputs, basic food commodities and wages). Finally, because macroeconomic policies cover balance of payments management, they are key determinants of the world's trade and investment regime, as well as to

the international financial architecture. Because they affect the way in which economies relate to environmental change, it's time to redirect macroeconomic policies and to harness their potential for sustainability.

Macroeconomic policies affect the rate of economic activity and, therefore, the usage rates of our natural resource base. Through their impacts on economy-wide prices, macroeconomic policies also condition output composition and technology choice, influencing production and marketing strategies of every economic agent, from the largest and most powerful industrial corporations, to the smallest agricultural units. They also affect asset composition of any investment portfolio, bringing about important changes in the way in which financial instruments interact with productive activities in the real sectors of the economy. In view of the relation between financial variables and commodities prices in the world's mercantile exchanges and futures markets, this is a very important dimension that needs to be taken into account. It may just be the tip of the iceberg when it comes to the relations between the financial sector and the environment.

When framed in these terms, the relation between macroeconomic policies and sustainability becomes self-evident. However, this has not been recognized by



*John Maynard Keynes (1946), founder of modern macroeconomics.*

<sup>1</sup> A macroeconomic policy package is made of a set of paramount policy objectives that are pursued in a coherent manner by a group of economy-wide policy instruments. Thus, macroeconomic policy instruments do not act in isolation (although issues of inconsistency frequently arise). The policy objectives are defined in accordance to a particular view of how prices and distribution interact with output determination, employment and inflation.

either the academic and policy-making communities. This is a very serious omission and may very well be the most dangerous blunder in international policy making. This project is a contribution towards filling this gap with rigorous analysis. This report concentrates on how the macroeconomic policy package works and tries to identify its impacts on the environment. Readers should be aware of the fact that lengthy sections of this report (as well as the country level studies) are devoted to a detailed discussion of macroeconomic policies. This should not be interpreted as the result of an academic bias for economic discussion and/or disregard for the other theme in the title of this project. On the contrary, the project concentrates on macroeconomic policies precisely because they carry deep implications for the environment's health and resilience. Conservationists and communities must learn to deal with these themes which were until recently the privileged hunting grounds of simple-minded economists interested in how economic aggregates interact with each other. The stakes are indeed very high and it is unwise to leave this realm of economic policy for the exclusive manipulation of a discipline that still counts environmental destruction as "growth". We hope that this report will help establish the foundations for closer cooperation between communities, the constituency of the various IUCN commissions and the world of policy makers.

One final clarification is important. Many years have gone by since Herman Daly (1991) called for the development of an environmental macroeconomics. Since then very little progress has been made in this field. Although many publications do address this problem, their approach has systematically avoided dealing explicitly with macroeconomic policy. Thus, a substantial amount of work on environmental stewardship and conservation has ignored the importance of monetary and financial relations, or of fiscal policy objectives, or the distributional and employment problems and their role in shaping the economic forces that so deeply affect the real sectors of the economy. In a way, Daly's call is responsible for this lack of progress. His appeal was essentially concerned with the problem of scale and the reality of finite resources. For him, the market took care of the efficient allocation of resources, but was incapable of dealing with the problem of scale. This is inaccurate: one key result of general equilibrium theory (by far the most refined and sophisticated theory of interdependent markets) is that there is no proof that markets allocate resources efficiently. Thus, Daly's reference was based on an erroneous assessment of how markets operate and on the health of received economic theory. On the other hand, the problem of scale, which Daly described as the most important of our time, is something that cannot be addressed without taking into consideration the macroeconomic

policy framework that shapes the economic forces. It could be argued, for instance, that the importance of the financial sector, for example, is at least as important as the issue of finite resources. However, macroeconomic policy has remained outside of the radar screen, even for the followers of Herman Daly.<sup>2</sup>

Perhaps the disarray in which macroeconomic theory finds itself discouraged Daly and his followers in engaging a meaningful dialogue with the community of theoretical macroeconomists. The fact remains that very little work has been published on macroeconomic policy and the environment. In fact, what has been published (see for example the work of Heyes (2000), Lawn (2003), Thampapillai (1995) and Munasinghe (2002) continues to be based on standard textbook IS-LM models and simply ignores the evolution of macroeconomic theory during the past five decades. This ignores the debates amongst academics and policymakers concerning the effectiveness of monetary and fiscal policies, or the role that each one of these should have in a world of interdependent open economies. What little work has been published on macroeconomic policies and the environment pays no attention to the discussion concerning disequilibrium, the nature of financial crises and the role of regulatory agencies. In fact, these analyses pay no

heed to the admonition of Friedman (1968) concerning the limited role of monetary policy, a view that has caused great damage and should have been totally discredited by now. Ignoring the evolution of macroeconomics also leads to overlooking the contributions of post-keynesians to the debates about demand management and unemployment in today's world. There is no doubt that the chasm that separates macroeconomics from environmental concerns continues to be a deep one.

Part of our analysis in this special issue is the result of the project on "The Macroeconomic Connection: Monetary and Fiscal Policies for Sustainability in Latin America". The last two essays, by Aseem Shrivastava and Ashish Kothari, focus on a similar analysis for the case of India and they highlight the similarities that exist in the relation between macroeconomic policies and sustainability even across continents. The project on Latin America was carried out with the financial support of the 3IC Fund of the International Union for the Conservation of Nature. The project covered case studies in five Latin American countries. This project examines the impacts of macroeconomic policies on the environment. It focuses on five Latin American countries: Argentina, Brazil, Costa Rica, Ecuador and Mexico. The main objectives of the

<sup>2</sup> Perhaps the disarray in which macroeconomic theory finds itself discouraged Daly and his followers in engaging a meaningful dialogue with the community of theoretical macroeconomists. The fact remains that very.



project are the following. First, to identify and analyze the effects of macroeconomic policies on various environmental dimensions such as biodiversity, forests, aquifers, soils, genetic resources, atmospheric pollution, solid waste and toxic waste management, etc. The scope of this project covers monetary, fiscal, credit, exchange rate policies, as well as current account liberalization and financial deregulation. A second objective is to examine how macroeconomic policies constrain or strengthen environmental policies. This will be done in relation to policies that relate to the different environmental dimensions mentioned in the previous point (particularly important will be the analysis of effects on policies related to natural protected areas and biosphere reserves). The third objective is to contribute to strategy formulation and to identify viable policy options.

The individual consultants responsible for the Latin American country

level studies are Alan Cibils (Argentina), Sergio Schlesinger (Brazil), Carlos Murillo (Costa Rica), Pablo Samaniego (Ecuador) and Marcos Chávez (Brazil). The project was designed by Alejandro Nadal, Co-chair of TEMTI, who also monitored the study and prepared this synthesis report. In this introduction, the first, second and third sections contain an overview of the Latin American economy as it evolved in the past sixty years. The fourth and fifth sections focus on how the neoliberal open economy model works and on the expansion of the financial sector. The sixth section presents a synthesis and a re-interpretation of the country level studies.

### SECTION I THE LATIN AMERICAN EXPERIENCE

During the 1980's, most of Latin America underwent a radical transformation in its policies for economic development. Until then the majority of Latin American economies had



*Credit:  
Miguel B. Sanchez  
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followed a development strategy based on import substitution. But in the context of the financial and economic crisis detonated by the violent rise in interest rates and the collapse in oil prices in 1981-1982, this strategy was abandoned. By the mid-nineties, most economies in the region were implementing an open economy model, complete with financial liberalization and a macroeconomic policy posture aimed at reducing State intervention in economic life.<sup>3</sup> With variations in timing and in the use of policy instruments, Latin America adopted the so-called neo-liberal economic strategy.

At the country level, the new macroeconomic model had two critical objectives: growth and equilibrium. The growth component was important because in 1990 the region was emerging from a decade of practically zero growth. After the performance of the period 1945-1978, with average annual growth rates of 6.5%, this was a dismal accomplishment and people referred to the eighties as the “lost decade”. This stagnation had exacerbated unemployment, inequality

and poverty in most countries. The promise of economic growth suggested the possibility of permanent, good quality jobs. This would abate poverty and inequality.

On the other hand, the equilibrium component had three dimensions. The first two were related to domestic economic aggregates. The general price level had to be stabilized, while fiscal accounts had to be balanced. The third dimension was related to each country’s external accounts. The current account crises of the recent past had to be controlled if the region was to attain adequate sustained growth rates.

Twenty years later the promises of the neoliberal policy package remain essentially unfulfilled. Growth rates in Latin America were lower for the period 1980-2008 than in the years 1945-1978. On the other hand, equilibrium in domestic macroeconomic variables was not easily established, and the region remained prone to current account crises. In addition, the region was affected by a new type of crisis, as the reversal of capital

<sup>3</sup> There were differences in timing. Some countries started introducing neo-liberal reforms as part of the stabilization packages negotiated with the IMF, while others took those steps as part of structural reforms. The history of the Chilean economy is different and worth considering. After the coup in 1973, a radical model of an open economy was imposed by the military dictatorship. The tenets of that model were shaped by the doctrine of the New classical macroeconomics school (created under Milton Friedman’s theoretical work). This model combined a very radical approach towards trade liberalization with an uncompromising view on financial deregulation. But the Chilean economy continued to rely on exports of primary goods to survive. By the end of the eighties, the Chilean economy was showing the signs of a looming crisis. A typical current account crisis was detonated in the early eighties and the military authorities were forced to introduce important changes in the policy package. These included controls over capital flows. Ironically, because of the measures introduced by the military dictatorship, especially capital controls and other measures (a return to higher import tariffs), Chile was spared some of the worse consequences of the financial crises that affected Latin America in the nineties. Still, Chile continues to rely heavily on exports of raw materials (copper, agricultural products, forest and wood products, fisheries).

flows hit several countries causing severe damages and bringing about negative growth rates. These crises left a heavy legacy of public debt in several countries as bailouts of banks and large corporations were implemented.

The region is also perceived as being generously endowed in natural resources. Although it only has 8% of the world's population, it possesses 23% of the world's potentially arable land, 10% of cultivated land, 17% of pastures, 22% of forests (and 52% of tropical forests) and 31% of permanently usable water (Chichilnisky and Gallopin, 2001). Although the region is associated with severe atmospheric pollution in its large cities (Sao Paulo, Mexico City or Santiago, for example), its environment is also considered to embrace pristine regions and ecosystems. Eight of the eighteen countries classified as mega-diverse by UNEP are in the Latin American region (Bolivia, Brazil, Costa Rica, Colombia, Ecuador, Mexico, Peru and Venezuela). Together, these countries have a very high percentage of the world's species of reptiles, amphibians, mammals, birds and vascular plants. Endemism is very high and several of the most important biodiversity hotspots are found in the region, including the Amazon tropical rain forest, the Tropical Andes and the Mesoamerican corridor. Most of these ecosystems are threatened and in some cases, severely affected by human activities.

Latin America is also marked by some common patterns in its development strategies. During the period following World War II most of the region's

economies embarked in an industrialization process based on an import substitution strategy. The strategy was accompanied by strong leadership from State agencies. This scheme met with some success, until the seventies, when internal and external tensions slowed down growth rates. The debt crisis that exploded in the early eighties (due to high interest rates and falling commodity prices) spelled the demise of the import substitution strategy, and in some cases, of the aspiration to industrialization. This led to significant changes in the development strategies of the most important Latin American countries.

Eventually, the old inward looking model of import substitution gave way to the establishment of an open economy model along the lines of the Washington Consensus. The economic performance of the Latin American economies under this new strategic approach presents a rather mixed picture, but in general, average growth rates were slower than in the post-war years. In addition, the old contradictions and tensions that marked the Latin American economies did not cease to exist (in fact, new problems appeared). Finally, during the nineties, several financial crises struck in most of the region and this also caused important changes to be introduced in the policy outlook of countries like Argentina, Brazil and Ecuador.

Efforts to carry out the economic integration of the Latin American economies have come and gone.

Probably the most important ones were the Latin American Free Trade Association (ALALC) and at the regional level, the Andean Pact and the Central American Free Trade Region. These efforts were not successful and when the time came to open the economies to international trade and financial flows, most countries went their own way. Mexico took the lead, becoming a member of GATT in 1987 and then signing the North American Free Trade Agreement (NAFTA), which sealed the subordination of its economy to the U.S. Most of the countries in South America took different paths, each trying to gain from its individual advantages in its articulation with the world economy.

Throughout these different phases of economic activity, the environmental integrity in the region has been endangered. The degree of deterioration justifies posing the question concerning the effects of this process on the region's future prospects for development. It has been continuously affected by the expansion of the agricultural frontier, deforestation, urban development, irresponsible activities by extractive industries (by both private and public enterprises), as well as various forms of pollution sources. Although most countries in the region established ministries for the environment, the fact remains that none of the countries in the region has been able to establish a policy framework that duly integrates environmental stewardship with economic development.

One word of caution is required at this stage. To speak of the "Latin American economy" is a risky venture. After all, this is a set of highly heterogeneous economies in a vast continent. It includes very small countries in Central America (and now the Caribbean), as well as the large economies of Brazil, Mexico and Argentina. The differences between the countries in the region have intensified in the past fifteen years. Today, discrepancies in economic policy (almost at all levels) are quite visible. Clearly, the aggregation of the LAC countries in one unit really lacks analytical value (Urquidi 2005).

## SECTION II IMPORT SUBSTITUTION AS A DEVELOPMENT STRATEGY

After World War II, most of the countries in the region embarked in industrialization strategies based on a set of policies to substitute imports.<sup>4</sup> The new Latin American perspective was inspired by the work of a group of economists at ECLAC who maintained that development and growth would not come simply from capital accumulation and comparative advantages. The new perspective had analyzed trends of in international terms of trade and concluded that they were moving against traditional primary product exports. Thus, domestic production would have to substitute for non-essential imports through a set of protectionist policies. This called for a

<sup>4</sup> In some cases, especially in the smallest countries, the development strategy relied on the old model based on exports of primary products.

stronger role for the public sector. The consequence here was that development would be more the effect of policy, than of market forces.

This import-substitution industrialization (ISI) strategy met with mixed success in the various economies and lasted for over forty years in some cases. However, the ISI strategy did not proceed according to a well defined plan or program for industrial investments, internal competitive structures, technological development or export promotion schemes. This led to several important problems, starting with high costs and poor results in the trade balance.

In general, the ISI pattern of growth was accompanied by good GDP growth rates in the period 1950-1973. Sustained growth rates of the order of 6% were not rare in the region. But in 1973

international oil markets were severely disturbed by the oil embargo imposed in the aftermath of the Yom Kippur war, and things started to change. The rate of growth of per capita income is a good indicator of the evolution of the region's most important economies. For a sample of twelve Latin American countries, annual growth rates in the period 1950-1973 averaged 2.12%. During the period 1973-2000, this average rate dropped to 0.79%. The disparities between these countries can be readily seen in Table V.1.

During a twenty year period, between 1950 and 1970, the ISI strategy successfully brought about the expansion of the manufacturing sector and of employment. Between 1960 and 1965, the manufacturing sector in the region grew at a yearly rate of 7%, with Argentina, Brazil and Mexico leading the way.<sup>5</sup> In most

**Table V.1**

<b>Growth Rates in GDP Per Capita: Selected Countries in Latin America</b>				
	<i>1950-1973</i>	<i>1973-1990</i>	<i>1990-2000</i>	<i>1973-2000</i>
Argentina	2.05	-1.24	2.87	0.26
Bolivia	0.90	-0.41	1.60	0.33
Brazil	3.73	1.41	1.22	1.34
Chile	1.26	1.35	4.39	2.47
Colombia	2.13	1.93	0.52	1.40
Costa Rica	3.49	0.56	2.66	1.33
Ecuador	2.50	1.01	-2.27	-0.22
El Salvador	1.99	-0.59	2.51	0.55
Mexico	3.17	1.38	1.67	1.49
Peru	2.45	-1.70	2.24	-0.26
Uruguay	0.28	1.56	1.96	1.71
Venezuela	1.55	-1.43	0.12	-0.86

Source: Urquidí (2005). Table I.2.

<sup>5</sup> According to Fajnzylber (1983: 246) the industrial sector of the Latin American region expanded at an average annual rate of 6.5%.

cases, the industrialization process took place without a definite plan or investment policy. This is why manufacturing industries in all types of branches were developed almost at the same time. The central idea behind this strategy was that industrialization would provide the needed dynamic impulses for economic growth and development.

The ISI strategy ignored several important aspects of economic change. First, it neglected the assimilation of technological capabilities. The crucial difference with the protectionist policies of Japan and South East Asian countries that were also rapidly industrializing is that in Latin America technological development was never a part of the equation.<sup>6</sup> Investing in R&D lagged behind in all countries in the region. The acquisition of disembodied technology was done through contracts involving licensing agreements on patents and trademarks, and these contracts frequently contained restrictive clauses on exports. Embodied technology was obtained through imports of capital goods and intermediate inputs. As an incentive for investment by the private sector, tariffs for capital goods were very low. A short term perspective was promoted, with almost no attention for the heavy industries that needed a longer time horizon to mature.

Second, protectionism in the Latin American experience was unconditional. This has been aptly described as

“frivolous protectionism” by Fajnzylber (1983). The very high tariffs that provided a closed market regime generated perverse incentives that rewarded inefficiencies. In addition, tariff schedules had no time limitations and no performance requirements. This provides a very strong contrast with Japan, Korea and Taiwan, where protectionism and finance were subject to technology, employment and technology performance requirements (Amsden 1989). All of this led to high prices and lack of competitiveness in the international market, which in turn aggravated the deterioration of the trade balance.

These two features reveal that the ISI strategy really took place without a coherent scheme of industrial policy. There were no priorities and no performance requirements, and nothing to ensure that the acquisition of technological capabilities could lead to further waves of innovation and efficiency gains. In a way, the ISI strategy was not what many of its critics say it was: an interventionist, State-dominated process.

Third, the distortions of the industrialization process in Latin America intensified the vulnerability of the external accounts of the economies in the region. In contrast with the role of the manufacturing sector in highly industrialized countries, where it plays a key role in maintaining a surplus in the trade balance, in Latin America it helps

<sup>6</sup> For a rigorous and insightful analysis of the experience in South Korea, see Amsden (1989).

explain the chronic external deficit (and of the currency gap). In fact, the trade deficit of the industrial sector in most countries in the region was of the same order of magnitude as the trade surplus for the rest of the economy. Between 1955 and 1975 the trade deficit of the industrial sector increased from 5 to 28 billion dollars. Nevertheless, it is also important to take into account that during the period 1955–1975, industrial exports were growing at a higher rate than imports.

Most of the deficit in industrial goods is due to the high imports of capital goods. This is an important feature of the entire process because capital goods are critical for the dissemination of productivity gains in all branches of industrial activity. The fact that the industrialization process bypassed them meant that it could not be the engine for growth that most analysts had hoped it would become.

Fourth, the size of the domestic market was a serious problem. This is intimately related to the issue of production scales allowing for low costs. Because the domestic market for manufactured goods was relatively small and limited to the urban centres, an important question was if the manufacturing sector could contribute to increase the size of the internal market permanently (Urquidi 2005: 164). The truth of the matter is that although

real wages in the manufacturing sector increased and were higher than in other sectors, the absolute size of this purchasing power was not enough to allow for investments in more efficient scales of production. In addition, wages in the agricultural and services sectors did not increase at a sufficiently rapid pace. This is related to the issue of the macroeconomic policy package that characterized those years. We return to this point below.

Finally, the highly unequal income distribution structures in most Latin American countries also contributed to limit the size of the domestic market. The Gini coefficients for most of the Latin American countries remained at high levels during the ISI strategy (Ibid.: 486). Most countries had Gini coefficients of the order of 0.500 in the period 1960–1970. The exceptions were Argentina, Costa Rica and Uruguay, where the Gini coefficient was 0.400.<sup>7</sup> These high levels of inequality did not disappear during the next few decades. Once again, this is related to the macroeconomic posture, a theme to which we now turn our attention.

Macroeconomic stability played an important role during the heyday of the import substitution strategy. Exchange rate volatility was not a crucial problem, although some countries did experience balance of payments difficulties that required

<sup>7</sup> The Gini coefficient measures inequality in the distribution of income. It measures the surface between the line of equal distribution (a 45° diagonal) and the curve of actual observed distribution. If the coefficient is very small, it indicates that actual income distribution is closer to the line of equal distribution. In the largest European countries, the Gini coefficient is typically of the order of 0.300.

adjustments. On the other hand, fiscal policy allowed for the building of infrastructure and social expenditures at adequate levels. Finally, monetary policy relied on banking regulations that maintained credit flows towards productive activities. This placid scenario was to change abruptly during the seventies and with the debt crisis in the eighties.

Much of the industrial structure in Latin America suffered great losses as a result of the macroeconomic crises that exploded in the eighties. Latin America's industrial performance has declined since the 1980s, and the region has been constantly losing ground in industrial competitiveness (especially in manufactures) to East Asia. Argentina, Brazil and Mexico, the most industrialized countries in the region were unable to trigger enough momentum to transform its productive structures and become truly industrialized economies. In spite of its success in several manufacturing branches (automobiles, electronics and aircraft) and its diversified markets, Brazil's manufactured exports per capita are USD 382 (2004), still below Latin America's average. The share of manufactures in Brazil's GDP was only 10.7% in 2004. Mexico, for its part, can boast an impressive share of manufactures in its exports of 84%, out of which more than 60% comes from medium and high-technology intensive branches. However, this oft-quoted figure can be misleading because almost all of this comes from its in bond (maquiladora) industrial

sector which has very little linkages with the rest of the economy. This explains why the locomotive of the export sector can take off swiftly and still leave the rest of the economy in the tracks at the station. The engine is disconnected from the economy and this means that Mexico is, in fact, exporting cheap labour.

Towards the last years of the nineties, it was thought that Latin America could regain some of its competitiveness in manufactures. This is important because it would signal a structural transformation that could lead to greater efficiency, less dependency on the natural resource base and better environmental stewardship. However, a succession of severe macroeconomic crises (Mexico 1995, Brazil 1997-98, Ecuador 1999 and Argentina 2001) had very negative consequences. The share of manufactures in regional GDP shrank from 17.2% to 16.6%, while manufacturing value added in the region declined from USD 316 to USD 285 billion between 2000 and 2004. In the arena of international trade, Latin American exports of manufactures expanded by 5% yearly, well below the world average of 8.8%. This explains why Latin America's share in global trade of manufactures dropped from 4% to 3.5% during the years 2000-2004. Medium and high technology exports also declined during that period. To summarize, manufactures' share in total exports from the region dropped from 49.2% to 48.2%, showing



the signs of a trend to rely more on low-value added and resource-intensive commodities as Latin American moves towards “reprimarization”.

### SECTION III MACROECONOMIC POLICIES, ISI AND THE ENVIRONMENT: THE LONG LOOK

The import substitution strategy implemented after World War II brought about deep changes in the structure of the Latin American economies. But it did not generate permanent dynamic impulses and thus, the growth process associated with this strategy came to an end in the 1980s. It also failed to provide the foundations for sound environmental stewardship and healthy natural resource management practices.

Data on environmental deterioration in Latin America for the period 1950–1980 is in short supply. However, during the three decades (1945–1975) that make up the core years of the ISI strategy, Latin American economies did not give adequate attention to environmental objectives. In retrospect, this may appear understandable for at least two reasons. One is the lack of awareness that this was a crucial element of any development strategy. The second is that it can be argued that policy-makers and the power elite were too preoccupied with the issues of fiscal accounts and the balance of payments. Nevertheless, the truth is that during these decades the natural resource base was heavily taxed and very little in the form of investment

went into what we now call environmental expenditures. Natural resource management practices, cleaning-up, reforestation, good practices for soil conservation, water management, urban planning and pollution abatement, as well as other aspects of environmental sustainability were almost entirely neglected by governments in the region during this period. In fact, in many instances, measures that implied heavy environmental degradation were adopted, leading to soil erosion, deforestation, aquifer depletion and pervasive pollution. Cumulative damages suffered by the environment compromises the prospects for future development and sustainability.

The rate of genuine savings (defined as the rate of savings after due account is taken of the depletion of natural resources and damages caused by pollution, but adding investments in so-called human capital) was very low in the region. This is a clear indicator that the natural resource base and the environment have been undergoing a continuous process of degradation without any visible trend to revert this process. This is a reference from a World Bank study mentioned in Lopez (2003).

Lopez (2003) relies on an analytical framework that concentrates on market failures and property rights inefficiencies. For example, a capital market failure would prevent the population from investing in natural capital, or inadequate definition of

property rights would cause distortions that inhibit investments in natural assets. In addition, the lack of robust regulatory regimes allows for polluting externalities to further degrade the environment (Ibid.). Imperfections in the credit market imply that only the larger corporations (solely concerned with profitability and accumulation) have access to finance for their investments. "Due to credit market imperfections, there is no flow of savings from the income-generating sectors to the household sector to finance investments in human capital and the environment". Typically, the smaller agents are left out because they lack collateral or connections to the world of formal financial systems.

But this was not the result of market failures, imperfections or negative externalities. It was the consequence of macroeconomic policies that favoured growth through the accumulation of physical capital. The most visible aspects of these macroeconomic policies are in the field of credit markets and monetary policy, as well as in fiscal policy (taxation and subsidies). In addition, a low wage rate has contributed to greater inequality and the persistence of poverty.

At the macroeconomic level, two big problems persisted. The first was the fiscal deficit which remained an intractable problem for most Latin American countries. This was partly due to the need to increase public investment in order to maintain

growth rates at their historic levels. The deficit came along from this increased responsibility for the public sector and the unwillingness to implement a redistributive fiscal reform that could have generated the required resources without frightening away investors.

Fiscal policy in the region during the heyday of the ISI strategy opted for low tax rates on capital gains and profits. In addition, all types of tax credits and rebates were implemented to foster private investment. Typically, fiscal revenues came from a regressive tax system and the prices of goods and services supplied by public sector enterprises. In addition, subsidies for the accumulation of physical capital were generously granted whenever possible. These resources were insufficient to keep pace with the growing demands of health, education, housing, transportation, infrastructure, and of course, environmental stewardship. In many instances (examples abound) public enterprises were hard pressed to maximize these non-tax fiscal revenues and they were able to achieve this through irrational exploitation of the natural resources at their disposal.

Monetary policy in Latin America during the same period had the overarching objective of full employment. This did not mean that price and exchange rate stability was not considered important. In fact, manipulating exchange rates within the limits tolerated by the Bretton

Woods arrangements was common in order to redress trade balances and to put a brake on inflationary pressures. In fact, all along this period there were moderate price hikes (things changed in the seventies with the transmission effects of increments in oil prices). For the ISI strategy, the accommodating monetary policy focused on its main objective: growth and employment generation. For this, most countries in the region did not rely on a free market for credit and instead established strong regulatory regimes for credit allocation. However, these credit regulations lacked priorities and did not incorporate industrial (and technology) policy criteria. In addition, the vast majority of loans went to consumption and some working capital in industry. Productive investments in industry were the object of self-finance by corporations (up to 60% of financial requirements were satisfied by the companies themselves). One reason for this is that the time horizons contemplated in loans from commercial banks were simply not long enough to allow for these investments to flourish.

In addition to these problems, as commented above, there was a chronic deficit in the trade balance of most countries in the region. In the context of an ISI strategy this may seem ironical, but the fact is that import substitution led to overvalued exchange rates and this was a strong incentive for increased imports. Crawling peg exchange rates implemented

in the sixties led to more inflationary pressures (as imported goods became more expensive) rather to a correction of the trade balance.

Inflationary pressures have been explained by both monetarist and structuralist perspectives (Cardoso and Fishlow 1989). The monetarist view insists that inflation came about basically by large budget deficits financed by money creation: thus, inflation is the direct result from overspending by the public sector. On the other hand, structuralists maintain that budget deficits are not at the heart of the matter. The roots of inflation are to be found in bottlenecks, supply shortages and, in some cases, “inconsistent claims of different groups in society trying to get a larger share of the pie” (Ibid.: 19). The irony here is that this led to stabilization policies in which controls over the wage norm became one of the central components. This pattern of wage determination aggravated income mal-distribution and further constrained the size of the domestic market.

In the end, the internal tensions, together with the negative transformations in the international economy (recession and inflation in the US during the seventies, the high interest rates implemented by Volcker’s Fed and the drop in commodity and oil prices) brought about the demise of the ISI.

The international debt crisis of the 1980s was detonated in Latin America

(starting with the Mexican default in 1982). It led to the effective interruption of the import substitution approach to growth, industrialization and development. After that decade, in which per capita growth stagnated (“the lost decade”), none of the Latin American countries returned to the ISI model. Instead a new approach was undertaken, based on trade and financial liberalization, following in the nineties, the tenets of the Washington Consensus.

#### SECTION IV NEOLIBERALISM IN LATIN AMERICA: THE OPEN ECONOMY MODEL

By the end of the 1980s most Latin American countries were setting the foundations for the adoption of a different development strategy. The new approach was very different from the ISI strategy. It was based on the idea that the development process had to be left in the hands of markets operating with as little intervention as possible. Although the notion that markets allocate resources efficiently lacked any scientific demonstration (**Box 1**), the ideological triumph of this belief had been consolidated since the 1970s, especially under the political hubris of Mrs. Thatcher and Ronald Reagan.

During the 1980s, the main international financial organizations, the IMF and the World Bank, had used the international debt crisis and the stabilization plans to further promote the policy agenda that became

known as the Washington Consensus (Williamson 1990). The five crucial operational components of the policy package were the following:

- a) *the main objective of monetary policy is price stability.*
- b) *fiscal policy is to be based on the principle of balanced budgets.*
- c) *the capital account is to be deregulated.*
- d) *international trade liberalization.*
- e) *State intervention in economic life has to be reduced to a minimum.*

Inflation had remained a negative feature during the eighties, mostly spurred by the abrupt adjustment in exchange rates. This adjustment was indispensable as the crisis had been detonated precisely by the collapse of the region’s external accounts, but inflation needed to be controlled. In order to do this, domestic aggregate demand was severely constrained. The policy instruments to do this were first, domestic credit became scarce and very expensive (high interest rates played a double role and helped attract foreign capital). The second instrument was found in the curtailment of public expenditures so that fiscal policies acted as a pro-recession instrument. If in the past fiscal deficits had been considered the source of all evils (monetization, indebtedness and crowding out), in the new scheme of things, fiscal policy had to be subordinated to the mantra of a balanced budget. Finally, real wages were systematically driven downwards as their determination was usually carried out through their being pegged to expected inflation,

**Box 1**

**The Theoretical Underpinnings of the Open Economy Model**

The structural components of the open economy model applied in many Latin American countries bear a close resemblance with the Mundell–Fleming model, the widely cited standard for macroeconomic analysis of open economies (Fleming 1962, Mundell 1963). That model was one of the principal accomplishments that led to the award of the Nobel Prize in economics to Robert Mundell in 1999. The Mundell–Fleming model does not have strict microeconomic foundations, but its analytical structure is closely linked to the notions that markets always clear, and that trade liberalization is the best way to organize production and consumption. In fact, the close association between the Mundell–Fleming open economy model and general equilibrium theory was acknowledged by its authors (Mundell 1968), and this close relationship has also been recognized in more recent work (Geanakoplos and Tsomocos 2001). From this perspective, it's just another member of the family of dynamic stochastic general equilibrium models.

This model is an extension of the IS–LM model which incorporates an equilibrium curve for the balance of payments and can also assimilate different assumptions concerning fixed or floating exchange rates, as well as perfect mobility of capital. With a flexible exchange rate regime, there is no room for an independent monetary policy. In the Mundell–Fleming model the adjustment of the money supply is automatic, and is tied to the surplus or deficit of the balance of payments (when the monetary approach to the balance of payments prevails). A surplus in the balance of payments implies monetary expansion, while a deficit involves an adjustment due to the contraction of the monetary supply.

not to effective or real inflation. This led to a loss of purchasing power and to a contraction of aggregate demand.<sup>8</sup> By the early nineties, inflation rates had gone down in most of the economies in the region.

<sup>8</sup> The critical detonator of the crisis in 1982 had been the unsustainable debt. Efforts to save the international financial system and restructure the debt of the main debtor countries failed. But in 1988 the U.S. Treasury developed a new plan to restructure debt and restore liquidity to the sovereign debt market. This plan was implemented with some success.

Initially, the new open economy model that was established in most of the Latin American region led to strong positive expectations about investment and growth. The generalized dominance of the Washington Consensus ideology also provided a sense of stability, as if a new prolonged era of policy making and development was being introduced. Growth rates improved in the early nineties as inflationary expectations diminished and foreign direct investment started to recover.

However, very soon economic growth started to weaken and in 1994 a new crisis exploded in the region. The detonator was a reversal of capital flows that were going into Mexico, and the shock wave affected all of Latin America. This crisis was erroneously interpreted as a foreign exchange crisis and described as a financial crisis.

In fact, it demonstrated how the main contradictions of the model would

inexorably lead to financial crises. Very soon, other Latin American economies were suffering similar crises, with the same pattern of causation links and the similar aftershocks: Brazil (1997), Ecuador (1999), Argentina (2000) and other countries suffered deep contractions and the destruction of capital as the crises multiplied. The stabilization programs that were implemented led to painful adjustments, increased poverty and inequality and probably had deep environmental effects.

These crises typically unfolded through several stages. First, financial liberalization and other reforms attracted foreign capitals, not only as FDI, but also as portfolio (short term) investments. At a certain stage, investors started to doubt the recipient country's ability to maintain exchange rate stability, which is the centrepiece of the model, and lead for the exit. And although there was talk about the fact that perhaps there were mistakes and/or negligence in the way in which the model was



*Credit:  
George Chernilevsky  
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being implemented and/or handled, there is an alternative line of analysis that points in a different direction.

In order to understand how macroeconomic policies affect the environment and to follow the country level studies, it is essential to analyze how the open economy model functions. In the rest of this section we examine its main features through what we call the internal contradictions of the model. Internal contradictions arise when structural elements that are essential to a model simultaneously act as obstacles for the model's performance. In other words, a model contains internal contradictions if components that are necessary to its inner workings also hinder the functioning of the model. The resulting tension leads to a distorted process in which the model's policy mix cannot accomplish the goals that were originally established.

The open economy model as dictated by the International Monetary Fund and the World Bank has several essential contradictions which can be summarized as follows.<sup>9</sup> The first and most important contradiction is related to the role of the exchange rate which is expected to float freely, maintaining equilibrium in the trade balance. The open economy model rests on the fundamental premise that international trade is so advantageous that any attempt at regulating and restricting it does more harm than good. That's why when there is a deficit in the trade balance it must not be corrected with restrictions on the flow of goods and services, but by adjusting relative prices. Thus, within a flexible exchange rate framework, the adjustment through variations in the exchange rate should follow automatically.<sup>10</sup>

<sup>9</sup> The reference here is the Mundell-Fleming macroeconomic model. This model is an extension of the IS-LM model which incorporates an equilibrium curve for the balance of payments and can also assimilate different assumptions concerning fixed or floating exchange rates, as well as perfect mobility of capital. With a flexible exchange rate regime, there is no room for an independent monetary policy. In the Mundell-Fleming model without sterilization the adjustment of the money supply is automatic. It is also tied to the surplus or deficit of the balance of payments (when the monetary approach to the balance of payments prevails). A surplus in the balance of payments implies monetary expansion, while a deficit involves an adjustment due to the contraction of the monetary supply.

<sup>10</sup> The General Agreement on Tariffs and Trade (GATT) prevented signatory parties from surrendering to the temptation of routinely resorting to controls on trade flows in order to tackle external deficits. GATT Article XII established the possibility of exceptionally resorting to measures such as quantitative restrictions and tariff surcharges to reestablish equilibrium in the balance of payments. It was thought that it was better to regulate exceptional measures and impose disciplinary measures to avoid abuses, than to leave GATT members at total liberty in this matter. Interestingly, the North American Free Trade Agreement (NAFTA) cancelled the possibility of resorting to exceptional measures. NAFTA Article 2104 establishes that fees, tariff surcharges, import permits, or other similar measures cannot be exceptional measures, and, in effect, it cancels the possibility of applying any such measures. Under these conditions, if there is a deficit in the balance of trade, the adjustment must be made only and exclusively using the relative price system (i.e., the exchange rate). For a detailed account of these provisions in the context of the Mexican 1994 crisis, see Nadal (1996).

That inflation must necessarily be reduced to the level of a country's most important trade partners is another key policy objective that prevails in the open economy model. The idea has led to a veritable obsession with reaching and maintaining one-digit inflation rates. In terms of growth, the cost of attaining this objective has been significant. One of the main policy instruments on this front has been the use of the exchange rate as the nominal anchor of the relative price system. But this approach to controlling inflationary pressures entails a significant rigidity in the exchange rate, contradicting the use of a fluctuating exchange rate to adjust the trade balance. In the end, the exchange rate ends up being overvalued, further deteriorating the trade balance.

There is another force that hampers the ability of the exchange rate to act as the key variable in the adjustment of the trade balance. The open economy model incorporates perfect capital mobility as one of its central components. Capital mobility is seen as a useful instrument to direct productive investment to economies with insufficient domestic savings. The demand for assets denominated in the currency of the recipient country naturally leads to currency appreciation, also contributing to further deteriorate the trade balance.

In addition, because capital that flows into a given economy is invested in assets denominated in the local currency, pressure builds up to maintain

exchange rate stability. In general, in the world of deregulated capital accounts and interdependent financial markets, countries make efforts to guarantee exchange rate stability; this can be done through a literally fixed rate, or through a "dirty" float of the exchange rate. Once foreign capital is invested in a given country, investors expect the exchange rate to remain stable; in the face of devaluation risks, a risk premium is requested by investors.

If a country wants to remain attractive to these capital flows, it must try not to betray their confidence by maintaining exchange rate stability. When capital flows are reversed, the exchange rate is depreciated as investors flee assets denominated in the local currency, and the inflation rate increases rapidly. To prevent this, the central bank offers a higher interest rate as an incentive to keep assets in the country. The effects on the interest rates are examined in the next section. The point here is that a devaluation of the exchange rate is deemed unacceptable to economic authorities and this further degrades competitiveness. Typically, the adjustment is postponed; the adjustment is finally made when it's too late and it is implemented in a disorderly fashion, in an environment characterized by chaos, volatility, and economic collapse.

Abrupt devaluation makes local assets cheaper for foreign investors, stimulating incoming capital flows.



Once again, these capital flows are placed in assets denominated in the local currency and tend to raise the exchange rate anew. This exchange rate appreciation cancels the effects of the initial devaluation and once again, contributes to deteriorate the country's trade balance. The external deficit generates a greater need for external finance and the process becomes a vicious circle as capital flows seriously increase external vulnerability.

Thus, these three elements (using the exchange rate to stem inflation, exchange rate appreciation caused by incoming capital flows and maintaining a low exchange rate convertibility risk) bring about an important contradiction in the model. A central feature of the model is the adjustment in foreign accounts via changing relative prices, that is, with a flexible exchange rate regime, but other elements in the model impose a high degree of rigidity on the exchange rate.<sup>11</sup>

How is this contradiction resolved in practice? The adjustment through exchange rate movements is delayed as much as possible, with the resulting deterioration of the country's foreign accounts. When the adjustment in the

exchange rate is finally carried out, this takes place under conditions of great volatility and unrest in the financial markets. The adjustment and its effects then become disproportionate. In addition to the unrest in financial markets, the inflation rate rapidly rises and past achievements in this area are wiped out. Although the crisis is said to be an exchange rate crisis, it really is a structural crisis of the open economy model.

The second contradiction is related to the interest rate. The open economy model is based not only on trade liberalization, but on financial deregulation as well. The capital account is deregulated in order to attract and use foreign savings to increase productive investments and promote growth. Financial deregulation implies eliminating barriers to the free flow of capital, a policy measure that has profound implications for the role played by several macroeconomic policy instruments. The exchange rate is no longer the key variable that regulates contact between two relative price systems (domestic and foreign) in the goods and services market; instead, as we have seen, it becomes a variable that is more closely linked to the needs of the short term capital flows.

<sup>11</sup> Examples of the above contradiction, where exchange rate adjustment becomes necessary but difficult, abound in recent financial crises. The conflict between the goal of using the exchange rate as an adjustment variable for any external disequilibrium and the need to keep the exchange rate stable in order to benefit short-term foreign investment was clearly manifested in Mexico in 1994. Throughout that year, the overvaluation of the exchange rate had reached exaggerated levels and the deterioration of foreign accounts demanded an important adjustment in the exchange rate. However, even after capital flight had begun, the pressure exerted by foreign investors to keep the exchange rate stable prevailed. This pressure forced economic authorities to adopt the unusual measure of indexing government bonds — held by several foreign pension funds and brokerage firms — to the exchange rate. Effectively this meant that the risk of devaluation fell on the Mexican government. This case is an extreme example of conflicting goals for the same macroeconomic variable in the open economy model.

In the Mundell Fleming model a current account deficit is financed by capital inflows. Under fully flexible exchange rate regimes, this variable adjusts so that the sum of the current and the capital accounts is zero. The adjustment process is automatic. For example, consider the case of an open economy with a fixed supply of money, flexible exchange rates and fixed prices. In this economy a current account deficit causes capital inflows, which lead to an increase in the supply of real balances and a reduction in interest rates. This reduction generates capital outflows, which provoke a depreciation of the exchange rate, making the domestic productive system more competitive and leading to an expansion of demand for exports. Total output now expands until a new equilibrium is reached for the money and the goods markets, as well as for the balance of payments.

But now consider the case of an economy that is the recipient of incoming capital flows for other reasons, perhaps because its domestic interest rate becomes higher than the prevailing international rate. In the absence of any intervention, the domestic money supply expands as demand for assets denominated in the domestic currency increases. This leads to an expansion of the money supply. At this stage, the capital account displays a surplus, the exchange rate appreciates and the domestic interest rate is forced downwards. The drop in the domestic interest rate gradually reduces the flow of incoming capital and equilibrium is

restored in the balance of payments. The drop in the interest rate and the exchange rate appreciation may or may not lead to a new equilibrium involving a greater level of output, depending on the elasticity of imports and exports vis-à-vis exchange rate variations, and of the investment schedule with respect to changes in the interest rate.

The expansion in the money supply resulting from foreign capital inflows can be an important source of inflationary pressures, but it can be curtailed by sterilizing the effects of the influx of capital. This can be done through open market operations in which the central bank sells bonds or securities and withdraws money from circulation in an amount equivalent to the incoming capital flows. In doing this, the central bank increases its domestic indebtedness. To put it in other terms, sterilization takes place when the central bank trades foreign exchange for domestic currency but reverses the expansion of the money supply through open market operations. This permits the economy to operate with a constant money supply and to keep inflation under control. The problem, however, is that although limiting the expansion of the money supply may be a worthwhile objective, the central bank's intervention with sterilization interrupts the adjustment process. The automatic regulation outlined above relies critically on interest rate variations as capital flows take place. But, by maintaining a constant money supply, sterilization keeps the interest rate at an artificial level that is higher than

the international rate. Capital inflows continue, reserves grow (but at an additional cost), and domestic investment continues to be confronted with a high interest rate.<sup>12</sup>

The contradiction is defined in terms of two processes in the model. On one hand, the model requires the interest rate to fall in order to restore equilibrium in the money market in the face of incoming capital flows. On the other, a basic tenet of the model is that because an expansion of the money supply leads to increased inflation, the money supply must remain constant; this keeps the interest rate artificially high. In practice, the contradiction is resolved through intervention with sterilization, a higher interest rate and an overvalued currency.

The third contradiction is related to the role of financial liberalization. As is well known, a country can access foreign savings to finance its purchases of capital goods and intermediate products, and thereby increase productive investment. But capital flows also allow a country to finance a deficit in its trade balance. From the point of view of the model's rationale, this is a desirable outcome, as imports of capital goods can be used to increase exports. However, if the trade deficit is basically due

to imports of consumer goods, the trade deficit cannot be financed by capital inflows for a long period of time. Foreign capital flows may increase the final capacity to import at a faster pace than the build-up of the productive capacity to export.

Incoming capital flows can artificially maintain a country's capacity to import goods, without any clear relationship to the country's capacity to export (and to generate badly needed hard currency flows). From this point of view, capital flows are analogous to foreign aid, which can also artificially support a high level of imports. Some economists have noted that the use of capital inflows to maintain imports may have a contractionary effect on the domestic market and the level of aggregate activity (Bhaduri, 1998, and Bhaduri and Skarstein, 1996).

These authors analyze the problem in a simplified manner, starting with the basic formula of national accounts in an open economy:

$$I - S = I - sY = (M - X) = A$$

where I is investment; S, savings; Y, income; s, the (constant) fraction of income assigned to savings; M, imports; X, exports, and A, foreign

<sup>12</sup> In the case of Mexico, intervention with sterilization has been taking place since the crisis in 1994. This has allowed authorities to maintain an overvalued exchange rate, bringing inflation under control but further reducing competitiveness and deteriorating the trade balance. As international reserves have increased to historical levels, the central bank has continued to pursue a restrictive monetary policy, maintaining interest rates at even higher levels. This limits the economy's capacity to attain adequate growth rates, while, at the same time, maintaining high rewards for foreign capital. The capital flows that result from this further contribute to the appreciation of the exchange rate and the deterioration of the country's external accounts.

capital flow. According to this formula, the level of national income, determined by the size of the domestic market or aggregate demand is derived from the following formula:

$$Y = (1/s)(I - A)$$

This second equation indicates that as capital inflows take place (A increases), for any level of investment, national income is reduced by the multiplier effect. These imports may lead to a reduction in aggregate income through a perverse effect of the well-known Kahn-Keynes multiplier: the initial impulse towards contraction is provided by the substitution effect that replaces domestic production with imports in certain branches of industry; the multiplier process leads to successive rounds of additional induced reductions in aggregate demand for domestic production, in the familiar, converging geometric series.

At the beginning of the process the substitution effect leads to a reduction in profits, wages, and jobs as the some branches affected by increased imports are eliminated. But in successive phases, this initial reduction of domestic production creates additional cutbacks in aggregate demand. The overall, final reduction in profits, wages, and jobs can be significantly greater than the original drop caused by the direct impact of imports. The contraction of demand and domestic

production in successive stages does not imply new or greater substitution effects directly caused by trade liberalization or by the capacity to finance imports that capital flows bring about. That is, the induced impact does not come from the lack of competitiveness of local industry. Perfectly healthy domestic industries are weakened and put out of action by this indirect effect.

These perverse consequences are even more intense when capital inflows take place in the framework of rapid and indiscriminate trade liberalization, as was the case in Mexico in 1989-95. The contractionary effect is more pronounced when, as in Mexico at that time, fiscal policy emphasizes generating a primary surplus and when restrictive monetary policy is attempting to control inflation. The primary surplus is determined by the difference between tax and non-tax fiscal revenues and expenditures excluding interests and financial charges. Thus, a measure of the sustainable debt to GDP ratio is given by a primary surplus that is enough to cover interest payments. Formally, in order to maintain a constant (or declining) ratio of debt to GDP ratio, a government is supposed to comply with the following condition:

$$pst = (rt - gt)dt - 1$$

where ps = primary surplus, r = real interest rate, g = GDP real growth rate and d = ratio of public debt to GDP.<sup>13</sup>

<sup>13</sup> This is the expression widely used in models for optimal taxation and debt management. See Croce and Juan-Ramón (2003).

In a recession, as  $g$  falls,  $sp$  must increase in order to meet the terms of this condition. Besides, the primary surplus will have to increase even more if  $r$  is raised (for example, to attract more foreign capital or to control inflationary pressures). But this view of the relation between fiscal and monetary policies implies the impossibility of resorting to countercyclical macroeconomic policies. In the midst of a recession, fiscal policy will adopt a posture that will aggravate the recession, seeking to increase  $sp$ . Typically,  $sp$  will be increased through cuts in public spending, something that affects investment in social programs, as well as environmental programs. We return to this point below.

In this adverse environment, the combined effect of foreign capital flows and government policy amounts to a veritable attack on domestic productive capacity. And this scenario becomes still more complex because of its interaction with the first contradiction: the overvaluation of the exchange rate encourages an increase in imports, while the need to encourage and maintain foreign capital inflows requires exchange rate stability and strengthens trends leading to greater overvaluation. Capital inflows do not necessarily reflect a healthy state of the economy. In fact, they turn the capacity to import into an exogenous variable. The liberalization of the financial sector and of the capital account opens the possibility of increased private sector indebtedness. As a result, a country's capacity to import

becomes disconnected from its ability to generate foreign currency through exports. In this context, higher levels of investment and capital flow make aggregate demand and income grow. But this expansion in aggregate demand translates into greater imports, which have a contractionary effect on domestic production. As Bhaduri points out (1989:155), this perverse effect will appear even when a higher level of capital flow leads to greater investment and exports, as long as the marginal propensity to import associated with capital flows is larger than the corresponding marginal propensity to invest and export.

Under a floating exchange rate regime, like the one implemented in Mexico since 1995, the above conclusions are not reversed; in fact, they may even be strengthened. Despite the trade imbalance, the exchange rate appreciates as a result of capital flows; this normally means that the trade deficit becomes even worse.<sup>15</sup> Thus, as a result of capital inflows and increases in imports, domestic production and demand contract (*Ibid.*). In a framework of financial and trade liberalization, capital flows that can finance the capacity to import without generating foreign currency through exports may lead to a perverse process of cumulative causation — using the terminology from Hirschmann's theory of development economics. The disequilibria in a country's foreign accounts can be financed by capital inflows, but these resources only help deepen the

external imbalance and, through the effects on aggregate domestic demand, contribute to further dismantling of the domestic productive apparatus.

This contradiction is resolved by maintaining financial deregulation, and by hoping that it will somehow lead to enough investment to escape from the import trap. The problem of artificial promotion of imports is conventionally ignored; the free flow of capital is simply presented as the ideal manner for a country to access foreign savings, increase productive investment and enter a path of sustained growth.

These three contradictions act not only as a powerful brake on the entire economy, slowing down growth and job creation. They also entail the ingredients of instability, as the balance of several critical macroeconomic accounts are driven farther away from equilibrium. In addition, all of these contradictions are aggravated by the fact that financial markets are inherently unstable and that they are driven by expectations in the context of uncertainty. The combination is truly explosive and leads to various manifestations of financial and economic crises. In Latin America, the stabilization programs that followed involved draconian measures that cut public expenditures, restricted monetary policy and reduced real wages in order to curtail effective demand and control inflationary pressures.

The fourth contradiction of the open economy model arises when

an economy attempts to increase domestic savings – in the hopes of leading to higher rates of productive investment – through deregulation of the bank and non-bank financial sector. It is assumed that the deregulation of the financial and banking sectors can lead to an increase in domestic savings because economic agents have greater opportunities for profitable investments. In addition, it was thought that domestic financial deregulation provides more powerful risk management instruments. However, it is difficult to ascertain that the rewards to financial savings generally bring about greater productive investment. Because of deregulation, a growing part of domestic savings can be directed instead towards financial or speculative investments such as the stock market, various financial instruments, and even currency markets. Returns to speculative investments in currency markets, for instance, can be a powerful attractor and shift resources away from new productive investments.

The process of international financial deregulation is usually implemented at the same time as an almost complete deregulation of the domestic banking sector. When this takes place, domestic restrictions on cross-market access for financial institutions are eliminated, blurring the traditional distinctions between the operations of banks, investment firms, mutual and pension funds, insurance companies, and stock exchange brokerage firms. Also, quantitative

controls on various forms of loan allocation schemes are scrapped, as well as requirements for the provision of credit to specific sectors such as agriculture or housing. Perhaps even more important are the elimination of preferential interest rates for favoured sectors and the slackening of cash reserve requirements for financial institutions. In theory, competition among banks would lead to better service, greater options for investors in terms of financial products and credit operations, and, above all, lower interest rates. These goals were not attained. Domestic savings did not increase significantly and the rate of investment remained stagnant or declined.

Here the contradiction is expressed as follows: on the one hand, domestic savings must be increased in order to promote productive investment, but on the other hand, the deregulation of the financial sector opens new possibilities of speculative investment for the domestic saver. These new possibilities can be more attractive than those offered by investments in the real economy, and thus the incentives for productive investment are distorted. In addition, the rate of return that comes from placing funds in financial instruments, within a framework of deregulated capital accounts and interdependent financial markets, connects resources from domestic savings with the sphere of international financial speculation.

We must also consider that to the extent that currencies from other economies become more attractive assets, especially if we consider arbitraging opportunities and the possibility of moving from one economic space to another in response to disparities in exchange and interest rates, agents may prefer to speculate on the foreign currency market.<sup>14</sup> As volatility and uncertainty intensify, agents feel increasing pressure to engage in these operations. The need to seek protection from foreign competition, which becomes more intense as a result of simultaneous trade and financial deregulation, compels investors to prefer short-term rates of return. One might guess that this contradiction, i.e., deregulation designed to stimulate savings and productive investment leads to speculative investment instead, was linked to the size or level of development of the national economy. However, exactly the same phenomenon can be seen in the U.S., in the mounting evidence of speculative and questionably legal investment during the boom of the 1990s – a time of rapidly expanding deregulation of financial and other markets. The crisis that exploded in the Summer of 2008 is the best conformation of this.

The context in which all of these contradictions are deployed is based on the idea that State intervention needs to be minimized. This is of course related to the notion that markets allocate resources efficiently

<sup>14</sup> A formal treatment of this is presented in Nadal (2005).

and any State intervention leads to price distortions and inefficiencies. The standard open economy model also reveals an important contradiction between the goal of achieving an effective insertion in the global economy and that of reducing, as much as possible, both the size of the state and the degree to which it intervenes in the economy. The latter goal is tied to the notion that it is crucial to maintain healthy public finances in order to limit public indebtedness, avoid putting pressure on interest rates and prevent a crowding out of private investment. This warning of the dangers of active fiscal policy is itself the subject of longstanding macroeconomic controversy. However, another dimension of public policy is of more immediate relevance to the path of export-led growth that is endorsed by the open economy model: reducing the role of state intervention can hinder the ability of a country's industrial apparatus to overcome the barriers to entry that exist in the international arena.

A country implementing an open economy model ultimately must rely on a strong export sector capable of generating enough resources to finance imports (or at least to keep trade deficits under control). In many industrial branches, exporting may require overcoming the barriers to entry that exist in the world market; this has historically been attained only through a strategy involving active state intervention. In

fact, this has been the path followed by newly industrialized economies such as Japan, the Republic of Korea and Taiwan. The style of this public intervention varies, but in most cases it has involved adequate allocation of public resources to activities such as research and development, and some level of strategic planning or institutional support for leading export sectors. Often this has resulted in a very successful pattern of insertion in the international economy.

During the past twenty years, the ideology of reduced state intervention has been championed by organizations such as the IMF and the World Bank. It is based on the belief that market forces alone can achieve a more efficient allocation of resources and that, therefore, no amount of industrial or technology policy can improve on that outcome. While it has the apparent support of a narrow interpretation of conventional economic theory, it has no significant record of historical success to point to. Many studies have shown that "hands-off," laissez-faire public policy was not the path followed by successful countries embarking in late industrialization (Chang 2002, Amsden 1989). When state intervention is ruled out as a means to generate competitive advantages, the possibility of developing dynamic, successful export-led growth may be lost, and an open economy may become heavily dependent on foreign capital flows in order to finance its chronic trade deficit.



This contradiction is “resolved” in practice by forgetting one side of the problem, and hoping for the best: what if all previous historical experience was only prologue, and the true success of *laissez-faire* is only now about to appear on the world stage? If so, then the IMF and the World Bank are right, and the less government, the better. Some readers may prefer, as we do, more historically grounded hopes. To summarize, one of the main features of the open economy model is that it unleashes the energy of the financial sector and sets the stage for its preponderance in the economy. The role of the State and the structure of the economy are organized around the requirements of the financial sphere and this has important implications.

#### **SECTION V THE EXPANSION OF THE FINANCIAL SECTOR: IMPLICATIONS FOR SUSTAINABILITY**

During the past thirty years the world’s economic system has experienced the extraordinary expansion of the financial sector. This can be expressed through several indicators, from the growth of currency transactions, to the markets for bonds and all sorts of financial assets. A significant proportion of exchanges in the world’s financial markets are clearly related to arbitrage operations and speculation. Today, for example, transactions in currency markets are more than one hundred times

the value of actual trade flows in all types of merchandise.

This expansion of the world’s financial sector has left a deep mark on the world economy. The financial crisis of 2008–2009 is the best proof of this, with long term implications for global development. This coincides with a multi-dimensional environmental and resource management crisis in which massive loss of biodiversity, soil erosion, overexploitation of aquifers, deforestation, climate change and pollution from emissions, effluents and solid waste are leaving a terrible heritage for future generations. Yet, there are very few analyses trying to make the connection between the structure of the world economy and this combination of environmental catastrophes. One of the main objectives in this project was to start exploring the linkages between the expansion of the financial sector and the pattern of environmental deterioration that we are experiencing today.

The expansion of the financial sector has been traced back to the years before the collapse of the Bretton Woods system. This system was set up after WWII in order to organize international financial and monetary relations. It was based on an array of fixed exchange rates (minimum adjustments were accepted), controls on transboundary capital flows and the creation of the International Monetary Fund to help stabilize currencies and assist countries experiencing balance

of payments difficulties. The matrix of fixed exchange rates was organized around the US dollar whose value was set at USD 35 per ounce of gold, as the United States was the country with the largest gold reserves in the world.

The Bretton Woods system was marked by several problems. The first was the role of gold in the entire system. By the late sixties, it was clear that the mass of dollars in the world was greater than the gold reserves of the United States. Countries that were creditors of the US started to worry about the convertibility to gold and the value of their reserves in dollar denominated assets. Another big problem is the so-called Triffin dilemma (named after the Belgian economist) that can be described as follows: the monetary policy requirements of the country issuing the world's reserve currency are in contradiction with the liquidity requirements of the rest of the world. This is exactly what happened in the case of the US dollar. By 1970 the system was already being buffeted by strong speculative movements, especially in the world of the euro-dollar. In August 1971 then President Nixon unilaterally closed the USD-gold window and launched a new era for the world's financial system.

Since then, macroeconomic policy making has never been the same.

Before the seventies and as a result of the so-called Neo-classical synthesis, it was thought that unemployment could be reduced through various demand-management schemes. A consensus was developing around the Phillips curve (identified by economist A. W. Phillips), a construct that identified a trade off between unemployment and inflation. But during the seventies a combination of stagnation and inflation ("stagflation") shook macroeconomists as it contradicted the idea that a trade off existed. Many believed the stage was set for a new theoretical approach: Milton Friedman and Edmund Phelps launched the concept of the "natural rate of unemployment" which was supposed to correspond to a situation in which labour market rigidities prevented adjustments and efforts to further reduce unemployment would simply end up accelerating inflation. The NRU served as a platform to launch an all-out attack on the pattern of macroeconomic policymaking as it had evolved from the adaptation (and distortion) of Keynesian analysis in the Neoclassical synthesis. Under the new approach to policy making, the role of automatic adjustment in markets was once again restored as the centrepiece of resource allocation.<sup>15</sup> This was followed closely by the rational expectations line of thought developed by Lucas and

<sup>15</sup> Friedman defined the natural rate of unemployment as "the level that would be ground out by the Walrasian system of general equilibrium equations, provided there is imbedded in them the actual structural characteristics of the labour and commodity markets, including market imperfections, stochastic variability in demands and supplies, the cost of gathering information about job vacancies and labour availabilities, the costs of mobility and so on" (Friedman 1968: 8).

Sargent.<sup>16</sup> The Dynamic Stochastic General Equilibrium Model was to rule the field of macroeconomic theory and the age of neoliberalism was about to get going. For policy, the consequence of this was that the only goal for central banks was to maintain price stability or, in other words, to control inflation. As for fiscal policy, it was considered an inefficient tool and an obstacle for private investment due to crowding out effects.

The shock of the collapse of the Bretton Woods system, together with the change in the approach to macroeconomic policy, brought about enormous pressure for financial deregulation. The abandonment of fixed or stable exchange rates introduced the private sector to exchange rate risks, something that had been previously absorbed by the State. This “privatization of risk” (Eatwell and Taylor 2000) associated with exchange rate variations had to be compensated through hedging and this required free capital mobility. In order to reduce these new risks, market participants had to diversify their portfolios with flexibility, modifying the currencies’ combination and of other financial assets in accordance with the perceptions of risks. Thus, deregulating the capital account of national economies became a priority in the agenda of the rich countries and the international financial institutions. The opportunity to do push forward this agenda came in the eighties, as

the IMF was called to play a critical role in stabilization and adjustment programs in developing countries that had been badly hit by the international debt crisis. As a result of this process of deregulation, the volume of international capital flows began to grow at exponential rates. New instruments, such as derivatives and structured investment vehicles, were designed and redesigned to be used as tools to take advantage of the new opportunities for arbitraging and speculation.

Macroeconomic policies could only aspire to perform an accessory role in this new world of interdependent and deregulated financial markets. In most Latin American countries, the central bank was given a sole mission, to maintain price stability, and fiscal policy became obsessed with the objective of generating a primary surplus. Finally, because part of the adjustment in the eighties had forced most countries in the region to dismantle their systems for industrial and other sector level policies, the path was open for full trade liberalization. Neoliberalism was the name given to this combination of passive or pro-cyclical macroeconomic policies, full financial deregulation, a reduced role for the State and the notion that efficient markets could take care of the development process.

What was the effect of all of this on the environment? In general terms,

<sup>16</sup> The NRU became for several analysts the Non-Accelerating Inflation Rate of Unemployment or NAIRU.

the industrialization project was, if not entirely abandoned, at least push backward in a very decisive manner, as we have seen in previous pages. The manufacturing sector in Latin America lost importance in its share of GDP, as well as in total exports from the region. Commodities that are closer to the natural resource base have been called to play a new role in the process of economic growth in the region. There are several important implications of this process in the realm of social welfare and in the environmental dimension. In the rest of this paragraph we examine one crucial aspect of the relation between the expansion of the financial sector and the environment: the financial domination of markets of primary commodities.

The current global financial crisis was preceded by a few months by a series of abrupt hikes in prices of several basic commodities. Starting in 2002, there were significant price increases for several commodities that play an important role in international trade. These price increments meant a great deal of stress and, in fact, food crises, in many developing countries in 2006-2007. As the financial crisis started to unfold, these price movements were reversed and there were substantial and equally abrupt reductions. This was one of the transmission mechanisms through which the effects of the crisis were passed on to developing countries.

These price dynamics in commodity markets during the period 2002-2008 was accompanied by the growing presence of financial investors on commodity futures exchanges (UNCTAD 2009, ITUC 2009). This phenomenon has been described as a process of financialization of commodity markets and it implies that these price dynamics are caused by the action of financial agents that use primary commodities as simply another class of assets that is included in their portfolio as an investment. In other terms, this disturbing development is due to the fact that an asset intended primarily for use becomes increasingly treated as an investment vehicle. The result of this has been a series of speculative bubbles that have deleterious effects on a great number of people, as witnessed by riots and turmoil in countries as diverse as Egypt, Bangladesh, Mexico and the Philippines, to mention a few.<sup>17</sup>

Together with the macroeconomic package we have been describing (i.e., a passive monetary policy, financial and banking deregulation, primary surplus as the dominant objective in fiscal policy, etc.) and contract agriculture, this financialization of certain key commodity markets is also associated to a deep transformation of agricultural production in vast territories, with a very high cost when capital flows are reversed.

This process of financial domination in the recent evolution of commodity

<sup>17</sup> For a detailed account of the effects of these price changes on hunger and availability of food, see the IUTC report *A Recipe for Hunger: How the World is Failing on Food* (ITUC 2009).

prices is the object of intense debate. Most mainstream economists have attributed these price movements to fundamental changes in supply and demand. For example, the change in diet in China as per capita GDP increases has been considered one of the main causes behind these price dynamics.<sup>18</sup> But one crucial item here that points in a different direction is that price reductions took place at a point in time when fundamentals did not justify this variation. In addition, trading volumes in commodity exchanges experienced sharp increases during the period of price hikes. For example, futures and options contracts on commodity exchanges rose from an average of 13 million contracts between 200–2005 to more than 35 million contracts on average in 2006–2008. The peak was reached in 2007 with 45 million contracts according to data from the Bank of International Settlements. During that period the value of over the counter contracts in commodities increased by 1,300 percent, surpassing USD 13 trillion. These and other indicators suggest that different factors are playing a role here. As pointed out above, one of these factors is the increased presence in commodity futures exchanges of financial investors for whom commodities appear as another class of assets that can be used to diversify portfolios in profit maximization strategies. Some of these financial investors that act as traders

in commodity markets command a huge amount of resources and their operations are susceptible of having important effects on prices.

Commodity exchange and futures markets have existed for a very long time and they have been used to iron out the spikes in price variations, providing stable market signals to producers and helping them to meet the uncertainties of agricultural activities. Futures markets allow for price discovery and therefore reduce price volatility. These markets allow producers to hedge against price fluctuations that may have negative effects on production (thus ensuring activity levels close to capacity utilization).

In these specialized markets, participants have been limited to producers, farm processing agents and traders. Until recently, other agents were prevented by law from entering into these markets in order to prevent speculation. In the United States, for example, where the largest mercantile exchanges function, restrictions to trading in maize, soybean, wheat and other crops prevented speculation and price manipulation since the beginning of the XXth century. But these restrictions were relaxed as part of the drive to financial deregulation. In 2000 the US Commodity Futures Trading Commission deepened this deregulation process (with the Commodity Futures Modernization Act) and increased the ceiling for trading in

<sup>18</sup> This view has been contradicted by Daryll Ray (Director of the Agricultural Policy Analysis Center of the University of Tennessee). According to Ray's analysis, China is self sufficient in many of the commodities that experienced the type of price behaviour that we have discussed here.

maize, oats, wheat and soybeans.<sup>19</sup> The end result was increased trading and price hikes.

The issue of how increased activities in the mercantile commodity exchanges affect spot commodity prices has been the object of intense debate. Some observers argue that speculation in futures, options and derivative markets cannot affect spot prices. The reasoning here is that these short run effective prices will be impacted by speculative trading only when traders take delivery of commodities and hold physical inventories. Perhaps one of the most relevant analyses here is Frankfurter and Accomazzo (2007) who identify important shortcomings in models dealing with returns to speculators in commodities futures markets.

In the past there was some speculation in commodity exchanges and futures markets, but it was based on how agents perceive the evolution of supply and demand. In this sense, speculation in futures and mercantile exchange markets was simply the action of taking advantage of a system of relative prices. Carrying costs, delivery dates and inventories were critical in deciding how much

to buy and when to sell. But all of this changed with financialization: financial investors respond to risks that arise in currency markets, as well as in other financial assets, and they have to diversify their portfolio structures continuously in order to search for optimal investment structures. For these agents, commodities become the physical support of a new investment that is not different (from the viewpoint of portfolio structures) from other financial assets. As futures contracts involving commodities became more common and were the object of complex securitization (Frankfurter and Accomazzo 2007), the normal price-inventory relationship was altered. The price dynamics have been altered because securitized commodity-linked instruments are now considered an investment rather than a risk-management tool. This may lead to self-fulfilling prophecies that can engender higher prices until markets break down.

Commodities have certain properties that make them attractive as assets in an investment portfolio: their returns are negatively correlated with those of other assets over the business cycle and they are less volatile.

<sup>19</sup> The CFTC controls potential market manipulation and excessive speculation through the Commitment of Traders (COT) report. But this was severely downgraded and rendered useless by the Commodity Futures Modernization Act enacted under the Clinton administration in 2000. In addition, the regulatory and monitoring capacity of the CFTC was further eroded when it allowed the Intercontinental Exchange (ICE) to use its trading terminals in the United States for trading of U.S. commodity futures contracts on the ICE futures exchange in London. Later, ICE Futures allowed traders in the United States to use ICE terminals in the United States to trade its synthetic futures contracts on the ICE Futures London exchange. This not only allowed unregistered funds to effectively bypass registration, it also contributed to distribute the effects of these operations worldwide.

Besides, because many commodities are an important component of the basket of goods that is used to measure price changes, these commodities are a good protection against inflation because their returns are positively correlated with price increases. Investment returns become the objective function and replace hedging against price fluctuations.

Financialization of commodity exchanges is not a problem confined to price dynamics and financial risk management. It goes well beyond the walls of the mercantile exchange and has direct impacts in the field, in output mix, technology choice and resource management practices. When they enter into a commodity

market and start pushing price upwards, financial operators may pull agricultural production chains into the space of financial transactions, risk management and speculation. Because of the size of the resources at their disposal, their transactions in futures markets have direct effects on market (spot) prices.<sup>20</sup> But more than that, these effects are relayed through the workings of contracts that link agribusiness (with their own credit and marketing facilities) to direct producers in the field. Banking deregulation, tight monetary policies (with scarce and costly credit), recessive fiscal policies and the withdrawal of support for small scale agriculture, all combine to leave this space for large agri-business.



Sao Paulo Stock Exchange.  
Credit R Matsunaga,  
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<sup>20</sup> Futures markets involve contracts in which traders pledge to buy or sell a commodity in the future at a pre-set price. The contract can be traded so that the agent does not have to actually take delivery of the commodity when the date expires. In the case of option, traders have the right but not the obligation to purchase or sell a commodity at a pre-set price in a future date and they pay a premium to the agents who make the opposite pledge.

### REFERENCES

- Amsden, Alice (1989)  
*Asia's Next Giant. South Korea and Late Industrialization.* Oxford University Press.
- Banco Central de Costa Rica (2007)  
*Deuda y los efectos de la política fiscal. Evaluación de vulnerabilidades para la economía costarricense.* Departamento de Investigaciones Económicas.  
Documento de Investigación, DIE-01-2007-DI.
- Bhaduri, Amit (1998)  
"Implications of Globalization for Macroeconomic Theory and Policy in Developing Countries", in *Globalization and Progressive Economic Policy*, (Dean Baker, Gerald Epstein and Robert Pollin, eds.). Cambridge University Press.
- Chang, Ha-Joon (2002)  
*Kicking Away the Ladder. Development Strategy in Historical Perspective.* London: Anthem Press.
- Chichilniski, Graciela and Gilberto Gallopín (2001)  
"The Environmental Impact of Globalization on Latin America", *Managing Human-Dominated Ecosystems*, [271-303].
- CONABIO (2007)  
*Sistema Nacional sobre la Biodiversidad en México*, <http://www.conabio.gob.mx/institucion/snib/doctos/acerca.html>
- Croce, Enzo and V. Hugo Juan-Ramóm (2003)  
"Assessing Fiscal Sustainability: a crosscountry comparison". *International Monetary Fund. Working Paper. WP/03/145.*
- Daly, Herman (1991)  
"Elements of environmental macroeconomics", in R. Costanza (Ed.), *Ecological economics: The science and management of sustainability* [32-46]. New York: Columbia University Press.
- Eatwell, John and Lance Taylor (2000)  
*Global Finance at Risk. The Case for International Regulation.* New York: The New Press.
- Engel, Stefanie, Tobias Wünscher and Sven Wunder (2009)  
"Increasing the Efficiency of Forest Conservation. The Case of Payments for Environmental Services in Costa Rica", in Palmer and Engel (2009).
- Falconi Benitez, Fander (2005)  
"La construcción de una economía con cimientos ecológicos", *Asedios a lo imposible: propuestas económicas en construcción* (Alberto Acosta y Fander Falconi, editores) ILDIS y Flacso, Ecuador, 2005.
- Fajnzylber, Fernando (1983)  
*La industrialización trunca de América Latina.* Mexico: Editorial Nueva Imagen.
- Fleming, M. (1962)  
"Domestic Financial Policies under Fixed and under Floating Exchange Rates", *International Monetary Fund Staff Papers*, 9.
- Friedman, Milton (1968)  
"The Role of Monetary Policy", *American Economic Review*, 58 (March) [1-17].



Frankfurter, Michael Mack and Davide Accomazzo (2007)  
“Is Managed Futures an Asset Class? The Search for the Beta of Commodity Futures”, *Social Science Research Network*, (December 31 20007). Available at SSRN: <http://ssrn.com/abstract=1029243>.

Heyes, A. (2000)  
“A Proposal for the Greening of Textbook Macro: ‘IS-LM-EE.’” *Ecological Economics*, 32(1), 1-7

ITUC (2009)  
*A Recipe for Hunger: How the World is Failing on Food*. International Trade Union Confederation, Brussels.

Lawn, P. A. (2003)  
“On Heyes’ IS-LM-EE proposal to establish an environmental macroeconomics”. *Environment and Development Economics*, 8(1), 31-56.

Nadal, Alejandro (1996)  
“Balance of Payments Provisiones in the GATT and NAFTA”, *Journal of World Trade*. Vol. 30 (4). [5 – 24]

--- (2000)  
*The Environmental and Social Impacts of Economic Liberalization on Corn Production in Mexico*. WWF and Oxfam.

--- (2005)  
“Estabilidad y flujos de capital en el modelo de economía abierta”, in (Nadal, A. and F. Aguayo, editors) *Experiencias de crisis y estrategias de desarrollo. Autonomía y globalización*. México: El Colegio de México.

Munasinghe, Mohan Ed. (2002)  
*Macroeconomics and the Environment*. Cheltenham, U.K.: Edward Elgar.

Moreno-Brid, Juan Carlos and Carlos Roza (2xxx)  
“Dolarización: conveniencias y inconveniencias para México”, in (Guadalupe Mantey and Noemi Levy, editors) *De la desregulación financiera a la crisis cambiaria: experiencias en América Latina y el Sudeste Asiático*, Mexico: UNAM (Check).

Palmer, Charles and Stephanie Engel (editors) (2009)  
*Avoided Deforestation. Prospects for Mitigating Climate Change*. London: Routledge.

Mundell, R. (1963)  
“Capital Mobility and Stabilization Policy under Fixed and Flexible Exchange Rates”, *Canadian Journal of Economics and Political Science*, 29.

Oilwatch (2007)  
“Conservar el crudo en el subsuelo, por el país, por el Yasuní, por su gente”, available in [http://www.amazoniaporlavida.org/es/files/guardar\\_el\\_crudo\\_en\\_el\\_subsuelo.pdf/](http://www.amazoniaporlavida.org/es/files/guardar_el_crudo_en_el_subsuelo.pdf/).

Thampapillai, D. J. (1995).  
“Environmental macroeconomics: Towards filling an empty box”. *Indian Economic Journal*, 42(4), 43-58.

Urquidí, Víctor L. (2005)  
*Otro siglo perdido. Las políticas de desarrollo en América Latina (1930-2005)*. México: Fondo de Cultura Económica.

# MACROECONOMIC POLICY AND ENVIRONMENTAL SUSTAINABILITY: THE CASE OF TRANSGENIC SOYBEAN PRODUCTION IN ARGENTINA

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*Soy  
Credit: Archives  
Infosur Hoy*

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### ABSTRACT

Since the mid-1970s, Argentina has embarked on a process of neoliberal economic transformation which has resulted in widespread de-industrialisation and a re-primarisation of the economy, accumulation of a large and periodically unsustainable public debt, and widespread privatisations and deregulation. Deregulation of agricultural activity, coupled with an official approval for the introduction of genetically modified seeds, resulted in an unprecedented expansion of the surface cultivated with soybean, displacing other traditional crops and activities. The rapid expansion of soybean and the technological package that accompanies it (no-till sowing, glyphosate herbicide), has had substantial social, economic and environmental impacts. This report concludes that given the importance of soybean as an export commodity, and the weight of export taxes in the government's revenue structure, make it unlikely that there will be any policy initiatives in the short-to medium-run that will try to alter this scenario.

### 1. INTRODUCTION

2008 was not a good year for Argentina. March through June saw the government in an intense dispute with agricultural producers over agricultural export tax levels. The government's intransigence resulted in the four main rural sector organisations presenting a united front for the first time ever against a government<sup>22</sup>. Once the dispute was settled, at a high cost to both sides, the international price of Argentina's main export commodities (soybean, wheat, oil) had dropped to almost half their peak values of mid

2008 with the consequent impact on the government's revenues. A widespread and lasting drought, affecting Argentina's main agricultural production areas, added to an already difficult situation. To top it all off, for the first time since Argentina's 2001 sovereign default and due primarily to the effects of the international economic crisis, Argentina's ability to meet its debt service payments became a growing concern.

The link between the events just described may not be immediately apparent, in the same way that the relationship

<sup>22</sup> The four organisations were the Sociedad Rural Argentina (SRA, the large landholder association, historically opposed to populist governments), CONINGAGRO (an association of rural cooperatives), Confederaciones Rurales de la Argentina (CRA, an association of cattle ranchers) and the Federación Agraria de la Argentina (FAA, an association of small producers, historically opposed to the large landholders).

between these events, macroeconomic policy, and environmental sustainability are not directly obvious. However, there is an integral relationship between them all, and that is the subject of this report. Indeed, the unifying factors are Argentina's agro-export-based economic model and the country's macroeconomic fiscal balance, in which a heavy debt-service burden plays a key part.

In the mid-1970s, Argentina embarked on a process of neoliberal economic transformation which resulted in widespread de-industrialisation and a re-primarisation of the economy, accumulation of a large and periodically unsustainable public debt, and widespread deregulation and privatisation of utilities and state enterprises. Deregulation of agricultural activity, coupled with an official approval of the introduction of genetically modified seeds, resulted in an unprecedented expansion of the surface cultivated with transgenic soybean, displacing other traditional crops and activities.

The rapid expansion of soybean and the technological package that accompanies it (no-till sowing, glyphosate herbicide), has had substantial social, economic and environmental impacts. Furthermore, the importance of soybean production as an export commodity, and the weight of export taxes in the government's revenue structure, make it unlikely that there will be any policy initiatives in the short- to medium-run that will try to alter this scenario.

This report presents the transformations that have occurred in Argentina on the macroeconomic level and how they relate to changes in the agricultural sector. The following section deals with the economic transformations since 1976 and the important role that Argentina's public debt has played in this process. The section after that examines the evolution of Argentina's agricultural production in the last few decades. This is followed by a presentation of the broad impact that transgenic soybean has had on society, the economy and the environment and the important role this crop plays in Argentina's macroeconomic balance. The report concludes with a brief summary.

## **2. THE MACROECONOMIC CONTEXT: FROM MILITARY NEOLIBERALISM TO DEFAULT AND BACK**

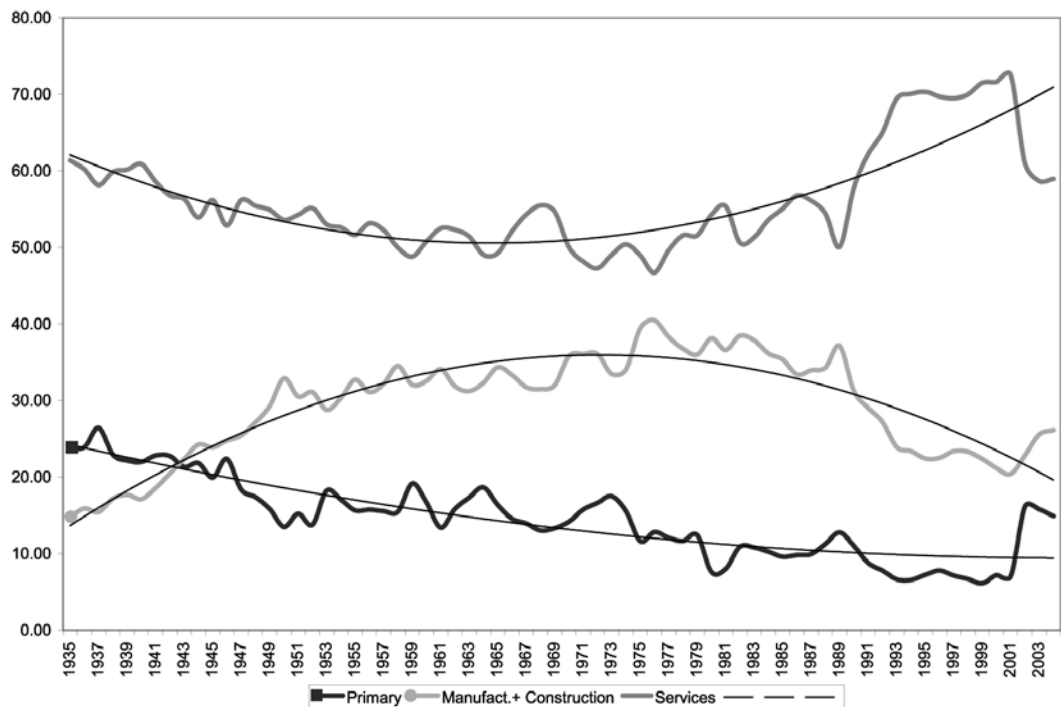
The Argentine military dictatorship of 1976-1983 produced profound transformations in Argentina's political, social, cultural and economic spheres. The "National Reorganisation Process," as they named it, sought to do away with the Welfare State and the entire set of industrial policies known as import substitution industrialisation (ISI) which had prevailed since the 1930s. The disappearance of 30,000 labour and social movement activists, a tight control over the media, and a generalized climate of terror effectively reduced the ability of the opposition to fight against such reforms.

The policy framework introduced by the military consisted of trade and finance liberalisation and the beginning of a generalized reduction of State participation in the economy and society through privatisation and deregulation.<sup>23</sup> Without a doubt, financial liberalisation<sup>24</sup> was the hallmark of the dictatorship's policy reforms, issuing in an era of "speculation-led

development"<sup>25</sup> and massive public debt accumulation which resulted in repeated financial crises.<sup>26</sup>

The dictatorship ended in economic, social, and military disaster (defeated in the Falklands/Malvinas war). The country's industrial capacity had shrunk by 30%, capital flight dramatically increased foreign debt, and

**Figure 1. Re-primarisation: Argentine Sectoral GDP 1935-2004**



Source: Author's calculations based on Ferreres (2005)

<sup>23</sup> The military's policy package, based on orthodox economic theory, later became known as neoliberalism or Washington Consensus policies (Williamson 1990). The policy prescriptions based on this theory emphasize trade and financial liberalisation, privatisation of state enterprises, deregulation, and a general withdrawal from participation of the State in the economy.

<sup>24</sup> Financial liberalisation is the deregulation of the domestic financial system and the elimination of barriers to inflows and outflows of capital.

<sup>25</sup> Ilene Grabel (1995) coined this term to characterize the effects of financial liberalisation in developing countries.

<sup>26</sup> The first crisis was in 1982 when Argentina, together with Mexico and Brazil, defaulted on its debt. In 1989-1990 there were repeated episodes of hyperinflation and in 2001-2002 Argentina's spectacular crash garnered world attention and resulted in a world-record setting default (Cibils et al. 2002)

the distribution of income —which had reached its point of greatest equality in 1975— began a trend of increasing inequality that continues to the present.

The return to democratic rule in 1983 with President Raúl Alfonsín did not result in any lasting changes to the economic framework introduced by the military. Despite initial attempts to roll back some of the military's reforms, rising inflation towards the end of the decade resulted in a series of hyperinflationary bouts. As a result, Alfonsín called for elections and turned over the presidency six months ahead of schedule, in July of 1989.

Carlos Menem, the candidate of the historically pro-labour Peronist party, succeeded Alfonsín. While he had campaigned on traditional populist themes, once in power he made a 180° turn towards economic neoliberalism. Macroeconomic instability and two bouts of hyperinflation during his first year in power resulted in Menem appointing Domingo Cavallo, a Harvard-trained economist, as finance minister.

Cavallo implemented the most far-reaching neoliberal economic program in Argentine history. It included trade and finance liberalisation and set in motion the process of privatisation of all state enterprises, utilities and the Social Security system. The cornerstone of Cavallo's package was a currency board system that pegged the Argentine peso to the U.S. dollar on a one to one exchange rate and

a requirement that all pesos in circulation be backed by dollars in the Central Bank's reserves. The peso peg, coupled with a prohibition to the government to finance its deficit with monetary emission, meant that Argentina's monetary policy was essentially on automatic pilot, leaving the government very little space for independent policy-making.

Menem's ten years in office resulted in a radical deepening of the restructuring process of Argentina's economy and society begun by the military dictatorship. Abrupt trade liberalisation bankrupted much domestic industry and manufacturing, turning Argentina into a primary product and service economy. As a result, the process of "re-primarisation" which had begun under the military took on new momentum (Figure 1). This process resulted in a net loss of the weight of manufacturing in GDP, while the primary sector's secular decline stabilized and then was reversed towards the end of the period. The service sector's strong increase is due, among other factors, to the rise of financial intermediation. As we shall see later, these transformations were to have a profound impact on Argentina's macroeconomic balance.

Large capital inflows, lured by better investment returns than those offered by weak Northern economies of the early 1990s fuelled a boom in consumer credit, which resulted in a large increase in consumer demand and positive growth rates from 1991 to

1994. However, that capital quickly exited after the December 1994 Mexican peso crisis, driving the Argentine economy into a deep recession in 1995, with unemployment going over 18%. The tequila effect, as it came to be known, underscored an important structural flaw of Argentina's neoliberal experiment: the economy's dependence on foreign capital, which could leave the country at vertiginous speeds. The Asian, Russian, Brazilian and Turkish financial crises of the late-1990s all had substantial repercussions in Argentina. Growth was erratic after 1994, and unemployment never dropped below 13%. Furthermore, poverty and inequality increased steadily reaching unprecedented levels at the end of the century.

In the third quarter of 1998, as a result of the Brazilian crisis, the Argentine economy entered a recession. When Fernando De la Rúa, the conservative

presidential candidate of the Alianza coalition, won the 1999 election, his strategy was to maintain the IMF austerity guidelines of his predecessor. According to the IMF, Argentina's problem was runaway fiscal spending which needed to be reigned in to generate the fiscal surplus needed to meet rapidly growing debt service payments.

However, actual data tell a different story. As **Table 1** clearly shows, the IMF—and Argentine officials—severely misdiagnosed the problem. The issue was not runaway public spending—which remained fairly constant as a percent of GDP throughout the 1990s. The issue was debt service payments which spiralled out of control for two reasons. The main reason was the substantial fiscal revenue gap left by the 1994 privatisation of social security which was covered by borrowing.<sup>27</sup> The second reason was

**Table 1. National Government Spending and Revenue (1993-2001)**  
(millions of current pesos, 1 peso = 1 US dollar)

	1993	1994	1995	1996	1997	1998	1999	2000	2001
<b>Total Revenue</b>	<b>50726.50</b>	<b>51078.20</b>	<b>50293.60</b>	<b>47668.90</b>	<b>55376.70</b>	<b>56726.10</b>	<b>58455.40</b>	<b>56570.50</b>	<b>51318.60</b>
<b>Total Spending</b>	<b>47996.00</b>	<b>51364.30</b>	<b>51666.90</b>	<b>52933.30</b>	<b>59653.30</b>	<b>60799.60</b>	<b>63223.80</b>	<b>63362.10</b>	<b>60037.90</b>
as % of GDP	20.3%	20.0%	20.1%	19.5%	20.4%	20.3%	22.3%	22.3%	22.3%
<b>Interest Payments</b>	<b>2914.00</b>	<b>3150.30</b>	<b>4083.50</b>	<b>4607.90</b>	<b>5745.00</b>	<b>6660.30</b>	<b>8223.60</b>	<b>9656.00</b>	<b>10174.60</b>
as % of GDP	1.2%	1.2%	1.6%	1.7%	2.0%	2.2%	2.9%	3.4%	3.8%
<b>Deficit or Surplus</b>	<b>2730.50</b>	<b>-285.9</b>	<b>-1373.30</b>	<b>-5264.40</b>	<b>-4276.60</b>	<b>-4073.50</b>	<b>-4768.40</b>	<b>-6791.60</b>	<b>-8719.30</b>
as % of GDP	1.2%	-0.1%	-0.5%	-1.9%	-1.5%	-1.4%	-1.7%	-2.4%	-3.3%
<b>Primary Spending</b>	<b>45082.00</b>	<b>48214.00</b>	<b>47583.40</b>	<b>48325.40</b>	<b>53908.30</b>	<b>54139.30</b>	<b>55000.20</b>	<b>53706.10</b>	<b>49863.30</b>
as % of GDP	19.1%	18.7%	18.4%	17.8%	18.4%	18.1%	19.4%	18.9%	18.6%
<b>Primary Surplus or Deficit</b>	<b>5644.50</b>	<b>2864.20</b>	<b>2710.20</b>	<b>-656.5</b>	<b>1468.40</b>	<b>2586.80</b>	<b>3455.20</b>	<b>2864.40</b>	<b>1455.30</b>
as % of GDP	2.4%	1.1%	1.1%	-0.2%	0.5%	0.9%	1.2%	1.0%	0.5%

Source: Authors' calculations based on Ministry of Economy, Argentina

<sup>27</sup> Social security privatisation in 1994 led to a fiscal revenue gap equivalent to 1% of GDP each year between 1994-2001 (Baker and Weisbrot 2002). For more information on the crisis and its causes, see and Cibils et al. (2002).

a series of interest rate shocks that resulted in mounting debt service.

As the recession deepened, Argentina's IMF-mandated fiscal spending cuts acted procyclically, worsening the recession. The country was thus caught in a downward spiral of falling growth and government income, larger deficits, more fiscal austerity, and so on. When in 2001 it became obvious that the economic strategy was not viable, capital flight took on alarming proportions and the government was no longer able to borrow to cover its fiscal gap. In December 2001, Argentina defaulted on roughly \$80 billion of its privately held debt, making it the largest sovereign default in history. One month later the fixed exchange rate regime, which had been the hallmark of the 1990s policy framework, was abandoned resulting in a substantial currency devaluation.

The recession, which had begun in the last quarter of 1998, turned into a depression and lasted until the first quarter of 2002 and resulted in a GDP contraction of approximately 20%. However, mainly due to the devaluation, the economy began to turn around in the second quarter of 2002. Initially spurred by some degree of import substitution and export increases, the economy began to grow. As the economy grew, so did consumption and investment, leading to six years

of strong economic growth until 2008. By the end of 2008, domestic economic problems and the global financial crisis were taking its toll on the Argentine economy and fiscal accounts, causing many to question the sustainability of its debt service schedule.

### 2.1. THE CENTRALITY OF PUBLIC DEBT IN THE MACROECONOMY

Argentina's public debt issues can be traced back to the 1976–1983 military dictatorship.<sup>28</sup> When the military took power in 1976, Argentina's public debt totalled approximately \$9 billion. By the time the military left in 1983, the public debt had more than quintupled to \$45 billion. However, the latest chapter in Argentina's debt-accumulation process began in 1991 with the Menem-Cavallo Convertibility regime described above.

The success of Menem's radical neoliberal economic program (the Convertibility Plan) hinged upon attracting foreign capital inflows. The hope was that foreign capital flows would set off a "virtuous cycle" of economic growth and general welfare improvements for the population (through "trickle down" effects), which would then lead to further investment flows and so on. In order to achieve this, Menem officials believed that normalizing public debt payments—which had been in

<sup>28</sup> Argentina had had public debt problems for much of its early history (see, for example, Galasso 2002). However, Argentina's most recent debt issues start with the military dictatorship. See Cibils and Lo Vuolo (2007), and the works there cited, for a detailed account.



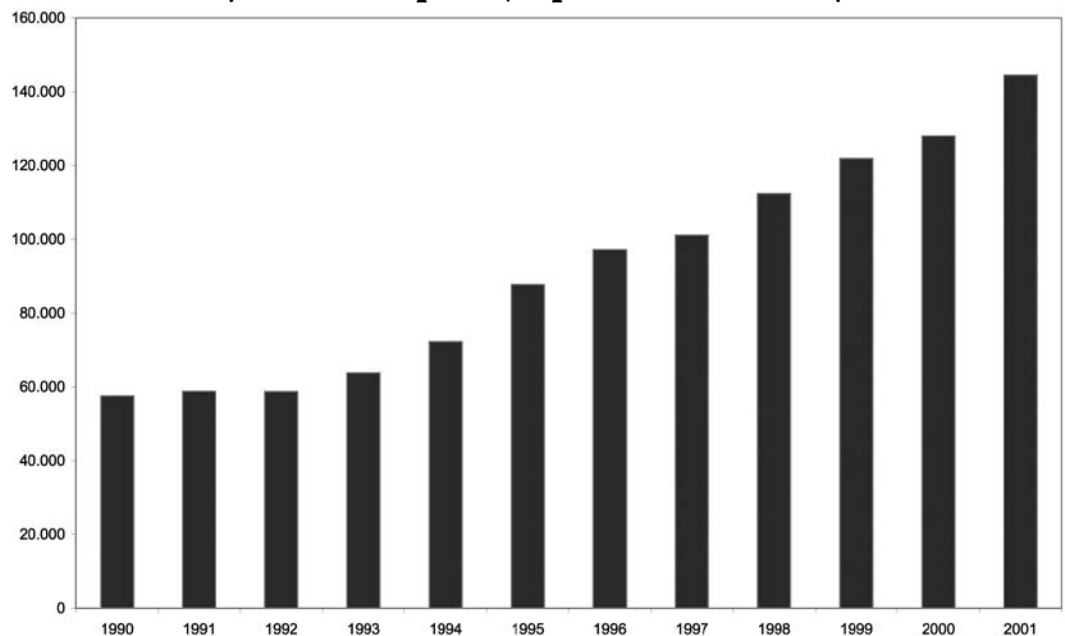
a virtual state of default during the 1980s—was key. Therefore, a “permanent” solution to the debt problem was devised, consisting of two main parts.

The first component consisted of allowing state enterprises to be privatized to be purchased partly with Argentine public debt bonds.<sup>29</sup> This operation greatly favoured holders of Argentine debt, since they were given full credit for bonds that were trading at 15–20 percent of their nominal value on the open market. The second component of the solution to Argentina’s debt problem was the 1992 Brady Agreement, by which Argentina would swap its \$21 billion debt to commercial banks, plus \$8.3 billion in late payments, for

30-year Brady bonds with lower interest rates and an average capital reduction of 35 percent. The main result of this swap was the atomisation of Argentina’s creditors from a few Northern commercial banks to hundreds of thousands or millions of bondholders around the world.

Official faith in this strategy was such that Minister Cavallo stated in 1993 that “the public debt will be insignificant by the end of the century.”<sup>30</sup> Despite such optimism, Argentina’s public debt continued to grow at an exponential rate throughout the 1990s, reaching explosive levels toward the end of the decade and resulting in the largest sovereign default in history (Figure 2).

**Figure 2. Argentina’s public debt 1990-2001  
(millions of pesos, 1 peso = 1 US dollar)**



Source: Ministry of Economy, Argentina.

<sup>29</sup> This was the case for the national telephone company, Entel, and the national airline, Aerolíneas Argentinas.

<sup>30</sup> Cited in Kulfas and Schorr (2003).

What were the reasons behind this explosive debt accumulation? According to the IMF, Argentina's spiralling debt was caused by runaway fiscal spending. However, fiscal data analysis reveals that the IMF contention that is grossly incorrect. Rather, three main causes emerge for Argentina's 1990s public debt build-up. First was the growth in debt service due to external shocks. Second was the privatisation of social security (Argentina's "pay-as-you-go" retirement system). Indeed, the lost revenue, plus accumulated interest costs, amounted to nearly the entire government budget deficit in 2001.<sup>31</sup> A third cause for Argentina's debt build-up was a growing demand for foreign exchange from both the public and private sectors.<sup>32</sup>

The only way to sustain this situation was through sustained capital account surpluses. While foreign direct investment partially satisfied this need, overall it proved insufficient to meet the demand for foreign exchange. As a result, the foreign exchange

gap was covered with both public and private debt.<sup>33</sup> When in 2001 it became clear that Argentine public finances looked increasingly like a ponzi scheme, capital flows reversed causing the convertibility regime to crash and the default on most of the country's public debt.

The default provided badly needed breathing room for Argentina's fiscal accounts. However, when in 2003, it became clear that Argentina was emerging from its political and economic crisis, the IMF and defaulted creditors increased pressure for a solution to its \$80 billion default debt. After intense negotiations, including two different Argentine official debt-restructuring proposals, a debt swap was implemented in early 2005, with a 76.15 percent acceptance rate.<sup>34</sup>

The swap's financial results included an effective capital reduction of approximately 50%, substantially longer maturity dates and lower interest rates. The debt-to-GDP ratio went from 113 percent at the time of default

<sup>31</sup> See Baker and Weisbrot (2002).

<sup>32</sup> Public sector demand for foreign exchange was based on the need to keep Central Bank reserves equivalent to pesos in circulation (as per the Convertibility Law), and the need to make debt-service payments that were primarily in foreign exchange. Private sector demand for foreign exchange resulted from a need to finance imports, which, given the overvalued peso, resulted in a growing trade imbalance. The private sector also showed a growing preference for the dollar over the peso, as witnessed by increasing dollar-denominated bank deposits and the dollarisation of economic transactions. Business and household demand for hard currency as store of value is a common problem in many developing countries and a source of financial instability. See Aguiar de Medeiros (2008) for an in-depth discussion of this issue.

<sup>33</sup> See Cibils and Lo Vuolo (2007) for an analysis of each of these factors.

<sup>34</sup> Roughly 24% of defaulted debt did not accept the Argentine swap conditions and are still awaiting a settlement at the time of this writing.

in December 2001, to 87 percent after the restructuring (taking into account the 24% of defaulted debt that chose not to enter the swap). Despite this reduction, Argentina was left with a very heavy debt service burden for decades to come, which will require a substantial fiscal primary surplus in order to not default again. Obtaining a large primary surplus depends significantly on export growth since 15%–20% of fiscal revenues depend on export taxes. As we shall see in section 4.2. below, an important contributor to Argentina's export tax revenue is the soybean crop and its derivatives (oil, flower, oilseed cakes, etc.). Therefore, soybean exports are a key component of Argentina's debt service sustainability.

As we shall see below, soybean cultivation has significant impacts on the environment and on long term sustainability. While soybean exports can be seen as a typical "trade and environment" issue, our analysis shows that deeper questions concerning the origins of this issue are to be found in strategic macroeconomic policy decisions related to monetary and exchange rate policies, as well as fiscal policy.

### 3. THE EXPLOSION OF TRANSGENIC SOYBEAN PRODUCTION AND ITS MULTIPLE IMPACTS

Agriculture and cattle breeding have been mainstays of the Argentine economy since the country's early

colonial days. Abundant and fertile lands made Argentina's range-fed beef famous and abundant wheat and maize production resulted in Argentina being food self-sufficient while producing a large exportable surplus. This resulted in Argentina being dubbed the "world's granary".

Until the mid 1960s, most of Argentina's agricultural output was produced by small and medium farmers. Technical change in agricultural sectors took place primarily through the large-scale introduction of tractors and other agricultural machinery such as harvesters. This had a large impact as it displaced many agricultural workers, greatly reducing producer costs.<sup>35</sup>

Two important transformations took place in the 1970s. First, new seed varieties allowed for year-round agricultural production or "double cropping." Secondly, soybean was introduced and spread rapidly and widely. In this way the rotation between crops and cattle breeding was displaced in favour of an intensified agricultural production (or "agriculturisation" as it is sometimes called). The introduction of soybean also meant widespread and growing use of herbicides and plaguicides, which quadrupled between 1970 and 1985.<sup>36</sup>

In the case of Argentina, glyphosate (a herbicide used extensively with many transgenic crops) consumption went

<sup>35</sup> See Teubal et al. (2005), Teubal and Rodríguez (2002) and Barsky and Dávila (2008).

<sup>36</sup> Barsky and Dávila (2008: 18).

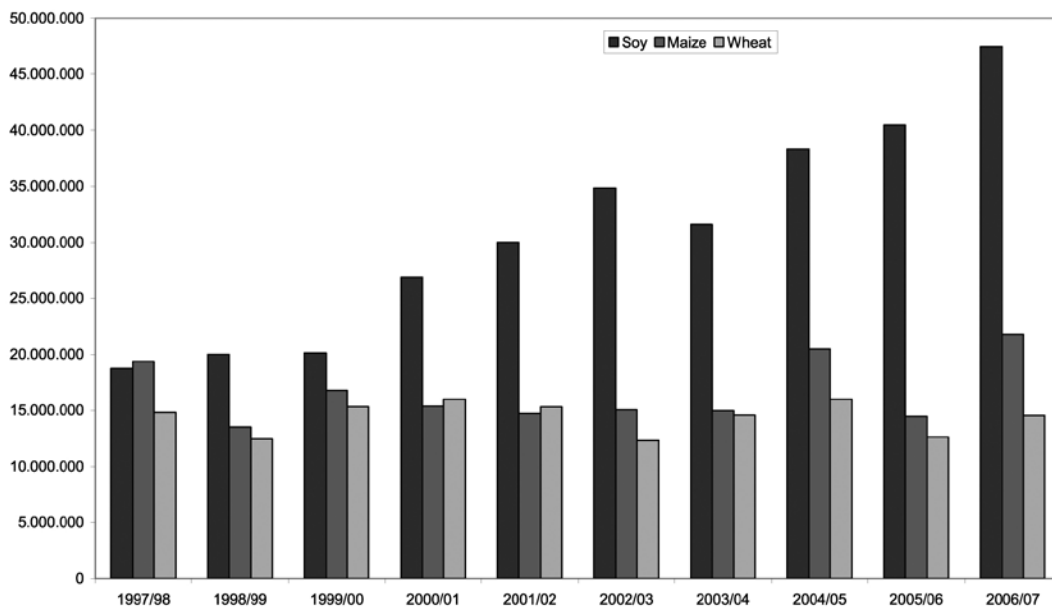
from one million litre equivalent in 1990/1991 to almost 60 million by the end of the decade.<sup>37</sup> It has been argued that transgenic soybean requires less agro-chemical products, which is true, since it only requires glyphosate. However, the increasing amount of pesticide used makes this a crop that has a very high environmental impact.

With the deepening of the Argentine neoliberal economic policy framework in the 1990s, the “industrial agriculture” model experienced substantial and far-reaching transformations. The best example of this transformation is the expansion of transgenic soybean production which took place in Argentina since

the mid 1990s.<sup>38</sup> This is also a good example of how macroeconomic policies affect the environment.

Figure 3 shows the production in tons of soybean, maize and wheat between 1997 and 2007, while Figure 4 shows the hectares sowed with soybean, maize and wheat for the same period. There are several remarkable features which emerge from the figures. First, soybean production has increased dramatically both in tons produced and in hectares sowed. Tonnage and hectares sowed have more than doubled for the period under question, making soybean Argentina’s most important crop. A second feature of the data presented is that wheat production has a declining tendency

Figure 3. Selected agricultural production (tons)



Source: Secretaría de Agricultura, Ganadería, Pesca y Alimentos.

<sup>37</sup> Lapitz et al. (2004), p.125.

<sup>38</sup> Teubal (2008).

both in tonnage and in hectares sowed. Thirdly, maize production has experienced a decline in surface sowed but an rising trend in tons produced.<sup>39</sup>

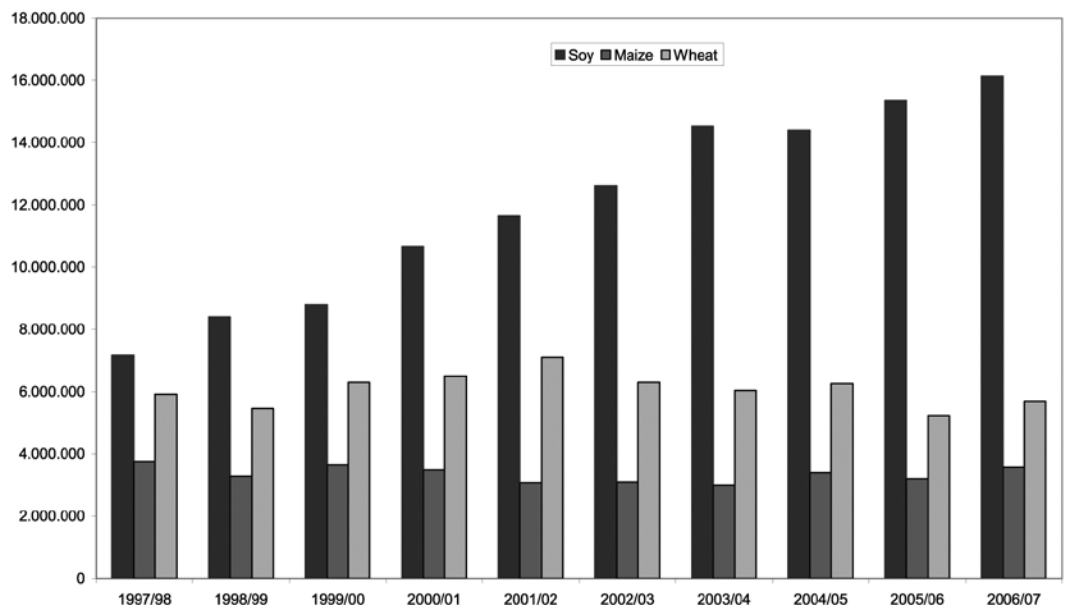
Since 1996, almost 100% of soybean planted in Argentina is transgenic “roundup ready” (RR) soybean, a technological package developed by the Monsanto Corporation. The package includes a soybean variety resistant to glyphosate, a powerful herbicide originally produced by Monsanto and now available by other manufacturers, and the no-tillage sowing method. The introduction of transgenic soy in 1996 was hailed by many as a technological innovation, greatly increasing the productive capacity of Argentina’s agricultural

sector.<sup>40</sup> Furthermore, since 95% of Argentina’s soybean production is exported, this results in substantial foreign exchange inflows and fiscal revenues through export taxes. Soybean production is therefore viewed by many as a key crop, bringing modernisation to Argentina’s rural sectors and contributing to macroeconomic balance.

### 3.1. The multiple impacts of transgenic soybean

However, the introduction and rapid expansion of transgenic seeds, especially transgenic soybean, has had multiple and profound impacts in Argentina. Impacts include soil and environmental degradation, deforestation, land-use concentration, contamination from

**Figure 4. Surface planted (hectares)**



Source: Secretaría de Agricultura, Ganadería, Pesca y Alimentos.

<sup>39</sup> Transgenic maize was introduced in 2004, so it is too soon tell whether yields have changed substantially.

<sup>40</sup> Such a view can be found in Barsky and Dávila (2008), although it is a widespread view.

excessive use of agrochemicals, monoculture and loss of food security, displacement of small and medium producers and increased dependence on transnational agribusiness corporations<sup>41</sup>. We will deal briefly with these issues in what follows.

### 3.1.1. Soil degradation

The introduction double cropping in the 1970s followed by the introduction of transgenic seed varieties in the 1990s has resulted in an intensification of agriculture in two ways. Firstly, production has become more capital intensive, requiring substantial investment in machinery and agrochemicals. Secondly, year-round agriculture has become the norm, with two soybean production cycles or alternating soybean with maize or wheat. This intensification of agriculture has resulted in a decline in soil fertility and increased soil erosion.

Originally, it was believed that the no-tillage system would protect the soil from erosion, since it wasn't being turned over every sowing season. Empirical studies, however, cast substantial doubt on this assumption. The reason is that with herbicide-resistant soybean varieties (e.g. Monsanto's Roundup ready), soybean producers have been expanding into less

fertile grounds which are far more susceptible to erosion. Also, intensive agriculture practices mentioned above and the elimination of rotation have contributed to soil erosion as well. Soil loss could reach 19 to 30 tons per hectare in Argentina and Brazil, according to some estimates.<sup>42</sup> Additionally, nutrients in the soil have become increasingly depleted requiring ever increasing amounts of fertilisers and herbicides to maintain yields.<sup>43</sup>

Additionally, since crops are no longer rotated with cattle, soil phosphorous content has been seriously depleted and soil once considered to be well supplied is now phosphorous deficient.<sup>44</sup> Nutrient depletion also includes nitrogen and potassium.

If this depletion were to be compensated by the application of fertilizers, it is estimated that it would have required 1.1 million metric tons of phosphorous fertilizers in 2005.<sup>45</sup> Soybean accounts for 50% of nutrient depletion according to the cited study.

### 3.1.2. Ecological impact

In addition to soil erosion, the dramatic growth of transgenic soybean production has had substantial environmental impacts. Widespread use of glyphosate

<sup>41</sup> Teubal (2008).

<sup>42</sup> Pengue (2006:16).

<sup>43</sup> Laptitz et all (2004:113). See also references cited in chapter 6.

<sup>44</sup> Pengue (2005, 2006).

<sup>45</sup> Pengue (2005:317).

has eliminated innumerable plant species from Argentine “pampas”. This has had a substantial impact on insect and other bird and mammal species. In vast regions of Argentina’s most fertile soils, they now speak of “la primavera silenciosa” (the silent spring) due to the disappearance of birds, butterflies and other insects that used to typical of spring.<sup>46</sup>

Intensive use of herbicides such as glyphosate has resulted in herbicide-resistant strains of plants and weeds, which then require additional or stronger herbicides, deepening the cycle of biodiversity depletion. Additionally, intensified herbicide use has substantial impacts on the soil, water sources, and human beings living in the proximity of sprayed fields.<sup>47</sup>

Defenders of the industrial agriculture model and herbicide manufacturers argue that if herbicides are correctly applied, negative effects on humans and the environment are minimal. However, large scale production of transgenic crops make extensive use of aerial spraying making it very difficult to control pesticide application and impact. Empirical studies of the negative impact of glyphosate on soil, plants, water, insects, arachnids and amphibians at this point are compelling and troubling.<sup>48</sup>

Deforestation is another substantial environmental by-product of the expansion of the agricultural frontier. The rapid expansion of soybean in Argentina’s most fertile agricultural areas has resulted in a displacement of other agricultural activities, such as cattle ranching, into areas that were not previously used for agriculture.

Additionally, new soybean varieties have resulted in expansion into areas that were not previously deemed fit for agriculture. As a result, of displacement of cattle ranching and the expansion of the agricultural frontier, the rate of deforestation has increased substantially in Argentina’s northern provinces (Figure 5).

In Chaco province, 118,000 hectares have been deforested for soybean production between 1998 and 2002. In Santiago del Estero, 223,000 hectares have been deforested for the same reason and in the same period<sup>49</sup>. This has resulted in the expansion of the industrial agriculture model into areas where small producers and indigenous communities have lived, with the resulting displacement and marginalisation of these populations.

### 3.1.3. Economic and social vulnerability

Economic and social impacts of the

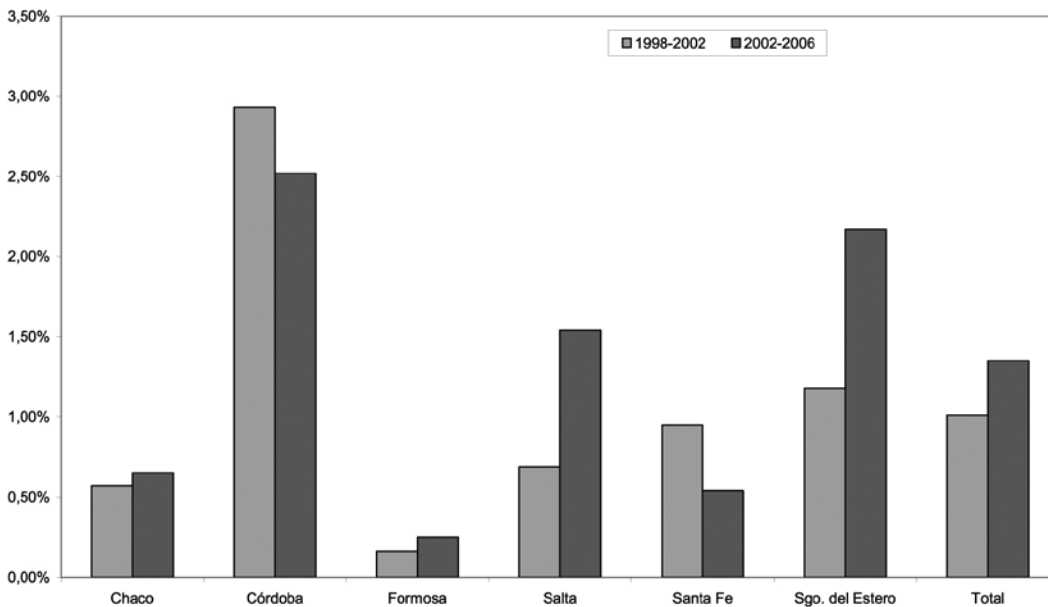
<sup>46</sup> This is a reference to Rachel Carson’s 1962 book, *Silent Spring*, one of the first alerting one the effects of widespread use of pesticides. See Lapitz et al. chapter 6 and the references there cited for greater detail.

<sup>47</sup> Pengue (2006), Teubal (2008).

<sup>48</sup> See Pengue (2005:319–320, 2006:18).

<sup>49</sup> Pengue (2006:15).

**Figure 5. Deforestation rates for selected Argentine provinces**



Source: Greenpeace Argentina (2007) based on official data.

industrial agriculture intensification process have had considerable impacts on rural populations and the national economy.

Intensification of agriculture and land use, combined with the technological package of which transgenic seeds are a part, has resulted in a displacement of small and medium producers from the countryside. This has led to a sustained process of concentration in land use, as larger producers rent the land from producers who, due the smaller scale of their productive capacity, cannot afford the machinery required.

The process of land-use concentration is confirmed comparing the latest

available data (the National Agrarian Census of 2002 with the previous census of 1988). Between 1988 and 2002, there are 24,5% less farming enterprises, whereas the average surface of these enterprises increased by 28%. These changes are a clear indication of the disappearance of small and medium producers.<sup>50</sup> The result of this process is the implantation of a model labelled “agricultura sin agricultores” (agriculture without farmers), since the industrial agriculture extensive use of machinery results in lower rural employment ratios.<sup>51</sup>

According to Teubal (2003) and Pengue (2006), the displacement of beef and other traditional crops by

<sup>50</sup> Giarracca and Teubal (2006), Teubal et al. (2005), Teubal (2003)

<sup>51</sup> Pengue (2005, 2006), Giarracca and Teubal (2006), Teubal (2008), Teubal and Rodríguez (2002), Cloquell et al (2007).



soybean production is a clear indication that soybean is on the way to becoming a monoculture. This process not only has environmental and social implications, but it could also severely damage Argentina's food self-sufficiency since Argentines, for the most part, don't consume soybean.

The expansion of the soybean industrial agriculture model has also increased Argentina's dependence on imported inputs. For example, only 16.6% of pesticides are produced locally. Of the remaining, 43.6% are imported and 39.8% are produced locally with imported basic chemicals.<sup>52</sup> Furthermore, over the last decades the international commerce of seeds, agrochemicals, and crops has become highly concentrated, increasing Argentina's dependence.<sup>53</sup>

#### **4. THE LINKS BETWEEN SOYBEAN PRODUCTION AND GOVERNMENT POLICY**

What are the reasons behind Argentina's dramatic soybean expansion? While there are both economic and policy reasons, we will focus in this section on government policies that had a direct impact on soybean expansion.<sup>54</sup>

Argentine government policy links to soybean production can be divided into two broad areas. A first area

has to do with specific legislative reforms introduced since 1976. A second area has to do with the current macroeconomic balance and the important role that soybean exports play in that. We shall tackle each in turn.

##### **4.1. Legislation links: deregulation**

There were key changes in Argentine legislation since 1976 that greatly aided the expansion of soybean production. The first key legislative reform was introduced by the military dictatorship and it consisted of a "flexibilisation" of the land rent laws. Agricultural land rent had been heavily regulated during the first Peronist government (1946-1955) in order to provide protection for small and medium producers.<sup>55</sup>

This led to a widespread prevalence of rent contracts "for one sowing season" (*contratos por una cosecha*) and a rapid expansion of short-term contract agriculture. Deregulation and technological change promoted a new form of industrial agriculture in which small and medium farmers, while retaining ownership of the land, lost control of its use transferring everyday management to a third party.<sup>56</sup> This has led to a rapid expansion of what became known as "sowing pools"

<sup>52</sup> Pengue (2005:318, 2004:5).

<sup>53</sup> Pengue (2004), Teubal (2003).

<sup>54</sup> For a list of economic reasons, see Pengue (2004, 2005).

<sup>55</sup> Teubal (2008:3).

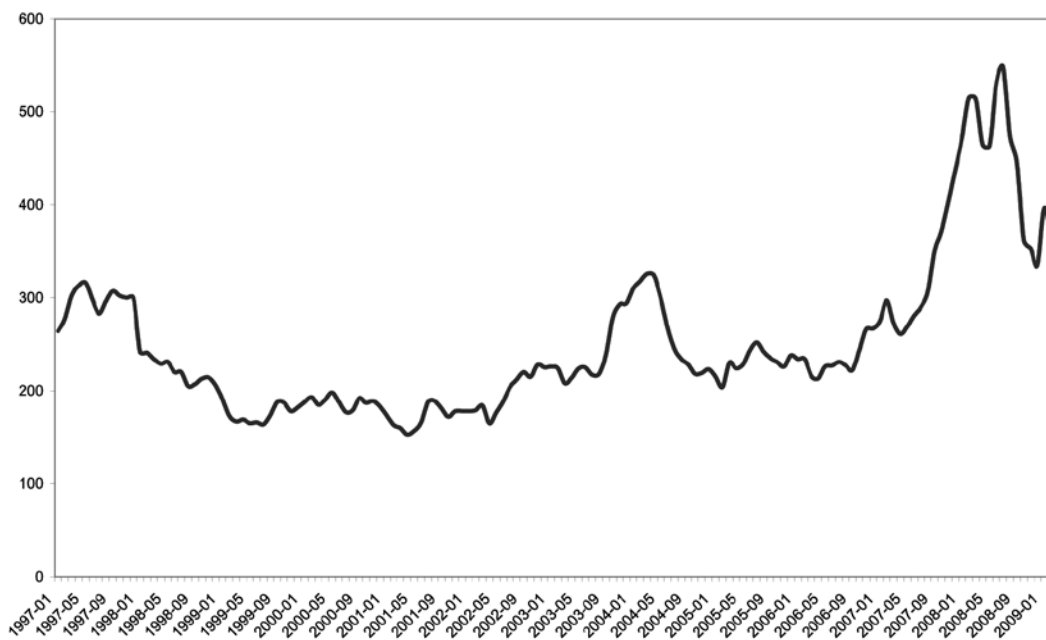
and the financialisation of agriculture, i.e., intensive agriculture with short-term profit objectives.<sup>57</sup> The rise in commodity prices, and particularly the rise in soybean prices (Figure 6) during the early 2000s, intensified this process, a local expression of what Wray (2008) calls “money manager capitalism”.

The second, and perhaps the most important, legislative change came during the Menem government through the Deregulation Decree (Decreto de desregulación).<sup>58</sup> This decree eliminated national institutions which had been in existence

since the 1930s, such as the Junta Nacional de Granos (National Grain Board), the Junta Nacional de Carnes (National Meat Board) and the Dirección Nacional de Azúcar (National Sugar Board). These institutions played a key role in regulating agrarian sector economic activity and in setting base prices (precio sostén) for different crops in support of small and medium producers. As a result of this decree, the Argentine agricultural sector became one of the most deregulated in the world.<sup>59</sup>

The final regulatory change was the

**Figure 6. Argentine soybean export prices (monthly, FOB, US dollars)**



Source: Secretaría de Agricultura, Ganadería, Pesca y Alimentos.

<sup>56</sup> Gudynas (2008).

<sup>57</sup> This the same process which occurred two decades earlier in non-financial corporations. See Crotty (2003) for an insightful account of this process.

<sup>58</sup> Giarracca and Teubal (2006), Teubal (2003).

<sup>59</sup> Teubal (2003), Teubal and Rodríguez (2002).

official permission in 1996 for the use of transgenic varieties in Argentine agriculture. This led to a massive expansion of genetically modified soybean (“RoundUp Ready”) and later, maize.

**4.2. Macroeconomic balance links**

As described in section 2.1. above, Argentina’s restructured debt-service schedule, augmented by new debt issues since 2005, implies that the country will have to maintain a large primary surplus and positive growth rates for many years in order to meet debt-service payments.<sup>60</sup>

Table 2 contains Argentina’s debt service schedule for the period 2010–2016. Debt service payments in 2010 amount to 8.2% of GDP. Since Argentina’s

primary surplus has averaged 2–3% of GDP in recent years, a debt service schedule of this magnitude means that Argentina will have to borrow heavily or restructure its debt. Between 2011–2016, assuming a modest growth rate each year, the country will also have to make a considerable fiscal effort to meet payments.

Obtaining a large primary surplus on a sustained basis depends on several factors in the Argentine case. First, it depends on high rates of growth since Argentina’s tax structure is highly dependent on economic activity.<sup>62</sup> Second, obtaining the primary surplus depends significantly on export growth since 15%–20% of fiscal revenues depend on export

**Table 2. Argentina’s debt service schedule 2010-2016 (millions of US dollars)<sup>61</sup>**

	2010	2011	2012	2013	2014	2015	2016
<b>TOTAL PUBLIC DEBT</b>	<b>27667443</b>	<b>13724917</b>	<b>11184759</b>	<b>12161639</b>	<b>14407871</b>	<b>13819500</b>	<b>18912158</b>
<b>% GDP</b>	<b>8.22%</b>	<b>3.96%</b>	<b>3.13%</b>	<b>3.31%</b>	<b>3.80%</b>	<b>3.54%</b>	<b>4.70%</b>
Capital	22400039	8813595	6269563	7555756	10170259	10049948	16108293
<b>% GDP</b>	<b>6.65%</b>	<b>2.54%</b>	<b>1.76%</b>	<b>2.05%</b>	<b>2.68%</b>	<b>2.57%</b>	<b>4.01%</b>
Interest	5267404	4911322	4915196	4605883	4237612	3769552	2803865
<b>% GDP</b>	<b>1.56%</b>	<b>1.42%</b>	<b>1.38%</b>	<b>1.25%</b>	<b>1.12%</b>	<b>0.97%</b>	<b>0.70%</b>
<b>Assumptions</b>							
GDP (nominal US dollars)	336677732	346778063	357181405	367896848	378933753	390301766	402010819
Growth rate	3	3	3	3	3	3	3

Source: Author’s calculations based on Ministerio de Economía data.

<sup>60</sup> Obtaining such results would require a break from Argentina’s two hundred-year history, since the country was never able to achieve such macroeconomic performance on a sustained basis.

<sup>61</sup> GDP projections are based on 2008’s nominal GDP in US dollars, and a growth rate of zero was assumed for 2009. Unfortunately, since 2007 Argentina has no reliable official statistics, so it is very difficult to have a clear idea of what is happening in the economy. Private growth estimates for 2009 vary, most are negative. A zero growth assumption is, therefore, a very conservative assumption. For the rest of the period a steady 3% yearly growth rate is assumed.

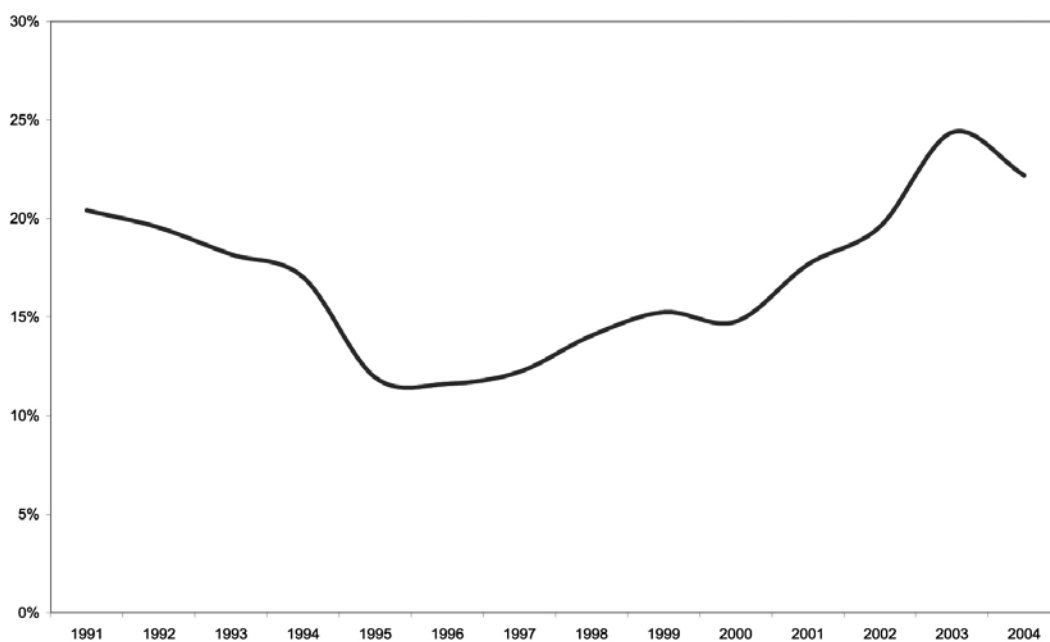
<sup>62</sup> High growth rates also impact debt service since many of the restructured bonds have “GDP-linked” coupons.

taxes. An important contributor to Argentina’s export tax revenue is the soybean crop and its derivatives (oil, flower, oilseed cakes, etc.).

Since the 2001–2002 Argentine crisis and peso devaluation, soybean production and exports have become a key component of Argentina’s fiscal revenue structure and macroeconomic balance. In order to reduce the impact of the devaluation on domestic food prices, the Argentine government introduced export taxes on most of the country’s agricultural exports, including soybean and its by-products.<sup>63</sup>

Figure 7 shows the evolution of soybean exports since the early 1990s. It is clear from the chart that soybean exports have grown considerably to the point where they represent between 20% and one quarter of Argentina’s total exports. Figure 8 shows the evolution of export tax revenue as a percentage of total fiscal revenue. It is clear from the graph that export taxes play an important role in the government’s accounts. The weight of export taxes as a percentage of total revenue has increased as a result of the increase in commodity prices between 2006 and 2008.

**Figure 7. Soy and soy product exports as a percentage of total exports**



Source: Author’s calculations based FAO and Mministerio de Economía data

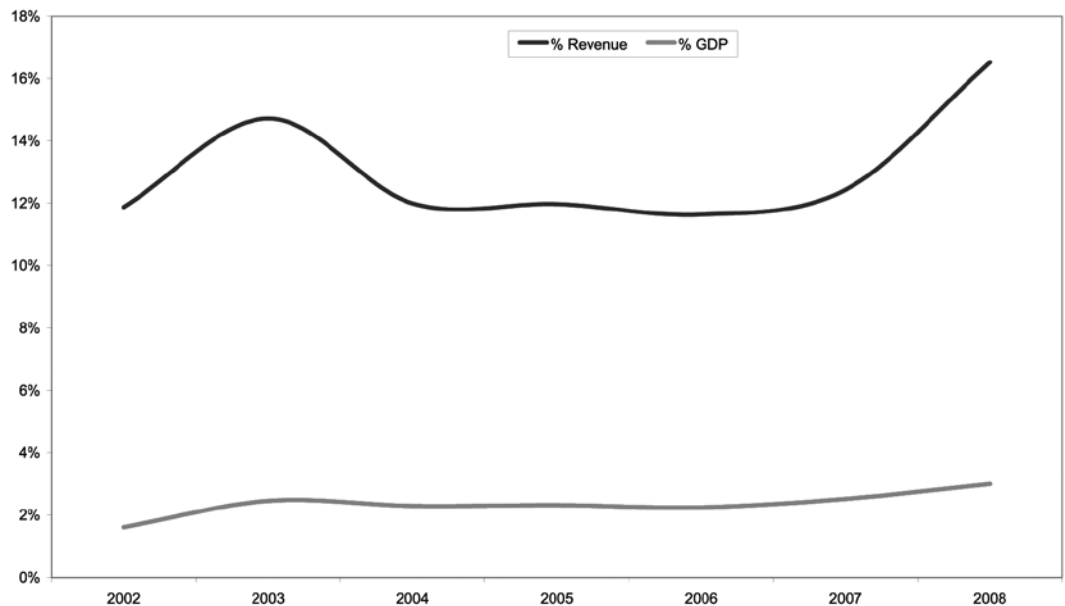
<sup>63</sup> Many of Argentina’s food exports are also consumed locally. After the devaluation, to prevent producers from charging world prices domestically, the government implemented export taxes to bring world and domestic prices closer together.

Also showing in **Figure 8** is export tax revenue as a percentage of GDP. As the Figure clearly shows, export tax revenue has been between 1.6 and 3 per cent of GDP since it was implemented. This is roughly equivalent to half of Argentina's public debt service load.

In other words, given the weight of soybean products in Argentina's exports,

and given the importance of export taxes for Argentina's fiscal account balance, and given the fiscal requirements of Argentina's hefty debt-service schedule, it is clear that soybean production and exports are of critical importance, at least in the short-to-medium-run. It is highly unlikely that any government policy will be implemented that will curtail soybean production.

**Figure 8. Export tax revenue as a percentage of total fiscal revenue and GDP**



Source: Author's calculations based on data from Dirección Nacional de Investigaciones y Análisis Fiscal

left  
Credit: Archives  
Instituto de Ecología  
Regional Argentina



right  
Credit: Archive  
BCBA



## 5. CONCLUDING REMARKS

Starting with the military dictatorship of 1976, Argentina has undergone a profound series of economic transformations aimed at eliminating state intervention in the economy through deregulation and liberalisation economic policies.

Deregulation policies had a substantial economy-wide impact, including in the agricultural sectors. One of these impacts was the introduction on a massive scale of genetically modified soybean. Soybean production has had, and continues to have, very substantial social, economic and environmental impacts, including displacement of small and medium

producers, dependence on agro-industrial imports, tendency towards monoculture, soil depletion, widespread contamination, loss of biodiversity and deforestation.

Given this picture, a national agricultural policy that gave priority to small and medium producers, food self-sufficiency and environmental sustainability has become not only desirable, but a necessity. However, given the importance of export tax revenues to Argentina's fiscal balance, and given the weight of soybean export in Argentina's total exports, it is unlikely that such a policy will be implemented in the short term. Contrary to what is desirable, the



*Mount Olivia, Arg.  
Credit Miguel Monjas,  
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current world economic crisis is likely to reinforce Argentina's dependence on transgenic soybean production, at least in the short-to medium-term.

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It should be clear from the above presentation that the State has played and continues to play a key role in directly or indirectly promoting or hindering environmental sustainability. Generalized environmental degradation over the past decades, coupled with the present crisis and its social and economic aspects, have brought the role of the State back to the forefront. There appears to be a growing consensus on the need for a State that is capable and willing to act to promote economic stability. Hopefully the realisation of the need

for a strong State to promote environmental sustainability will also materialize.



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dreamstime.com*

## 6. BIBLIOGRAPHY

Aguiar de Medeiros, Carlos (2008). "Financial dependency and growth cycles in Latin American countries". *Journal of Post Keynesian Economics*, 31(1).

Baker, Dean and Mark Weisbrot (2002). "The Role of Social Security Privatisation in Argentina's Economic Crisis." Washington, D.C.: Center for Economic and Policy Research.

Barsky, Osvaldo and Dávila, Mabel (2008). *La rebelión del campo: Historia del conflicto agrario argentino*. Buenos Aires: Editorial Sudamericana.

Cibils, Alan, Mark Weisbrot, and Debayani Kar (2002). "Argentina Since Default: The IMF and the Depression", Center for Economic and Policy Research, Briefing Paper, September.

Cibils, Alan and Lo Vuolo, Rubén (2007). "At Debt's Door: What Can We Learn from Argentina's Recent Debt Crisis and Restructuring?" *Seattle Journal for Social Justice*, 5(2).

Cloquell, Silvia, ed. (2007). *Familias rurales: El fin de una historia en el inicio de una nueva agricultura*. Buenos Aires: Homo Sapiens.

Crotty, James (2003). "The Neoliberal Paradox: The impact of destructive product market competition and impatient finance on nonfinancial corporations in the neoliberal era". *Review of Radical Political Economics*, 35(3).

Ferreres, Orlando (2005). *Dos siglos de economía argentina*. Buenos Aires: Fundación Norte y Sur.

Galasso, Norberto (2002). *De la Banca Baring al FMI: Historia de la Deuda Externa Argentina*. Buenos Aires: Colihue.

Giarracca, Norma and Teubal, Miguel (2006). "Democracia y neoliberalismo en el campo argentino: Una convivencia difícil" in Hubert, Gramont, ed., *La construcción de la democracia en el campo latinoamericano*, Buenos Aires: CLACSO.

Gabel, Ilene (1995). "Speculation-led economic development: A post-Keynesian interpretation of financial liberalisation programmes in the Third World." *International Review of Applied Economics* 9(2).

Greenpeace Argentina (2007). "Información sobre deforestación en las provincias (actualizado)". Junio. <http://www.greenpeace.org/raw/content/argentina/bosques/informaci-n-sobre-deforestaci.pdf>

Gudynas, Eduardo (2008). "The New Bonfire of Vanities: Soybean cultivation and globalization in South America." *Development* 51(4).

Kulfas, Matías and Marín Schorr (2003). *La Deuda Externa Argentina: diagnóstico y lineamientos propositivos para su reestructuración*. Buenos Aires: Centro Interdisciplinario Para El Estudio De Políticas Publicas (CIEPP) and Fundación OSDE.



Lapitz, Rocío; Gerardo Evia and Eduardo Gudynas (2004). *Soja y carne en el Mercosur: Comercio, ambiente y desarrollo agropecuario*. Montevideo, Uruguay: Coscoroba Ediciones.

Pengue, Walter (2004). "La ingeniería genética y la intensificación de la agricultura argentina: algunos comentarios críticos", in Alicia Bársena et al., *Los transgénicos en América Latina y el Caribe: un debate abierto*. Santiago, Chile: CEPAL.

Pengue, Walter (2004). "Transgenic crops in Argentina and its hidden costs" in Ortega, E. and Ugliati, S., eds., *Proceedings from the Biennial International Workshop Advances in Energy Studies*, Unicamp, Campinas, São Paulo, Brazil, June 16-19.

Pengue, Walter (2005). "Transgenic crops in Argentina: The Ecological and Social Debt". *Bulletin of Science, Technology and Society*, 25(4).

Pengue, Walter (2006). "La soja transgénica en América Latina". *Biodiversidad* n.47.

Rodríguez, Javier (2008). *Consecuencias económicas de la soja transgénica: Argentina 1996-2006*. Buenos Aires: CLACSO-Ediciones Cooperativas.

Teubal, Miguel (2001). "Globalización y nueva ruralidad en América Latina" in Norma Giarraca ed., *¿Una nueva ruralidad en América Latina?* Buenos Aires: Clacso.

Teubal, Miguel (2006). "Soja transgénica y la crisis del modelo agroalimentario argentino." *Realidad Económica*, n.196.

Teubal, Miguel (2008). "Expansión de la soja transgénica en la Argentina", *Global Development and the Environment Institute, Working Group on Development and the Environment in the Americas Discussion Paper N.22*.

Teubal, Miguel and Javier Rodríguez (2002). *Agro y alimentos en la globalización: Una perspectiva crítica*. Buenos Aires: Editorial La Colmena.

Teubal, Miguel; Domínguez, Diego and Sabatino, Pablo (2005). "Transformaciones agrarias en la Argentina: Agricultura industrial y sistema agroalimentario" in Giarracca, Norma and Teubal, Miguel, eds., *El campo argentino en la encrucijada: Estrategias y resistencias sociales, ecos en la ciudad*. Buenos Aires: Alianza Editorial.

Williamson, John (1990). "What Washington means by policy reform." In John Williamson, ed., *Latin American Adjustment: How Much has Happened?* Washington, DC: Institute for International Economics.

Wray, L. Randall (2008). "The Commodities Market Bubble: Money Manager Capitalism and the Financialisation of Commodities". *Public Policy Brief No. 96*. Annandale-on-Hudson, NY: The Levy Economics Institute.

# THE FINANCIAL AND FISCAL ROOTS OF DEFORESTATION IN THE AMAZON

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*Amazon deforestation  
Credit: Alexander Lees  
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BRAZIL:  
FINANCIAL LIBERALIZATION, FISCAL  
POLICY AND DEFORESTATION IN AMAZONIA

Starting in the decade of the 1930s Brazil started on a path to industrialization through import substitution. In the Latin American region, Brazil was perhaps the country that had a good industrial and technology policy articulated with import substitution. This was perhaps due to efforts to develop a strong military industry during some of the darkest periods of Brazil's recent history. This led to the definition of priorities for backward linkages and technological development, as expressed in the National Development Plan which explicitly defined the need for import substitution in the capital goods sector. The policy objectives at that time were not only industrial self-sufficiency, but also to attain scientific and technological autonomy in order to rid the country of its dependency in key areas such as chemicals and electronics.

The industrialization strategy led to the establishment and consolidation of a strong industrial base. Brazil became the only Latin American country that was able to advance in the domestic production of capital goods such as machine tools. But the conditions that allowed for the continuity in the industrialization strategy and the country's growth pattern were definitely broken in the eighties as a result of the debt crisis. Some of the most important consequences of the crisis were the loss of access to the international capital markets, together with the significant hikes in interest rates and the increased cost

in debt service and very high inflation rates.

As a result, macroeconomic policies were no longer oriented towards the needs of the ISI strategy. The main priorities after the eighties responded to the need to ensure debt service, to reduce indebtedness and to curtail inflationary pressures (Delgado 2008). After 1983, Brazil accepted the supervision of the International Monetary Fund over its main macroeconomic policy components. Brazil's policy makers were captured by the IMF recipes of constrained adjustment. There were four main principles that would determine macroeconomic policy from then on. The first principle was to cut government expenditures in order to reduce inflationary pressures and to increase the participation of the private sector in the economy. The second principle was to contain monetary supply and to keep high interest rates, again to control inflation, but also to attract foreign capital. The third principle was to control the exchange rate so as to maintain it as an effective instrument to fight inflation and to use it to promote exports. This meant that the exchange rate would have to be manipulated in order to have periods of overvaluation and undervaluation, according to the needs of the economy. The fourth principle was related to financial and trade liberalization, something that was thought would be an effective tool to attract foreign investments and further reduce public expenditure. Trade liberalization in

itself was seen as subordinate to the macroeconomic objectives of price stabilization, rather than responding to the notion of comparative advantages and efficient resource allocation.<sup>64</sup> Financial and trade liberalization were also seen as a way to deliver a clear message for all countries and international financial institutions that Brazil was seriously committed to maintaining an open economy model. This message was critical to assuage the concerns of foreign investors and increase credibility on Brazil's intentions.

Another key objective of macroeconomic policy in this period was to eliminate the current account deficit through significant surpluses in the trade balance. For this, the undervaluation of the exchange rate was used. Thus, the drop in commodities' prices of the eighties was compensated by a devalued exchange rate. Thus, a recessive macroeconomic policy was adopted, together with a shift in favour of the sector of tradable goods. In the future, export led growth would replace the old import substitution strategy.<sup>65</sup>

In the context of the strategic transformation, a highly recessive reduction

of aggregate demand was enforced through monetary and fiscal policies, as well as the contraction of real wages. The implementation of these policies took place through a drastic contraction of public expenditures, high interest rates, a tightening of money supply, as well as restrictions on credit. In spite of this package of contractionary policies, stabilization remained an elusive goal. Some temporary successes were attained, but the spectre of hyperinflation haunted the Brazilian economy since 1987. In the early nineties, inflationary pressures really went out of control: in 1993-1994 the year to year inflation rate surpassed the 5,000% mark. It was clear that Brazil had been ensnared in a policy dilemma. The trade surplus objective had been attained in a very adverse international context, but the undervaluation of the exchange rate had strengthened inflationary pressures, in spite of the recessive fiscal and monetary policy postures.

To meet the challenges of this new predicament a new macroeconomic policy package was implemented: the Plano Real was born in 1994. Its most important component was the introduction of a new currency, the

<sup>64</sup> This is another interesting example of how macroeconomic policy priorities dominate trade liberalization. The same can be said of Mexico's decision to proceed with trade liberalization. In 1987, when authorities decided the country should become a member of the GATT, the main objective was the need to control inflation through cheaper imports.

<sup>65</sup> The macroeconomic policy used in the midst of the crisis in the eighties used to main types of approaches: the reduction of aggregate demand (through monetary and fiscal policies) and the shifting of aggregate expenditure (through trade and exchange rate policies). In countries such as Brazil, this latter approach was to modify the composition of domestic aggregate demand and, through this, have some bearing on the trade balance.

real, which was pegged to the U.S. dollar.<sup>66</sup> This was designed to stabilize inflationary expectations and thus bring about higher investment rates, spurring growth, fiscal revenues and employment. On the fiscal policy front, the new plan included a mandatory balanced budget approach which included generalized indexation of wages, performance of several key financial assets, taxes and a wide variety of contracts. The objective here was to put a brake on inflationary expectations associated to the fiscal profligacy of the past decades. It was thought that indexation would bring about stabilization and would be critical for the monetary reform component.

The Plano Real succeeded in bringing stability and putting a lid on inflationary pressures. However, the reduction of inflation was not instantaneous and this led to a significant overvaluation of the new currency. This deteriorated the trade balance and the current account deficit continued to weigh heavily and the currency gap had to be covered through movements in the capital account. Thus, the commitments to maintain a strict monetary posture, with high interest rates and exchange rate stability seemed credible enough to the international financial community for a short period of time.

However, the high interest rates had very serious implications for investment

and growth rates. Unemployment rates increased from 4.3% in 1994 to 7.9% in 1998. Many firms had to close down as they could not complete with the foreign imports that were being buttressed by the overvalued real.

The contradictions of the open economy model that we have examined above started to play a role in the Brazilian economy. The capital inflows provided an artificial support to Brazil's capacity to continue importing, but they also contributed to appreciate the exchange rate. Of course, the appreciation of the new currency due to capital inflows was aggravated by the commitment to maintain its value pegged to the U.S. dollar. On top of this, as the dollar strengthened in the mid-1990s, the real appreciated against other currencies. In the end, the ability of Brazil to sustain large current account deficits through a surplus in its capital account was called into question. After the Mexican crisis in 1994, brought about by a sudden reversal of capital flows, it became clear that the Brazilian economy had become highly vulnerable to a similar danger. The Asian crisis in 1997 and the Russian bond default in 1998 increased the perception that risk in the so-called emerging markets was simply too big. The probability of Brazil suffering a speculative attack on its currency was increasing every

<sup>66</sup> The real's value was set using a predetermined rate against the dollar. The system included a scheme for daily mini-fluctuations around the target value. This did not prevent the appreciation of the currency.

year and fund managers that were taking advantage of arbitraging opportunities in Brazil started to doubt the country's capacity to sustain the real.

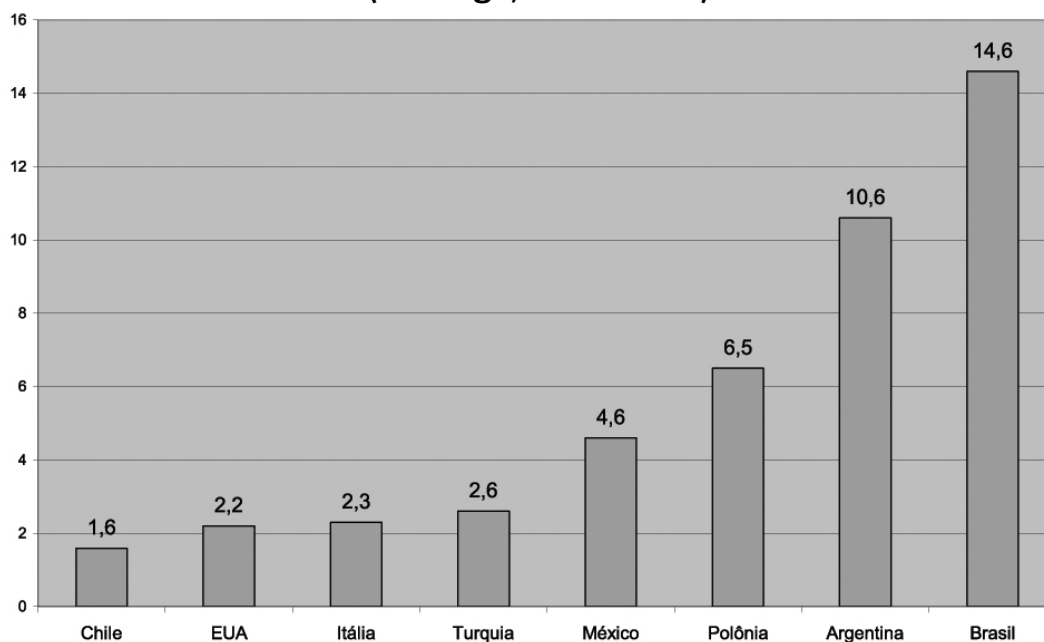
Early in 1999 Brazil's central bank decided to widen the mini-band system, a move that amounted to a de facto devaluation. The result was a stampede in capital flight and a much more severe adjustment in the real's value: the exchange rate dropped dramatically and by February the real was trading at 1.80 to the dollar. The decision to abandon the mini-band system was taken and short term interest rates were increased to 39%. Longer term rates continued to show very high levels, as shown in **Figure V.6**, with negative implications for investment and growth. This contributed to temporarily stabilize things, and

the drastic fiscal adjustment lead to a better performance in debt service.

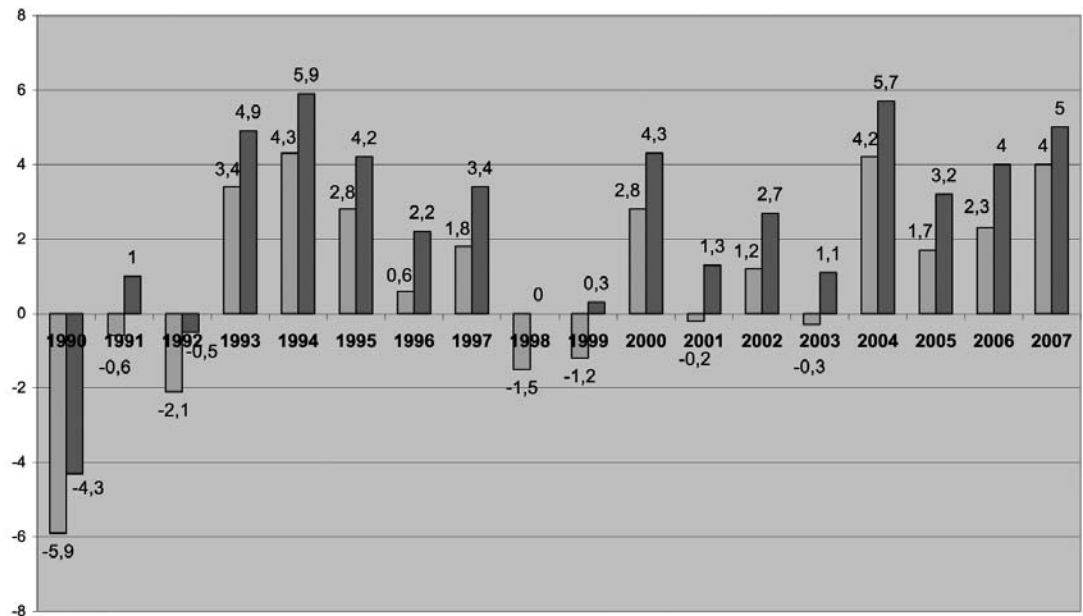
The historical balance of the Plano Real is a mixed bag of results on several fronts. Although hyperinflation was avoided, and stability was restored, the price for that was indeed very high. Not only was Brazil rendered more fragile and vulnerable, its economy was slowed down, with several very negative implications. **Figure V.7** shows how the period was marked by very slow rates of growth and even drops in income per capita as the high interest rates that accompanied the Plan Real took their toll.

In the end, the Plano Real had left 2.6 million newly unemployed persons between 1995 and 2002. In spite of

**Figure V.6 Real Short Term Rates in Selected Countries  
(Average, 1996-2002)**



Source: Sergio Schlesinger, *Brazil Country Study*.

**Figure V.7 GDP and GDP Per Capita Growth Rates (1990-2007)**

Source: Sergio Schlesinger, *Brazil Country Study*.

the reduction in inflation rates, income distribution was only marginally altered, with the Gini coefficient evolving from 0.574 to 0.563 with GDP increasing 2.3% per year during that period.

The most dramatic indicator of fiscal policy was that between 2000 and 2007, federal investment, as well as expenditures in education and health represented only 43% of the total amount allocated to interest on the public debt.

In 2003 the new government of Lula took office in Brasilia. Several indicators contributed to generate an optimistic perspective for the future of the Brazilian economy. Several factors at the international level, including the depreciation of

the US dollar, caused the real to lose in its value. The rapid expansion of the Chinese economy contributed to increase the price of several key commodities of agricultural and industrial origin in the international markets. And a renewed impetus of capital flows brought helped establish a new pattern of stable external accounts. Although imports expanded by 156% in 2002–2007, exports grew by 166% during the same period. Brazil was able to keep more than 200 billion USD in reserves by 2008. However, the current account started to deteriorate once again in 2008, with a deficit of 10.7 billion in the first quarter. In addition, the external debt (public and private) increased from 215 in 2007 to 254 billion US dollars a year later. Servicing this debt continues to weigh heavily on

the country's economy. **Table V.8** below shows how the external debt has evolved over the last three decades.

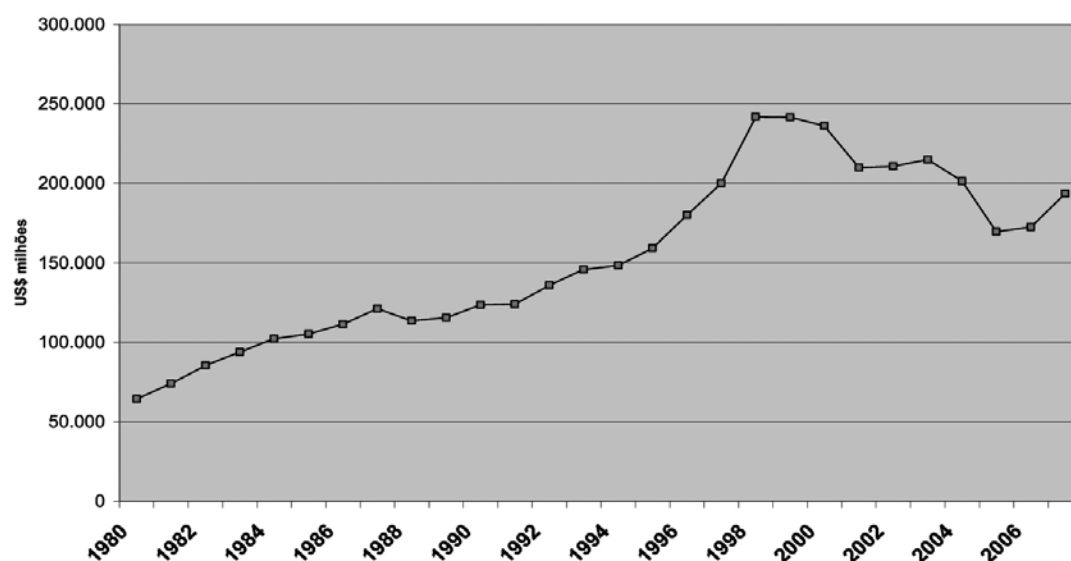
To summarize, Brazil's macroeconomic policies have been shaped by its debt burden. While monetary policy is obsessed with price stability, fiscal policy is dominated by the short term objective of generating a primary surplus.<sup>67</sup> This process constitutes a deviation of resources from the real sectors of the economy (and from the real needs in education, health, housing, transportation, infrastructure and science and technology) to the financial sector of the economy. Consider the following: during the first semester of 2008, Brazil generated a primary

surplus (income over expenditures, without considering debt service) of 55 billion dollars, a sum that represented 6% of GDP and allowed the government to surpass the annual goal of 3.8% of GDP. But during that first semester, interest payments on the Brazilian debt amounted to 56 billion, and this left a total public deficit of 0.14% of GDP.

### FINANCIAL LIBERALIZATION AND FISCAL POLICY: CHANGING THE RURAL LANDSCAPE

Controls over capital flows and investments were part of the macroeconomic policy package that accompanied the ISI strategy. These controls were established in Brazil as a part of the

**Figure V.8 Brazil's External Debt (1980 - 2007)**  
(USD billions)



Source: Sergio Schlesinger, *Brazil Country Study*

<sup>67</sup> This has been a more or less constant in Brazil's fiscal stance. In 2009, as a result of the international financial crisis, Brazil's economy weakened and fiscal revenues dropped. Also, the implementation of countercyclical measures (such as tax breaks and increased public spending) will prevent Brazil from reaching the goal of a primary surplus of 2.5% of GDP.



Bretton Woods regime and they had also served as a buffer from the volatility in the international economy in the seventies. When the Bretton Woods system was abandoned by the developed economies in the world, Brazil kept the old system of controls in place, but gradually started to feel the pressure to relax some of these restrictions. It would take several years to dismantle this system and attain full financial liberalization.

As we have seen, in the eighties and nineties, Brazil needed to attract foreign capital in order to close its currency gap. In 1988 a currency market with floating exchange rates was established, access to foreign currency became easier and greater flexibility in financial operations was introduced for all agents. But by far the most important measure was taken in 1992, when free flows of capital and profit remittances by foreigners were authorized.

This was the definitive measure for financial liberalization and established, for the first time in Brazil, the possibility to transfer resources to a foreign country without the need to show that they had an incoming registry or counterpart in the capital account. Institutional investors were allowed to take part in the privatization program. These and other measures (tax exemptions and rebates, allowance of royalty payments for technology and technical assistance between subsidiary and head firms, etc.) es-

tablished a degree of financial liberalization that was unique in Brazil's history. Portfolio investments could now benefit from its arbitraging operations, taking advantage of Brazil's high interest rates and exchange rate stability.

In the 1990s a second wave of measures to secure this financial liberalization. Foreign financial institutions were allowed to settle, expand and consolidate their presence in Brazil. Banks were allowed to obtain external resources and to carry out swap operations with foreign entities. And it is precisely in the year 2000 that the Cargill Bank, as well as other banks belonging to foreign multinational corporations, initiated its operations in Brazil. Their role was to be the financial and credit arm of their operations, pushing for deeper market penetration of their products and strengthening their commercial and industrial presence in the country. But perhaps more important, these banks were the main instrument to get control over primary production and thus the source of its main raw material. This was seen by corporations such as Cargill, Archer Daniels Midland and Bunge as the way in which they could strengthen their industrial, commercial and financial operations.

Contract agriculture was a by-product of the financial predominance of these firms in the regions where rapid expansion of soybean took place. A typical contract involves the promise

to deliver a certain amount of soybean is exchanged with the supply of inputs even before sowing. Many of these operations are coordinated by cooperatives, trading companies and input producers. In other cases, especially when harvest is going to take place, other forms of credit with working capital are more common. More than 80% of total output of soybean is acquired by five or six large trading companies (Cargill, Bunge, ADM, Dreyfus and Maggi are the largest of these).

The proliferation of these contracts is not so much related to the virtues of the crops or technology and depends more on the lack of credit and support which was provided by public agencies in the past. In all cases, farmers lose control of the production process. This was to become a powerful instrument for these companies due to the high cost of credit. We have already seen that Brazil was maintaining some of the highest interest rates in the world, and because price stabilization was paramount in the agenda of monetary policy, credit was scarce and the banks of the large corporations were to play a key role in filling the gap between demand and supply for commercial credit. In addition, in the case of agriculture, the withdrawal of State support had already left a huge vacuum as development banks saw their

operations severely curtailed. As fiscal policy became dominated by the need to generate a primary surplus, the subsidies that had been channeled to the agricultural sector via soft loans and credit by the development banks almost disappeared.

If agricultural production received significant public resources in the form of credit and subsidies during the seventies and even the eighties, in the 1990s those resources were drastically cut by fiscal policy makers. The most important comparison is the following: in 1985, central government agencies were covering 92% of credit, but this dropped to 40% in 1988 and 29% in 1989. In value terms, this reduction was even more dramatic, with a drop of more than 83% in 1980 - 1990. As the provision of credit through public agencies collapsed (due to the fiscal crisis), the trading companies and the larger MNCs with their banks occupied the space that had once been the responsibility of State agencies.<sup>68</sup>

The resources that were used by these banks were basically channeled to rural producers and cooperative firms to cover investments in modernization of productive infrastructure, as well as for the purchase of agricultural inputs. Mostly, these loans lead to various forms of commercial agriculture in which the key

<sup>68</sup> The subsidies and support that still subsist in Brazil are concentrated in the larger commercial producers and firms, especially those related to exporting agri-business. In the 2004/2005 cycle, for example, big landowners and their firms obtained R\$ 39 billion, while the smaller farmers had access to only R\$ 7 billion. These smaller farms represent 57% of total farming units, while the medium and large farms represent 13% and 30%.

decisions on output and the technology mix were taken away from producers. The international context made Brazil a country especially attractive for activities in sectors closer to the natural resource base. Other policy measures reinforced this trend. First, there was a lax environmental legislation and a very weak enforcement infrastructure. Second, imports for goods that are important for agribusiness underwent very significant deregulation. Third, and perhaps more important, was the authorization to harvest genetically modified crops. This was of course related to Brazil's acceptance of the TRIPs agreement in the context of the World Trade Organization.

This combination of factors made foreign direct investment the main driver for the expansion of a new agricultural model in various key regions in Brazil. Several large multinational

corporations took advantage of the new favorable context in order to gain access to alternative sources of raw materials and land. This last resource is of course critical for the large MNCs in agri-business. The older MNCs (Cargill, Bunge, Dreyfus) that had been operating in the Brazilian economy since the days of the import substitution strategy reacted to the evolving context and the challenge of the newest competitors (Archer Daniels Midland) by rapidly expanding their operations in order to protect their control over the supply of the commodities that were the most profitable (soybean).

One aspect of this strategy was to take advantage of the deregulation of the FDI regime and a wave of mergers and acquisitions (M&A) took place. Many of the local firms, small and medium producers, were already in bad shape due to the series of crises



Harbor  
Credit: Marc Ryckaert  
Wikimedia Commons

and adjustment measures, lack of credit, etc. Their underpriced assets offered advantages to the expanding MNCs as they still had important networks of suppliers in strategic regions. As the entire sector was being restructured, M&A multiplied: between 1994 and 2003, 312 separate operations were registered in the food, beverages and tobacco sectors, making it the number one sector in this field. And 80% of these operations corresponded to MNC's. The largest four corporations (Cargill, Bunge, Dreyfus and ADM) have bought small and medium firms in all stages of the production process in Brazil. This explains why the share of FDI in the food and beverages sectors increased from 0.6% in 1998 to 11.3% in 2002.

Other branches of the manufacturing sector were also targets of this expansion and vertical integration process. Many manufacturers and suppliers of agricultural machinery and tools, fertilizers and pesticides, as well as in the field of agro-biotechnology, were bought by the expanding MNCs.<sup>69</sup> Finally, several chains of marketing firms were also acquired and this sealed the vertical integration process, from primary production (through contract agriculture) all the way to marketing.

By losing control of production decisions, farmers' vulnerability has increased. In the context of the 2008/2009

global financial crisis, they have very little resources to act as a buffer between their enterprises and market volatility. For example, the crisis is expected to take a heavy toll on the operations of the big trading companies and the supply of credit is already being drastically reduced. In 2009, it is expected that a larger part of credit will be supplied directly by producers. Obviously, this means that output will have to fall and this will lead to a larger amount of defaults on previous loans. In the case of agricultural machinery, already the pace of foreclosures has intensified.

This process has left behind a series of deep changes in the rural sector and the environment. Family farms, which are less capital intensive and provide up to 70% of rural jobs, have been one of the first casualties. Between 1985 and 2005, the number of family farms dropped significantly and, with this, rural employment also suffered a severe fall. Most of soybean production takes place in large scale commercial operations that are capital intensive and employment generation is low: roughly ten full-time jobs for every thousand hectares, with six of them temporary jobs. Land concentration is also well documented, with the consequent generation of landless labourers.

As a direct consequence of the evolution we have analyzed here, soybean production underwent a dramatic

<sup>69</sup> The agricultural manufacturing sector shows a similar pattern with banks such as New Holland and John Deere acting as suppliers of credit to rural producers and, once again, filling the vacuum left by the withdrawal of State agencies. Brazil's agri-biotech sector is 100% controlled by MNCs. Monsanto, through its fully owned subsidiary Monsoy, is responsible for 60% of production. Pioneer (controlled by Dupont) controls 14%, and Dow, Zeneca and Agr-Evo control the remaining 10%.

expansion. In the period 1991–2005, the surface devoted to soybean tripled and by 2006 this crop was occupying more than 22 million hectares, a surface that was roughly equivalent to the one devoted to the other four main staple foods grown in Brazil (rice, wheat, beans and millet). Total output of soybean reached 58 million tons, approximately 25% of world production. The West Central region in Brazil experienced the most rapid rates of growth, advancing on the vegetation of the cerrado biome where 40% of Brazilian soybean production is taking place.

It is important to underline that these macroeconomic policies combined have also favoured the expansion of speculative capital in Brazil's agri-business. Crops such as sugar, for example, have expanded at even faster rates than soybean in some regions due to expectations of ethanol price in the near future. The problem, of

course, is that if these expectations are not confirmed by market trends and prices go down, producers will likely get stuck in a very difficult situation. The experience of these boom and bust cycles in agriculture is well known, but when liquidity abounds in international markets, the speculative tendency actually worsens. The social and environmental impact of these attacks on entire agro-ecosystems parallel the effects of financial crises as capital flows are reverted.

### ENVIRONMENTAL EFFECTS

Financial deregulation, combined with a restrictive monetary policy that curtailed credit and a contractionary fiscal policy responding solely to the generation of a primary surplus have led to this extraordinary expansion of agri-business. There are several important environmental impacts from this process. The first is the loss of agro-biodiversity, as the expansion



*Amazon Rainforest*  
Credit: Mart St Amant,  
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of monoculture takes place. This has brought about widespread pollution of soils and aquifers because these crops are heavy users of chemical inputs.

**Table V.3** shows the ranking of land use practices in Brazil. By far, livestock continues to be the most important activity, but several commercial crops are growing in importance. The second type of damages comes from the destruction of the cerrado, a sprawling savanna in central Brazil that has more than two million square kilometers in Central Brazil (about 24% of its territory). The region hosts forty ethnic groups (with 45,000 indigenous people), several of which face the threat of extinction. In terms of biodiversity, this is one

of the richest savannas in the world, with 12,000 plant species and 2,000 animal species, many of which are endemic to the cerrado. This vast region does not have a system capable of monitoring environmental degradation and resource management practices.

According to official data, in 2007 39% of the cerrado's surface has already been converted for livestock production (26%) or agriculture (10%).<sup>70</sup> In the states of Mato Grosso do Sul, Goiás, São Paulo and the southern part of Minas Gerais, the Cerrado has already disappeared.

In addition, rates of destruction of the cerrado remain at very high levels. In 2004 Conservation International estimated

**Table V.3**

<b>Brazil: Land Usage Patterns in 2007/2009</b>	
<b>(Million hectares)</b>	
Livestock	199
Soybean	21.6
Millet	14.2
Sugarcane	7.7
Eucalyptus or Pine (plantations)	6
Beans	4.2
Rice	2.9
Wheat	2.4

Source: Sergio Schlesinger, *Brazil Country Study*

<sup>70</sup> The data comes from the Conservation and Sustainable Utilization Project of Brazilian Biological Diversity that was carried out by the Minister of the Environment. A study by Conservation International claims that 55% of the cerrado had been already transformed in 2002. Another WWF study is even more pessimistic, considering that only 19% of the original cerrado vegetation remains untouched.

that 1.5% of the total surface of the biome was being destroyed every year. Another study by the University of Goiás, The Nature Conservancy and Conservation International estimated that rate at a lower level, 0.25% per year, but warned that this could accelerate with the expansion of crops for biofuels. Finally, a study by the Cerrado-Pantanal Program of Conservation International states that the region may have already lost 13% of its biodiversity.

Finally, the third problem is related to the deforestation of the Amazon rain forest. Direct destruction of the rainforest through the expansion of soybean has already been identified by Greenpeace and other NGOs. But perhaps the most powerful effect

comes from the reallocation of previously deforested areas to soybean production. This land was formerly used for ranching, and the cattle raising activities have been displaced into regions in the Amazon basin. Brazil already is the largest producer of commercial livestock (with two hundred cattle). And because this is done through extensive methods, (it is estimated that one head of cattle requires one hectare) cattle production occupies the first place in land usage.

But the pressure from monoculture crops (soybean and sugarcane) is having a critical impact in displacing cattle production from the states in Central-West, South and Southeast Brazil into the regions of Legal Amazonia. This is confirmed by official



*Deforestation*  
Credit: A. Lees  
[www.dicyt.com](http://www.dicyt.com)

data which shows that the number of cattle in the North and Central-West of Brazil, precisely where the Amazon rainforest is located. **Table V.4** reveals that the fastest growth rates of cattle are precisely in these fragile regions, with all of its environmental impacts. This appears to be “logical” step because the land in the Amazon basin is not suitable for harvesting commercial

**Table V.4 Brazil: Cattle by Region, 1995-2005**

	<b>1995</b>	<b>2005</b>	<b>Variation %</b>
<b>Brazil</b>	<b>161.227.938</b>	<b>207.156.696</b>	<b>285</b>
North	19.183.092	41.489.002	1163
Central West	55.061.299	71.984.504	307
Southeast	37.168.199	38.943.898	48
South	26.641.412	27.770.006	42
Northeast	23.173.936	26.969.286	34

Source: Sergio Schlesinger, Brazil Country Study



Wind Farm  
Cedit: O Tétard,  
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monoculture crops such as soybean and sugarcane. Ranching is expanding in areas where land is cheaper and competition with commercial crops can be evaded. Ranching is and will continue to be the main driver for deforestation in Amazonia, representing 80% of total deforested land, and this is being intensified by its displacement from land reallocated to soybean and sugarcane production.

Macroeconomic policies, in the monetary and fiscal front, as well as financial deregulation, have set the stage for this tragedy. In the context of intense inflationary pressures, high indebtedness, a restrictive monetary policy that curtails credit, financial liberalization and a fiscal policy preoccupied solely by generating a primary surplus, the vacuum left by the withdrawal of support for small scale agricultural activities, has been occupied by large consortia. These have brought about a radical transformation of the rural landscape in Brazil, with deep and long lasting environmental consequences,

*Top  
Archive  
financialred.com*

threatening not only the Amazon rainforest itself, but the last remains of the unique biome of the cerrado.



*bottom  
Industry  
Credit: N Bildhauer,  
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## REFERENCES

Rangel, A. *Diagnóstico de C&T no Brasil*. MCT, 1995.

Mark Delgado, N. (2008) *Liberalização Comercial e Agricultura Familiar no Brasil. A Experiência das Décadas de 1980 e 1990*. Grupo de Trabalho sobre Desenvolvimento e Meio Ambiente nas Américas. Documento de Discussão nº 25, 2008. Available at <http://ase.tufts.edu/gdae/Pubs/rp/DP25DelgadoJuly08.pdf>.

Delgado, N. *A questão agrária no Brasil, 1950-2003*. In: JACCOUD, L. (org.). *Questão Social e Políticas Sociais no Brasil Contemporâneo*. Brasília: IPEA, 2005, p. 51-90.

Jesus, A. *Uma Análise da Balança Comercial no Brasil a partir do Plano Real*. Centro Universitário de Desenvolvimento do Centro-Oeste, Luziânia, Goiás, 2007.

Veríssimo, M. e Brito, M. *Liberalização da conta de capital e fluxos de portfólio para o Brasil no período recente*. Universidade Federal de Uberlândia, 2004.

Ipea: *País gasta mais com juro do que com saúde e educação*. *Invertia*, 12/11/08.

Ministério do Desenvolvimento, Indústria e Comércio Exterior. *Balança Comercial Brasileira, janeiro-dezembro de 2007*.

CARVALHO, F. e SICSÚ, J. *Controvérsias recentes sobre controles de capitais*. *Revista de Economia Política*, São Paulo, v. 24, n. 94, p. 163-184, abr./jun. 2004.

Laan, C. *Liberalização da conta de capitais: evolução e evidências para o caso brasileiro recente*. Rio de Janeiro, BNDES, 2007.

Schlesinger, S. *O grão que cresceu demais. A soja e seus impactos sobre a sociedade e o meio ambiente*. Rio de Janeiro. FASE, 2006.

Bruch, K. et. al. *Barreiras à entrada no mercado brasileiro de sementes transgênicas*. Ribirão Preto, SP. Sociedade Brasileira de Economia e Sociologia Rural, 2005.

FONTE: CEPAL. *La inversión extranjera en América Latina y el Caribe*. Santiago do Chile: A Comissão, 2002. p. 33.

Complexos. *Biotecnologia e agronegócio*. MDIC. Disponível em [www2.desenvolvimento.gov.br/.../51biotecnologiaAgronegocios.pdf](http://www2.desenvolvimento.gov.br/.../51biotecnologiaAgronegocios.pdf), acesso em 05/05/09.

GASQUES, J. e VERDE, C. *Gastos públicos na agricultura: evolução e mudanças*. *Bahia Análise & Dados Salvador*, v. 12, n. 4, p. 133-154, março 2003.

CASTRO, A. *Estudo da competitividade da indústria brasileira. Competitividade na indústria de óleos vegetais*. Nota Técnica Setorial do Complexo Agroindustrial. MCT, Campinas, 1993.

BELIK, W. e PAULILLO, L. *Mudanças no Financiamento da Produção Agrícola Brasileira*. Campinas. Unicamp, 2003.

LAZZARINI, S e NUNES, R.. *Competitividade do sistema agroindustrial da soja*. PENSA/USP, 1998. Disponível em [www.fundacaofia.com.br/pensa/pdf/.../Vol\\_V\\_Soja.PDF](http://www.fundacaofia.com.br/pensa/pdf/.../Vol_V_Soja.PDF)

Rosemeire Cristina dos Santos, assessora técnica da CNA. *Sojicultor banca fatia maior da produção*. Gustavo Hennemann. *Folha de São Paulo* 22/4/2009.

Alda do Amaral Rocha. *Sojicultor de Mato Grosso esvazia o bolso para financiar safra 2008/09*. *Valor Econômico*, 16/03/2009.

*Falta de crédito assusta produtores de soja do Mato Grosso*. Agência Reuters, 16/03/09.

*Cargill pretende expandir financiamento a produtor*. *Valor Econômico*, 26/05/09.

CAMPOS, A. et. al. *Integração nas Américas: uma abordagem a partir do rural, in Comércio internacional, segurança alimentar e agricultura familiar*. Rio de Janeiro. Action Aid Brasil, 2001.

Agência Carta Maior. *Movimentos sociais reagem ao “tratoração” do agronegócio*. Junho de 2005.

CONAB. *Acompanhamento da safra brasileira de grãos. Safra 2007/2008. Oitavo Levantamento*. Maio de 2008.

FAPRI. *U.S. and World Agricultural Outlook. Food and Agricultural Policy Research Institute*. Disponível em [www.fapri.org/outlook2007](http://www.fapri.org/outlook2007).

WHITE, C. et al. *Soy Expansion in the Brazilian Amazon Region: a local and global social and environmental dilemma*. <http://www.ambafrance.org.br/refeb/projets>.

Ricardo Castillo, por Luiz Sugimoto em *Soja, perigo nos novos fronts*, *Jornal da Unicamp*, nº 249, maio de 2004.

Schlesinger, S. e Noronha, S. *O Brasil está Nu! O avanço da monocultura da soja, o grão que cresceu demais*. Rio de Janeiro. FASE, 2006.

FERNÁNDEZ, A. *Estudo de caso sobre a soja no município de Sorriso*. FASE, mimeo, 2005.

Enio Rodrigo. *No coração do gigante*. Disponível em <http://www.comciencia.br/comciencia/?section=8&edicao=42&id=508>, acesso em 16/07/09

Cristina Caldas. *A busca por números da devastação*. Disponível em <http://www.comciencia.br/comciencia/?section=8&edicao=42&id=515>, acesso em 16/07/09.

Germana Barata. *Megadiversidade corroída em ritmo acelerado*. Disponível em <http://www.comciencia.br/comciencia/?section=8&edicao=42&id=506>, acesso em 16/07/09.

Greenpeace. *A farra do boi na Amazônia, junho de 2009*. Disponível em <http://www.greenpeace.org.br/gado/FARRAweb-alterada.pdf>, acesso em 05/06/09.

# **COSTA RICA: FISCAL POLICY AND PAYMENT FOR ENVIRONMENTAL SERVICES**

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*Bridge  
Credit: Kady  
[www.kadilea.es.tl](http://www.kadilea.es.tl)*

This small Central American republic has maintained a democratic and non-military tradition. It is also perceived as one of the most environmentally conscious countries in the region. Although this country has a tiny fraction of total landmass, it has 5% of the world's biodiversity. Its varied terrain, situated in an isthmus, and its tropical and subtropical climate regimes make it ideal for biodiversity. Costa Rica has also seen a succession of egalitarian regimes and has a unique social welfare system providing health and education services. Although poverty has remained at a constant level over the past decade (20% of population is considered to live in poverty, according to data from the Inter-American Development Bank, IDB) and inequality in income distribution has increased.

Although free trade zones are providing a significant part of the country's hard currency needs, exports continue to be based in commercial agricultural crops. Costa Rica continues to be the region's most important beef exporter to the US. Industrialization policies helped develop some light industries (food processing, chemical inputs, textiles, some electronic components). Tourism has now become the second largest source of foreign exchange. The renewed emphasis on eco-tourism may help make Costa Rica a showcase of development strategies that are sustainable. But the beauty and ecological variety of this country is a

small fraction of what used to be its treasure. From being 100% covered by lush forests, Costa Rica has been deforested and its soils degraded: only 15% of the original forest remains and most of its soils have been seriously affected by agricultural practices. Fortunately, national protected areas have multiplied and government appears to be seriously committed to preserving what's left. However, these remaining riches are seriously threatened by new patterns of growth and several economic forces.

### EVOLUTION

In the years after WWII, food-sufficiency was emphasized in the midst of the import substitution strategy. GDP growth maintained satisfactory rates and per capita income improved steadily, while income distribution remained at equitable levels. But the structure of exports was skewed in favour of coffee and when these prices collapsed in the seventies, together with the hike in oil prices, the external deficit became unsustainable. In the early eighties Costa Rica had already entered a pattern of high indebtedness and 60% of its export earnings were being devoted to debt service. As the debt crisis was detonated, Costa Rica declared a moratorium, a measure that cut its access to new loans. This is when Costa Rica turned to the World Bank and the IMF.

Costa Rica was the first country in Central America to undergo a process of structural adjustment under the

direction of the International Monetary Fund (IMF) and the World Bank. The Costa Rican economy was presented as a success by both the IMF and WB, but the reality of its main indicators shows that this is not an accurate assessment. There are severe imbalances, both in the country's external accounts and internal accounts. The trade deficit continues to expand, while the fiscal balance continues in a fragile position. The traditional primary deficit has been reduced, but this may not be sustainable, as recent trends show. Inflation continues to be a problem, although there is some improvement in terms of variability of the price index.

On the social front, real wages have maintained a disquieting downward trend. Income inequality has worsened recently. In rural areas, many small scale producers have been left out of the official support programs that promote exports rather than food security. Because some of the crops that are export-oriented require large scale investments, this has also led to some land concentration and greater inequality in rural areas.

Today Costa Rica is one of the most open economies in the region. This is the result of adjustment programs and IMF-sponsored structural reforms of the 1980s. These reforms were inspired in the principles of the Washington Consensus examined above. The main features in these reform packages were the following: financial liberalization; the almost complete

dismantlement of the support system for agriculture and industrial activities; promotion of exports.

The introduction of these changes was done not through a wave of privatizations, the reduction of social investments or the withdrawal of the State from economic life. The reform of State intervention took place through the gradual reduction in the fiscal appropriations to agencies that had intervened in economic life. On the other hand, State monopolies were maintained in telecommunications, insurance, energy and alcohol. But in the case of the financial monopoly that had characterized the previous regime, Costa Rica simply opened the market to external investors and this explain why State banks continue to be important actors today. And during the 1990s, although social expenditures oscillated, they maintained certain stability (especially in education and health), in contradiction with the view that fiscal balance had to be the main priority. The sector that really suffered by fiscal austerity is related to infrastructure, where roads, ports, bridges and other components have seriously deteriorated.

The Costa Rican economy has maintained an erratic performance since the 1980s crisis. Although the country has been able to avoid acute crises, the main macroeconomic aggregates have suffered of chronic instability. **Figure V.9** shows GDP growth rates for the period 1991-2008 and

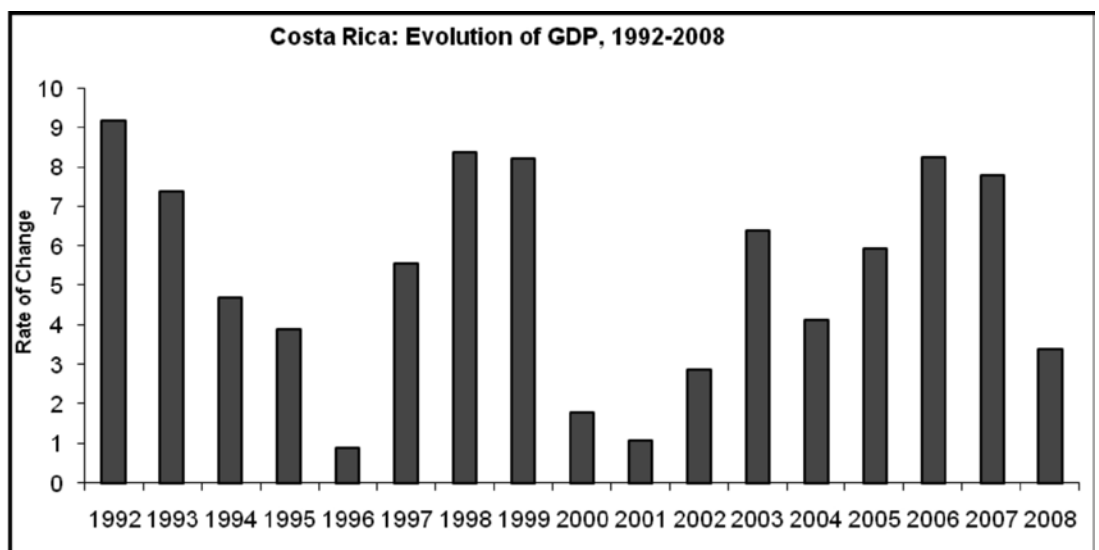
reveals an inconsistent stop and go pattern. This is the consequence of structural problems that remain unsolved under the new strategic approach: concentration of exports in a few number of agricultural problems, lack of adequate productive linkages between sectors, etc.

In the new strategy, exports were supposed to be the main growth engine. The two components that made the strongest contribution to growth in 1992-2008 were the industrial and the services sectors (22% and 23% respectively). And the contribution of the free trade zones to the growth of the manufacturing sector has increased from 11% in 1992-1996 to 73% in 2002-2006. The concentration of exports to the US market remains a serious problem. Finally, in several commercial crops (macadamia or pineapple, for

example) the concentration of production in big foreign-owned firms also implies high profit remittances. In any event, the economy appears to be incapable of sustaining adequate growth rates and good years are inevitably succeeded by periods of mediocre performance, with a growing deterioration of the trade balance.

Costa Rica's exports have been based on its natural resources and labour. Under the new strategy with an open economy and export promotion, it has been trying to diversify markets as well as products. However, these efforts have not yet crystallized in a comprehensive structural transformation and the export base continues to rely heavily on the natural resource base and low cost labour. In the sixties, 60% of exports earnings came from commercial crops (coffee and

Figure V.9



Source: Carlos Murillo, *Costa Rica Country Study*.

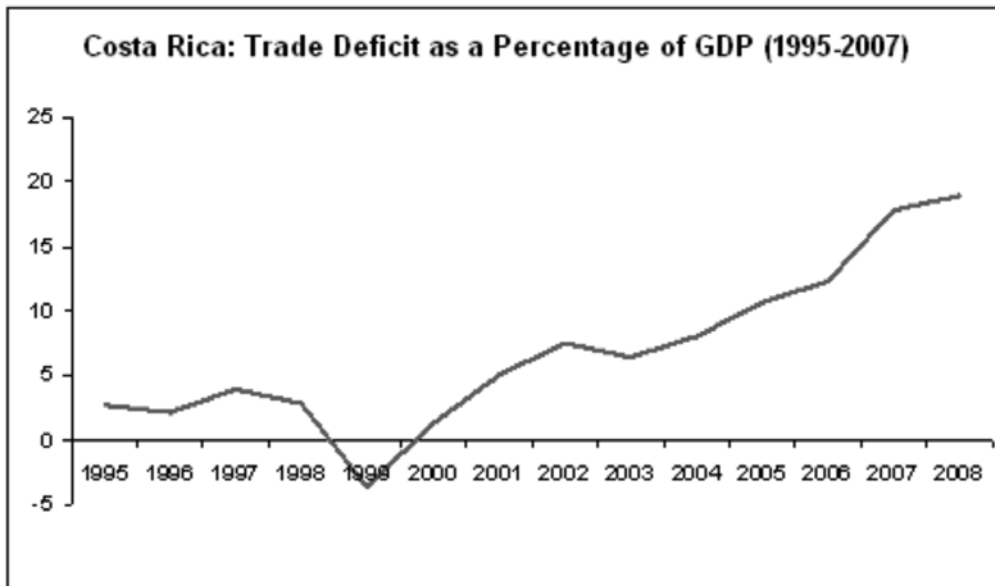
banana). In 2008, 52% of exports came from free trade zones where in-bond industries are based, but commercial crops such as pineapple and melons continue to play an important role in exports. These crops have their own environmental costs (and human health costs) due to their use of agrochemical inputs.

The in-bond industries do require better trained labour inputs. However, it is rather misleading to think of these exports as high technology for several reasons.<sup>71</sup> First, the definition of R&D intensive industries is a product-based definition. This means that the R&D component is related to the final product, not to the segment of the production process that is carried out in the free



*Terrace Field,  
Yunnan China.  
Credit: J Gao,  
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**Figure V.10**



*Source: Carlos Murillo, Costa Rica Country Study*

<sup>71</sup> This applies to the Mexican experience, as we shall see below.



trade zones. Second, typically in maquiladoras or in-bond industries the assembly operations are not related to any meaningful technological development process in the host country. Costa Rica is no exception. There are some spill over effects from in-bond industries that may lead to some technology dissemination, and even some innovation, but the general experience here is that if this is not linked to a well designed industrial policy, in-bond industries will not lead to industrialization and technological development.

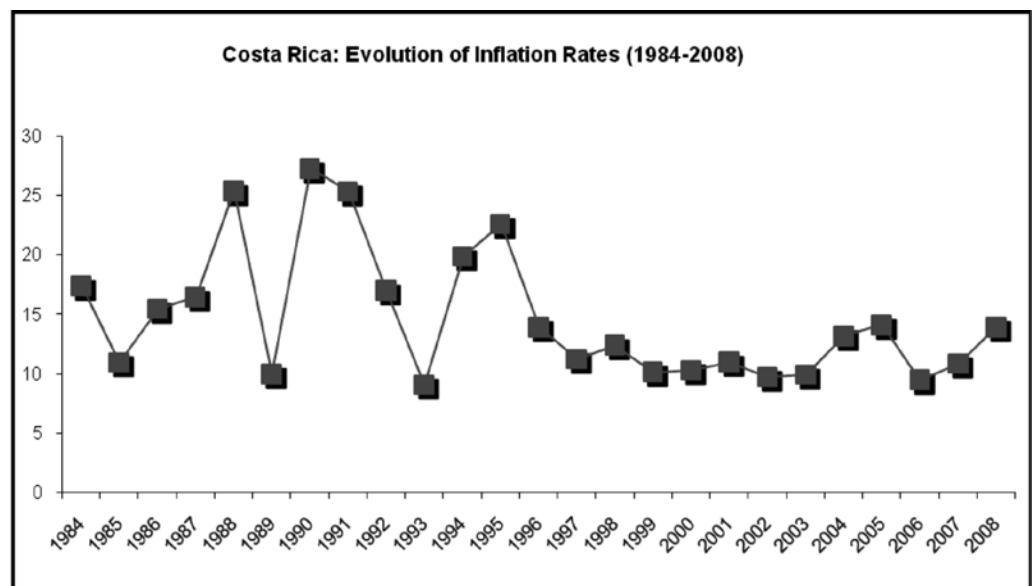
**MONETARY POLICY**

After the crisis in 1980–1982 Costa Rica was marked by severe macroeconomic disequilibria, both on the domestic front (high inflation, unemployment, high and unsustainable fiscal deficits) as well as the country’s

external accounts (current account deficit, deteriorating terms of trade, high indebtedness, exchange rate volatility). The new strategy based on exports and economic openness required a different approach to monetary policy.

The external imbalances were attacked through a crawling peg regime of mini-devaluations that helped maintain a real exchange value that would help exporters without unduly contributing to inflationary pressures. Simultaneously, measures were adopted to prevent speculative exchange operations against the colon, the local currency. The central bank’s intervention led to a policy of accumulation of foreign currency reserves that generated a high cost. The struggle against inflation had mixed results in the 1980s, mostly

**Figure V.11**



Source: Carlos Murillo, *Costa Rica Country Study*

due to the devaluations of the exchange rate. It showed better marks in the 1990s, with less volatility, although it still remained close to the two-digit level.

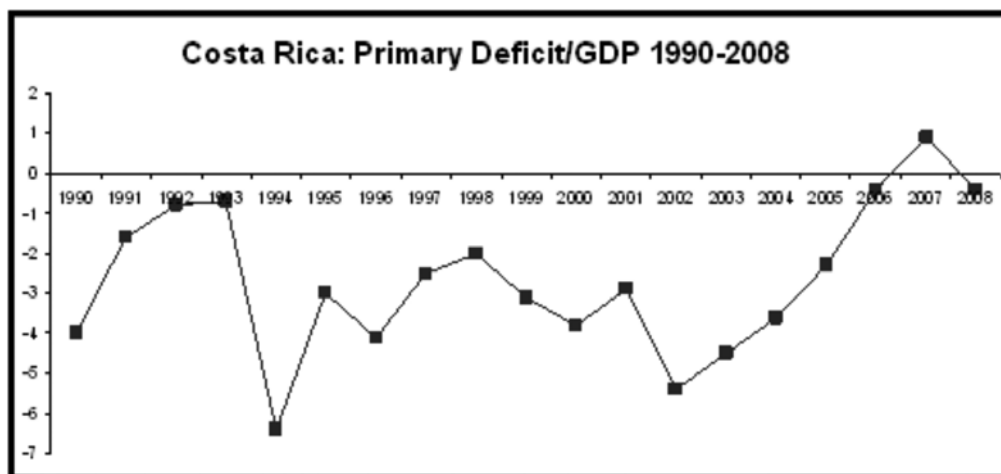
The new policy approach included the deregulation of the capital account and the modernization of the financial sector was pursued as a high priority objective. It was thought that greater competition would bring about better services and a wider gamut of assets that would be available for the public. Also, this would attract greater flows of foreign direct investments. But the central bank had to maintain a delicate balance in order to prevent creating perverse incentives to short term speculative portfolio capital flows.

During this period, the trade balance maintained a growing deficit that attained alarming levels (18% in 2007). In this context, it is important

to note that although the contribution of in-bond industries to the trade balance is, by definition, positive, it is not enough to compensate the large deficit generated by all the other sectors of the economy.

In 2006 Costa Rica adopted a new approach to monetary policy. The sole objective of the central bank's posture is to maintain price stability and reduce inflation to one digit levels. A system of bands within which the exchange rate could vary was established, allowing the central bank to intervene within that range to maintain stability and order in the currency market. As a result, the exchange rate appreciated by 10.7%. Interest rates dropped as the bank chose not to create incentives for speculative capital inflows (this was also due to less demand for funds to cover the fiscal deficit as revenues had increased). As a result, credit availability for the private sector increased (by

Figure V.12



Source: Carlos Murillo, *Costa Rica Country Study*

39%), maintaining investment and consumption at high levels.

But the global crisis of 2008 slowed down the economy and inflation reached 13.4%, significantly above the 8% target. According to the central bank, there are two main causes for this. First, as interest rates dropped in the developed countries, capital inflows increased and this affected money supply. Second, in the first two quarters of 2008 prices of certain basic inputs (food stuffs and fuel) rose significantly more than most forecasts had predicted. To this we must add the fact that bottlenecks in several markets may have given firms and traders the power to set and manipulate prices.

### FISCAL POLICY

The country has maintained a chronic primary deficit that has been basically covered through new public debt that increases servicing costs. This puts pressure on interest rates and this has generated distortions that act as incentives for speculative investment. The primary deficit in Costa Rica has been the result of a weak tax collecting system as well as a skewed tax system.

The open economy model has failed to provide adequate fiscal revenues. Perhaps this is a reflection of some of the measures introduced in the structural adjustment programs in the eighties, when tax concessions and subsidies were allocated to private



*Credit:*  
*Miguel B. Sánchez*  
*Wikimedia Commons*

enterprise linked to tourism or agricultural exports. The fiscal deficit has prevented Costa Rica from carrying out badly needed investments in infrastructure.

Recently, tax reform has focused on changes in income taxes and in the transformation of the sales tax into a value added tax. Improved tax collection systems have increased fiscal revenues significantly (24% and 27% growth in 2006 and 2007 respectively). This had favourable repercussions, but the international crisis in 2008 brought about slower growth and a fiscal revenues dropped by 28% in 12 months while expenditures increased by 4%. The small primary surplus observed in 2007 was rapidly wiped out.

The structural adjustment programs implemented in Costa Rica under supervision of the IMF and World Bank were supposed to lead to lower debt levels. The debt burden actually increased, even in spite of the fact that Costa Rica was an active participant in the Brady Plan. In the nineties new debt reductions were conditioned to the implementation of adjustment measures and adherence to an open economy model that intensifies the dependence on export markets and loans.

After the 1982 crisis, one of the most important challenges for Costa Rica's economy has been the management of its large public debt. This has weighed heavily on the stability of macroeconomic policy, growth



Chicago Mercantile Exchange.  
Credit: L Noise, Creative Commons

and social welfare. As a result of the renegotiation of external debt, the ratio of consolidated public debt to GDP dropped from 95% to 51% in 2006 (external rate to GDP was 16.3% in 2005). Most of the financial resources to service this debt were found in the domestic market. The central bank has maintained a debt/GDP ratio close to 11% during this period, mostly due to the sterilization of incoming capital flows which has been perceived as indispensable to keep money supply within the targets established by the central bank every year.

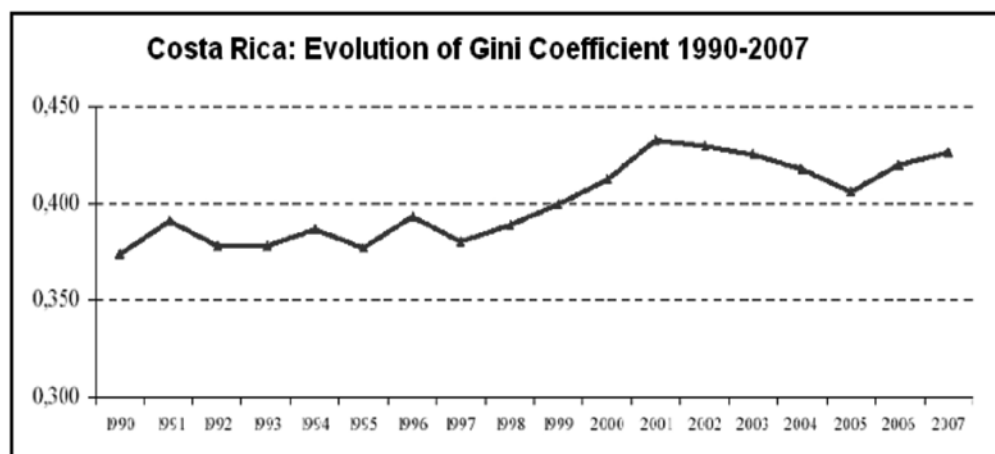
**POVERTY AND INEQUALITY**

Until the 1980s Costa Rica's history was one of an egalitarian system and real wages had been constantly on the rise. The country had also been able to maintain a good pattern of income distribution during decades

due to its social welfare programs. The structural adjustment programs of the eighties brought about a reduction of 17% in real wages (1980-1990) and increased economic polarization in the Costa Rican society. And although employment started to improve, it is also true that the jobs that were created at the time were poor quality jobs, with greater instability and few benefits. Clearly, the burden of the adjustment process fell unduly on the poorest segments of Costa Rica's society.

Also as a result of SAPs many small scale farmers were reluctant to give up their traditional crops which provided food security and lost access to government support for export crops. The non-traditional (i.e., commercial) crops that were favoured at the time required infrastructure investments many farmers were caught in a difficult situation and either sought

**Figure V.13**



Source: Carlos Murillo, *Costa Rica Country Study*

off-farm income generating activities or even sold their plots.

Poverty has remained at a constant 20% level and recently inequality started to increase. Although the Gini coefficient maintained a low level during most of the 1990s, it started to deteriorate after 1997 and peaked in 2001. Some progress was made after that but things went wrong again in 2005 and it is likely that austerity measures to counter the effects of the 2008 global financial crisis will lead to further deterioration in this indicator.

The environmental implications of poverty cannot escape policy makers. Rural poverty will undoubtedly undermine the long term viability of all national protected areas. A sustainable conservation policy based on the creation of biodiversity islands in a sea of rural poverty is doomed. Compatibility between agricultural policies and long term environmental goals has to be a core component of the national development strategy.

#### **PAYMENTS FOR ENVIRONMENTAL SERVICES AND MACROECONOMIC POLICY**

In 1997 Costa Rica launched an innovative program designed for the long term conservation of its forested areas. The Program for Payment of Environmental Services is directed to the improvement and protection of existing forested areas, as well as

to the development of new ones. This has several beneficial effects, in terms of better soils and water management, air quality, and enhanced biodiversity. This instrument is also an important tool in attaining the Carbon Neutral position that Costa Rica has defined as a national goal by 2021. Finally, the program is being dovetailed with country level efforts to coordinate policies in the context of REDD, the set of mechanisms for reducing emissions from deforestation and degradation that have been the object of the Kyoto Protocol's COP 13 (Bali), COP 14 (Poznan) and that will be taken up in COP 15 (Copenhagen, December 2009).

The program is based on the environmental services supplied by forested areas (including plantations) instead of a direct subsidy to investments in this sector. The Program is aimed at pre-defined priority areas which cover more than 29,800 square kilometres, a surface equivalent to 80% of Costa Rica's territory (51,000 square kilometres).

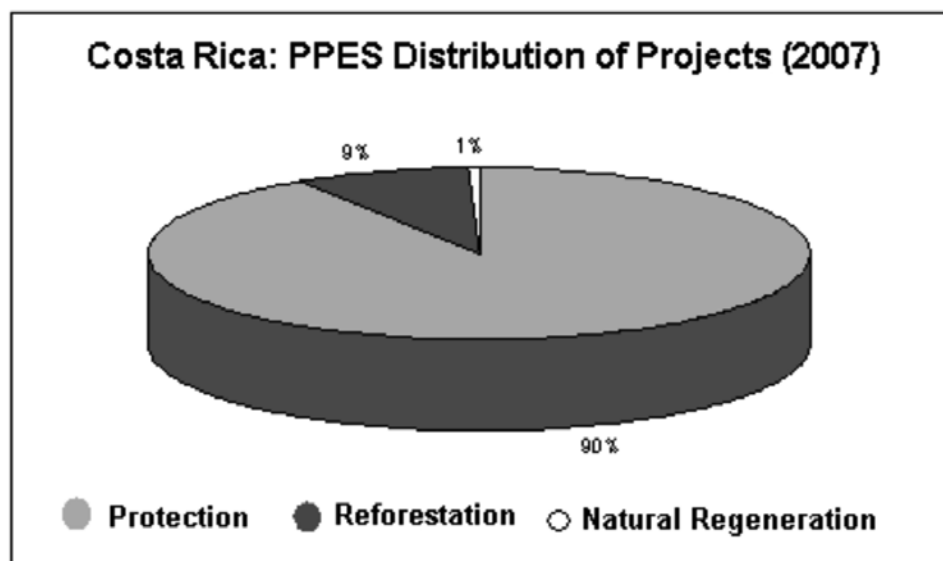
Payments are made by the implementing agency FONAFIFO (Fondo Nacional de Financiamiento Forestal) to land owners who adopt healthy forest resource management practices, including agro-forestry and sustainable forest management. The program covers four types of environmental services: carbon emissions' mitigation, hydrological services, biodiversity conservation and scenic values. A parallel objective is

poverty alleviation. Priority is given to projects that are located in natural protected areas, biodiversity corridors, land belonging to indigenous groups and areas with low social development indicators. Also, small and medium producers have precedence over other projects and the surface per project cannot exceed 300 hectares. Plots with less than 50 hectares receive 50% of the payments in advance while protection projects receive 20% in advance.

This Program for Payment of Environmental Services (PPES) has allowed for the reforestation of 400,000 hectares in more than 8,300 projects in 1997-2008. The government has already allocated 90 million USD to this program. In the beginning, payments in the program oscillated around \$22 USD - \$42 USD per hectare a year. This amount was determined in accordance to alternative land use

patterns, choosing cattle production which had the highest profitability level at the average cost of renting one hectare for grazing. In more recent years, payments vary depending on the type of contract. In the case of conservation projects, payments amount to \$816 USD per hectare, with a schedule of payments (first payment is 50% of total amount, with 20% in the second year and 10% during each of three years). Approximately 90% of total resources are concentrated in projects of this type, as can be observed in **Figure V.14**. Second, projects for protection purposes involve payments are \$320 USD per hectare for five years, and owners cannot modify the use of their land. Only 9% of payments in the PPES are allocated to these projects. Finally, projects for natural regeneration in former grasslands involve payments of \$205 USD per hectare.

**Figure V.14**



Source: Carlos Murillo, *Costa Rica Country Study*

This program is financed through a special tax of 3.5% on all sales of hydrocarbon fuels. This is, in fact, an environmental tax explicitly directed towards the improvement of forests. Average annual revenues generated by this tax amount to \$13.8 million USD. These resources are insufficient to ensure an adequate to the demand received from the owners of forested lands. An estimated 38,000 applications have remained unattended. In 2004 more than 800,000 hectares of applications were pending (Engel, Wünscher and Wunder 2009).

The program was also strengthened in 2001-2005 by a special non-recoverable loan from the Global Environmental

facility. A new phase of this is being implemented today with another special non-recoverable loan of \$30 million USD and a special contribution from the World Bank of \$10 million USD. This loan had some conditions related to the participation of the private sector in order to ensure the financial sustainability of the program. As of today, revenues from the private sector do not represent more than 1% of total revenues.

There are several problems with the resource management aspects of PPES. One is related to the resource management aspect of the program. PPES is focused on conservation, not on sustainable production. This



*Nursery  
Credit: Archive  
Centro de Comunicación  
y Prensa MAG*



is why although the program makes a positive contribution to the expansion of forests, the forest-products sector is suffering from an acute deficit. Another problem is related to targeting and efficiency issues (recently addressed by the work of Engel, Wünscher and Wunder 2009). The main conclusion from their study is that the amount of environmental services achieved with a given conservation budget can be substantially enhanced through improved targeting. But unless resources for the PPES are increased significantly, the long term perspective is rather bleak. No matter how much efficiency is extracted from limited resources, the scale of the problem will defeat efforts to ensure long term conservation of Costa Rica's forests.

The other problem is related to lack of resources and thus, to macro-economic policies. Clearly, given the number of applications and the surface that is eligible for support through this program, the amount of resources is too small. Consider the following. The total eligible surface (priority areas) is 28,000 square kilometres. Until 2004, total surface under contract in this program was 2,300 square kilometres, or less than 8.5% of the total eligible surface. These calculations reveal that the program is still a marginal component of Costa Rica's policies. Evidently, if

it is to become a core element in the long term strategy for sustainable development, it has to step up its activities and increase its coverage. Resources from international agencies and the private sector do not appear to be able to cover the costs of expanding this program.

During the past decade, Costa Rica's government has been expanding its expenditures in environmental policies. However, current trends indicate that in the short term fiscal policy will continue to face a significant deficit. This means that expanding resources for the forest sector and for the PPES will remain an elusive goal. In fact, as a response to the downturn of the economy (which reduces tax and non-tax fiscal revenues), the Ministry of Finance is cutting spending. It remains to be seen if appropriations for the PPES remain untouched or if they can increase.

The combination of fiscal constraints and the contraction of credit may prove dangerous for the program and for Costa Rica's forests. Today, the competition between alternative land uses is clearly disadvantageous for forests. A comparison of cost structures and profits associated to diverse land uses reveals that commercial crops and cattle are substantially more profitable than forested land. Foregone benefits also are skewed against conserving forested land.<sup>72</sup>

<sup>72</sup> The RATIOS values of land devoted to pineapple, banana and ranching are 5.2, 3.5 and 2, respectively, while the value of forested land is 1.5. All values are in millions of colones per hectare per year. Foregone benefits are 274,000, 108,000 and 34,000 colones per hectare every year if forested land is conserved instead of shifting to pineapple, banana or ranching, respectively.

**THE CONFLICT BETWEEN  
MACROECONOMIC POLICY  
OBJECTIVES AND  
ENVIRONMENTAL  
POLICY OBJECTIVES**

The relationship between debt sustainability and fiscal policy is at the heart of the future of the PPES. If the private sector and the international community are unable to ensure that enough resources are allocated to the PPES, then fiscal expenditure will have to continue providing the bulk of the resources needed here. The restrictions are significant. The following formal analysis used by the Central bank of Costa Rica can help explore how this may play out (BCCR 2007).

Formally, a government is supposed to comply with the following condition:

$$ps_t = (r_t - g_t)d_{t-1} \quad (1)$$

where

- ps = primary surplus/GDP
- r = real interest rate
- g = GDP real growth rate
- d = public debt/GDP

The dynamics of this relation between primary surplus and debt service can be analyzed through the following relation:

$$d_t = (ps_t - s_t) + (r - g)d_{t-1} \quad (2)$$

where s is equivalent to the seigniorage (defined here as the rate of change of

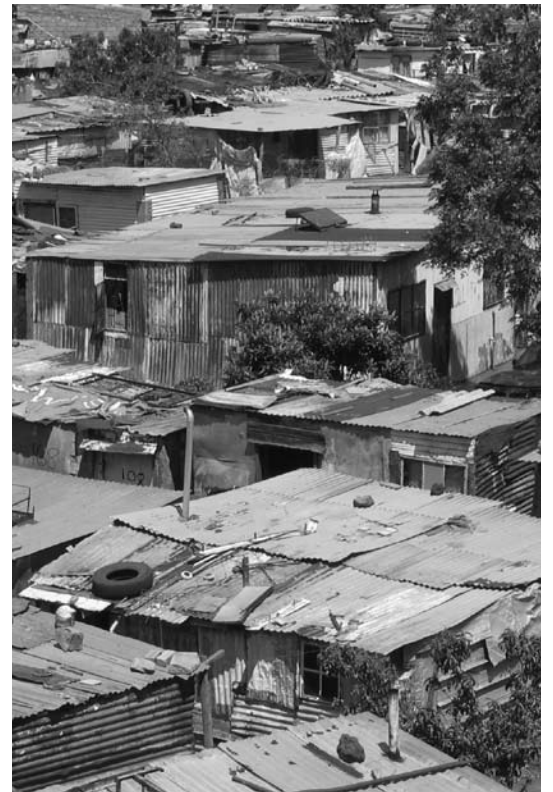


*Credit: Archive  
financialred.com*



*Strip Mining in Burial  
Grounds, India.  
Credit: US NARA  
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the monetary base to GDP). Equation 1.2 shows that the ratio of public debt to GDP will tend to increase (decrease) when the real interest rate paid by the public sector for its debt is greater (less) than the real rate of growth of GDP and/or when the relative levels of the primary surplus in terms of GDP are inferior or greater. According to the analysis of Costa Rica's central bank, these indicators help reveal the vulnerability of the public debt position in case of external shocks in interest rates or downturn in growth rates. Accordingly, the central bank insists on the need to intensify efforts to maintain an adequate primary surplus. And this will be achieved by cutting or stabilizing current fiscal expenditures.



*Soweto Township.  
Credit: Matt,  
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# ECUADOR: ENVIRONMENTAL DETERIORATION AND MONETARY POLICY

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*Hypsiboas Calcaratus*  
(Yasuni).  
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ECUADOR:  
ENVIRONMENTAL DETERIORATION  
AND MONETARY POLICY

Ecuador is a megadiverse country with more than 20,000 species of plants, 840 species of reptiles and amphibians, 341 species of mammals and more than 1,500 species of birds. Its landscape is varied, forming a rich tapestry of ecosystems, from tropical rainforests and inter-mountain valleys to the famed marine ecosystems of the Galápagos Islands. The range of the Andes is both a majestic and beautiful scenery, and it is also an important source of freshwater.

But environmental problems abound in this beautiful country. Ecuador has the highest deforestation rates in decades, with a tremendous impact on biodiversity. According to the United Nations Millennium Indicators the deforestation in 1990–2000 was 1.5% per year, and this rose to

1.7% in 2000–2005. The World Resources Institute estimates deforestation rates in 1980–1990 at 0.4%. This means that deforestation rates have intensified in the past decade. It is estimated that logging and oil exploration have contributed to this loss of forested land: only 15% of Ecuador's primary rainforests. The coastal lowlands in the West have been thoroughly deforested as a result of illegal logging.

During the last three decades of the XXth Century, Ecuador followed two different growth and development strategies. The first one started in 1970 and relied heavily on crude oil exports as a source of fiscal revenues. This period was also marked by the continuation of a process of industrialization via import substitution. The



*Credit: Crusier  
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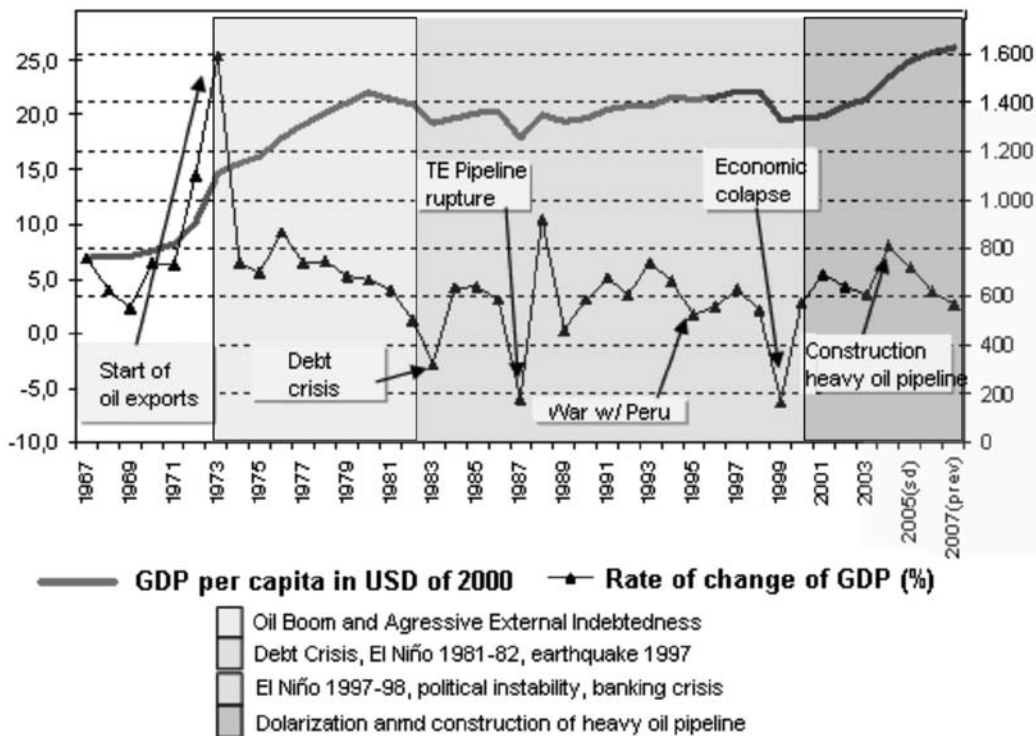
second strategy starts with the international debt crisis of 1982 and marks the beginning of neoliberal policies in the country. **Figure V.15** shows that this period is marked by crises, two wars with neighbouring Peru (1981 and 1995), as well as several natural disasters. It culminates in the deepest and most severe crisis in the country's history.

The economic boom of the seventies redefined consumption and production patterns in Ecuador. The extraction of crude oil was a critical event for this small economy as it was undergoing the decline of one of its main exports, bananas. Oil represented the opportunity to launch an industrialization

strategy via import substitution. The “Dutch disease” syndrome didn't take long to hit Ecuador's economy: the exchange rate remained overvalued by an average of 40% between 1970 and 1987. But this was mitigated by the strict implementation of tariff and non-tariff measures that increased effective protection in activities such as agro-industries, textiles, metal and chemical industries. Although imports of capital goods increased rapidly and the country embarked in an unprecedented industrialization effort, the backward linkages of the industrial system remained weak.

The State played a decisive role in guiding this process and public

**Figure V.15 Ecuador: GDP Growth and GDP Per Capita (Constant USD 2000)**



Source: Pablo Samaniego, *Ecuador Country Study*

spending represented 19% of GDP by 1977. However, severe economic and political problems subsisted, with the State relying on a system of clienteles and fiscal structure marked by inefficiencies. As the mismatch between revenues and expenditures intensified, Ecuador's debt increased at a very fast rate (more than 80% in 1977) and international loans rose from USD 300 million in 1971 to USD 8,000 million in 1985.

Monetary and exchange rate policy had been passive until 1980. Subsidized interest rates for productive investments remained in place until the mid-1980s. But because of the appreciation of the exchange rate and high domestic spending (by both the public and private sectors) inflation accelerated during this period: in 1971 it had been limited to 3.5%, but ten years later it was already reaching 18%.

#### **DEBT CRISIS, EXTERNAL SHOCKS AND INSTABILITY**

As the international context deteriorated in the seventies, prompting steep hikes in interest rates accompanied by the collapse in the price of oil and other commodities, Ecuador was forced to undergo a dramatic adjustment. The main component of this adjustment was a sharp curtailment of public expenditures, and this would lead to the dissolution of the role of the State as the driver and regulator of the development strategy. Its capacity to provide basic social services also started to crumble.

The end of the oil boom also exacerbated the struggles that had been taking place for control of oil revenues. In 1983, as a result of these struggles, the State approved a program for the restructuring of a significant portion of the private sector's external debt. The program converted liabilities in foreign currencies into sucres, the domestic currency, with the Central Bank becoming the external debtor and the internal creditor. Of course there are several very serious problems with this, but one heavy irony here is that as fiscal expenditures were suffering drastic cuts, the Central Bank was subsidizing the private sector. **Figure V.15** shows that growth in that period was mediocre and GDP per capita stagnated. Inflation accelerated and the various external shocks led to the first transformations of the development strategy.

In the period 1982–2000, when the Ecuador's economy adopted the USD as its currency, a common pattern persisted: the exchange rate remained the most important instrument of macroeconomic policy. But this responded to conflicting objectives: the control of inflation and the competitiveness of exporters. In the end, it was the lobby of exporters that prevailed and the exchange rate remained undervalued for much of this period. This increased the cost of servicing the external debt and stimulated inflationary pressures. But it became clear that the exporters' lobby had won the battle over how to distribute the costs of adjustment.

In 1986 the sector level policies for industrial development started to be dismantled and a growth model fundamentally based on extractive practices. Because the industrialization effort was still in its infancy, the pressure of increased exports fell directly on products that are close to the natural resource base. The environment started to suffer the impact of this intensification of usage and extraction rates in the old commercial crops (coffee, bananas, cocoa) and in new sectors such as shrimp, fisheries, flowers, African palm tree, etc. These crops expanded the agricultural frontier. Particularly damaging was the expansion of shrimp aquaculture projects which destroyed mangrove forests at alarming rates.<sup>73</sup> All industrial activities declined during this period. The reprimarization of the economy was clear: if we abstract from oil extraction and related activities, the economic structure of Ecuador in 1995 resembled the one it had in 1970.

At the end of the eighties and beginning of the nineties, the new conservative strategy was being consolidated. Privatizations proceeded forward, banking activities were deregulated and, most important, the capital account, the most important component in the Washington Consensus set of principles, was liberalized between 1992 and 1996. Trade liberalization was driven by

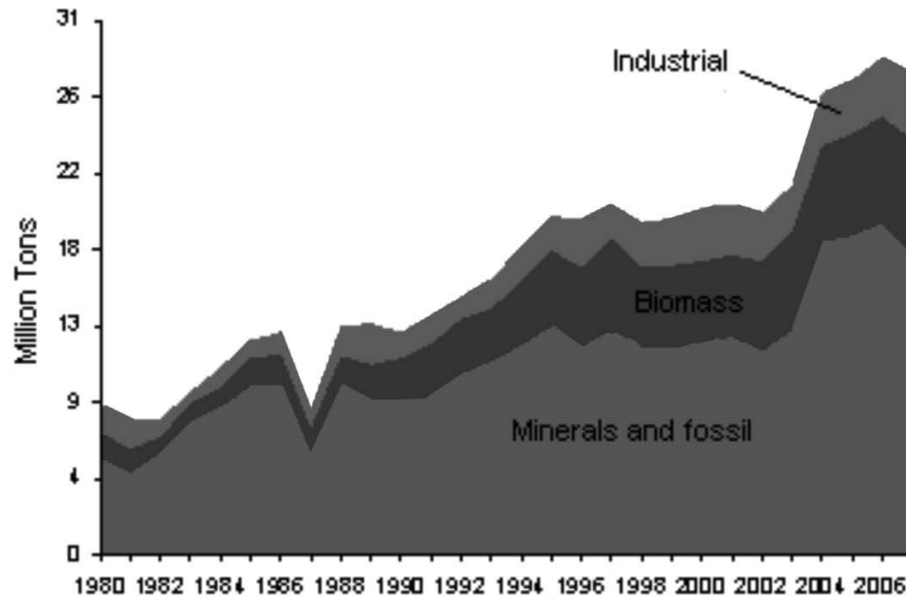
the macroeconomic policy objective of price stabilization. In that period some progress was made with respect to the Ecuadorean version of the “twin deficits”: the external accounts and public finance. However, inflation remained at very high levels (50%).

With respect to the exchange rate, a system of so-called dirty flotation was established to replace the old mini-devaluations scheme. The objective was to stabilize inflationary expectations and implement a policy of real exchange value that would promote exports. Although this objective was partially attained, it was based on a narrow definition of the notion of comparative advantages. In the end this meant that industrial exports declined, and biomass exports sustained this effort during the period (**Figure V.16**). Directly related to this is the expansion of the agricultural frontier due to low gains in yields. Agriculture’s share in GDP increased, another example of the reprimarization of the economy.

Ecuador’s economy not only shifted towards greater pressure on the natural resource base, it also benefited the financial sector more than any other sector of the economy. Speculative activities found new and powerful incentives in the new style of monetary policy. Interest rates remained at high levels and thus, financial charges could only be

<sup>73</sup> Between 1984 and 1987 shrimp farms grow at an average rate of 9.6% and hectares of mangrove forests declined rapidly. In 1969 Ecuador had 203,000 hectares of mangrove forests. By 1987 this had dropped to 175,000 hectares.



**Figure V.16 Ecuador: Material Flows of Exports**

Source: Pablo Samaniego, *Ecuador Country Study*.

covered in activities with very high profitability levels. All of this led to a greater weakening of the real sectors of the economy, especially those related to manufacturing industries. Financial firms were the big beneficiaries in these years, until the collapse of the economy.

In 1997 a strong El Niño event took place, affecting crops in the coastlands and severely damaging the country's physical infrastructure. Traditional exports dropped and the non-performing loans to agricultural firms increased significantly, affecting the financial position of banks. Because new and extraordinary expenditures had to take place to repair the country's damaged infrastructure, a new 1% tax was established on all

financial transactions. This led to a further decrease in bank deposits and weakened the banks' position. In the last quarter of 1998 Ecuador's largest bank had to be intervened and the deposit insurance was activated. This was not enough and in a few months, a full blown bank crisis developed: a bank holiday was imposed, freezing all withdrawals of deposits. In the end, the banks themselves pressed hard for the depreciation of the sucre because they had already transferred their resources into dollar denominated assets. The long debated measure to adopt the USD as Ecuador's currency was adopted. IN this momentous decision the advice of the entrepreneurial groups in Guayaquil weighed more than technical reasons or even the advice of the IMF.

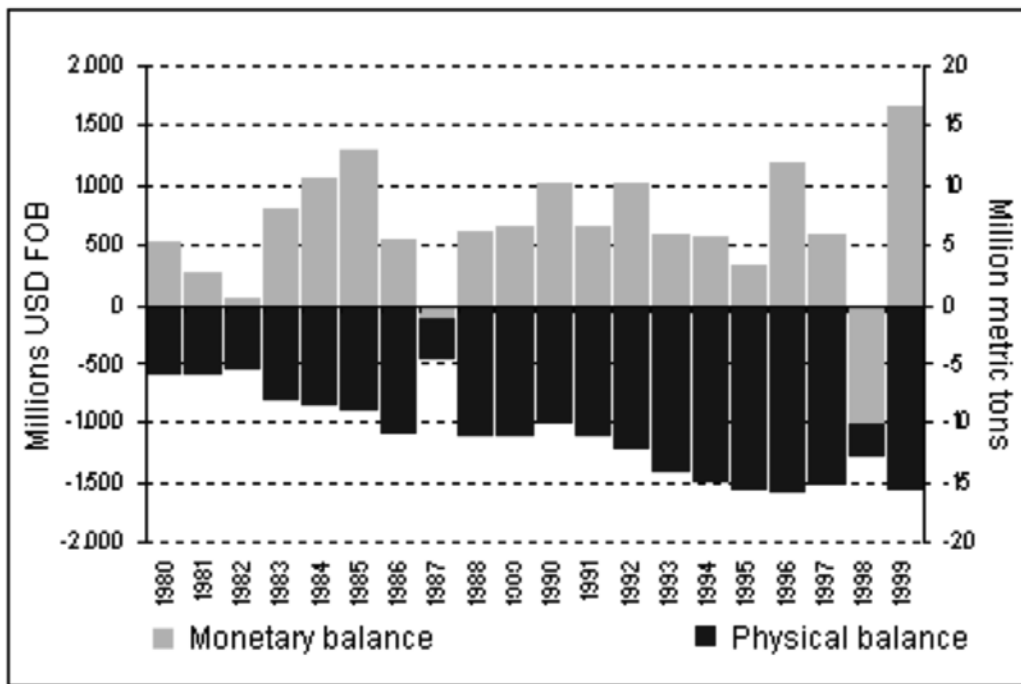
The sad irony here was that the efforts that had been deployed to stabilize the economy, sometimes through the contraction of real wages and/or the drastic reduction of public spending in health, education or infrastructure, were simply brushed aside as the country experienced its worse crisis in a century. GDP dropped by 6.3%, the exchange rate suffered a devaluation of 196% and inflation reached 78% in 1999. In terms of per capita income, the country moved back at least ten years. Because the industrial sector had been seriously weakened and could not respond in this crisis, the economy had to rely more than ever on its sectors that were close to the natural resource base. The environmental deterioration that followed

would threaten the country's ability to future economic growth. The comparison of the monetary and physical trade balance shows how the external sector responded to these years of crisis (Figure V.17). The measure in physical terms is an indicator of how monetary flows are supported and provides an idea of the effort deployed in an economy's natural resource base to maintain a given level of exports.

**THE "DOLLARIZATION" OF ECUADOR'S ECONOMY AND ITS EFFECTS ON THE NATURAL RESOURCE BASE**

In January 2000 Ecuador adopted the US dollar as its national currency, its domestic medium of exchange

**Figure V.17 Ecuador: Trade Balance in Monetary and Physical Terms**



NOTE: The physical balance is measured in metric tons (exports minus imports)  
 Source: Pablo Samaniego, Ecuador Country Study.

and its official unit of account. This measure was the response to the deep crisis in which the economy had fallen, with hyperinflation, a severe contraction of the real economy, a large fiscal deficit, the meltdown of the sucre, the banking system under government intervention and the country in arrears with respect to private creditors and bondholders. The dollarization of the economy was supposed to bring about the stabilization of these elements, but it did not take place without a serious political crisis. The president was deposed a few days later and a new president was sworn into office after a very intense period of political haggling and negotiations.

The immediate effect of dollarization was that Ecuador lost its control over monetary policy. Once this measure is adopted, the money supply depends on what happens in the current account balance. A deficit means that endogenous money supply will have to decrease, while the only way in which the expansion of the money supply can take place is through a current account surplus. In this context, the price level and interest rates depend crucially on the net balance of the current account. What this means is that Ecuador lost the capacity to use monetary policy in a counter cyclical manner. For example, if the economy goes into a recession and its export sector is negatively affected, it is impossible to provide with adequate credit and the situation moves into a vicious circle.

This problem becomes more severe if imports are inelastic, for example, when the productive apparatus is heavily dependent on imported raw materials, intermediate inputs and capital goods.

In the years following the dollarization inflation showed a slow but constant downward trend. This was due to the effect of international prices because Ecuador is a small open economy and the elimination of the domestic currency forced domestic prices downward. However, interest rates remained at a very high level for a longer period of time (in 2008 it was still common to find active rates of 80%, of course, in USD). In spite of the reduction in inflation (for example to 1.46% in 2005), interest rates for productive loans maintained their high levels in real terms. These real interest rates have extremely negative effects on productive investments because very few of them have the profitability required to cover these financial charges.

Dollarization has another effect on the structure of the economy: it favours the trend towards greater pressure on the natural resource base. The data in this study shows that land use patterns changed, intensifying agricultural practices that increase pressure on soils and biodiversity. One of the critical problems of dollarization in Ecuador is that under this special exchange rate regime stagnant or declining productivity is compensated by putting extra pressure on natural

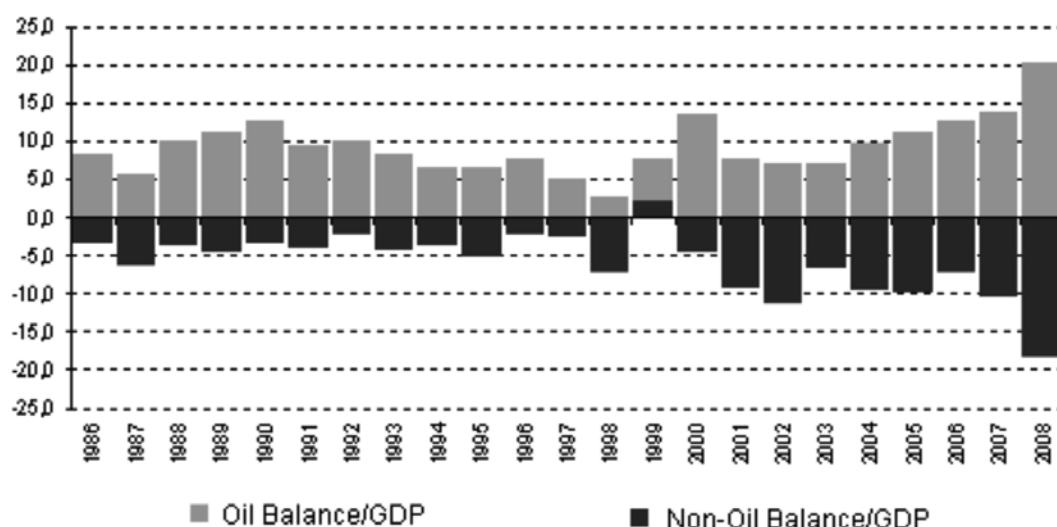
resources and the environment.<sup>74</sup> Data shows that the dollarization led to a greater reprimarization of the economy and of exports (Falconi Benítez 2005). The crucial point here is not the intensification of the usage rates of natural resources in order to obtain hard currency for the trade balance, but that this is related to the need to increase the monetary base. This is not a problem that can be understood through the narrow lens of another “trade and environment” study, but needs to be understood as part of one of the main components of macroeconomic policy.

The sustainability of the dollarization strategy is called into question if we observe that in an extreme case, the flow of cash into Ecuador’s economy

may not be even enough to cover the amount of domestic transactions. As **Figure V.18** shows, this is a risk that needs to be taken into account, considering the performance of the non-oil trade balance.

The private sector is not playing a positive role here, as can be observed in **Figure V.18**: the performance of the non-oil sectors of the economy is not making a positive contribution to the trade balance. The economy has faced a favourable international context because of the high oil prices that prevailed before the 2008 crisis. In addition, migrant workers’ remittances have been a major contribution to the external accounts (they tripled since 2000). Clearly these factors cannot be the pillars of a long

**Figure V.18 Oil and Non-oil Trade Balance as Percentage of GDP**



Source: Pablo Samaniego, *Ecuador Country Study*.

<sup>74</sup> The flows of foreign direct investment have followed and strengthened this pattern. More than one third of FDI flows go to the primary sector, without counting investments in agri-business.

term development strategy. In fact, the dollarization of the economy has increased its vulnerability because imports of durable and non-durable consumer goods have been growing at faster rates since 2000.

The global financial crisis of 2008 poses new challenges. The current account deficit will be directly transmitted into the economy through monetary channels. This means that bank deposits may suffer a contraction, and with this, credit will also suffer a setback. Thus, if the external deficit is such that the money supply starts to contract, Ecuador's economy may enter into a period of deflation until a new balance is attained. This would of course be disastrous because employment would fall, many activities would become non-viable from the purely cost/benefit

standpoint, and the economy could spiral into a depression.

The decision to adopt the USD as the domestic currency was accompanied by legislation that imposed maximum ceilings on the growth of public expenditures and a reduction of the public sector's external debt. In this manner, fiscal policy became "legally" pro-cyclical and together with dollarization became one of two constraints on using macroeconomic policy in a counter-cyclical way. And although in recent years, Ecuador's external and fiscal accounts had positive signs, there were four important factors behind these results: the price of oil in the international market, the remittances by migrant workers, a depreciation of the USD vis-à-vis other currencies (in the period May 2006 and September 2008)



*Tungurahua Volcano*  
Credit: D T Costales,  
Creative Commons

and, finally, the flows of foreign direct investment. These four factors contributed to the elimination of the country's twin deficits, but this was a temporary achievement and there are signs that this is simply not sustainable, especially in the context of the global financial crisis.

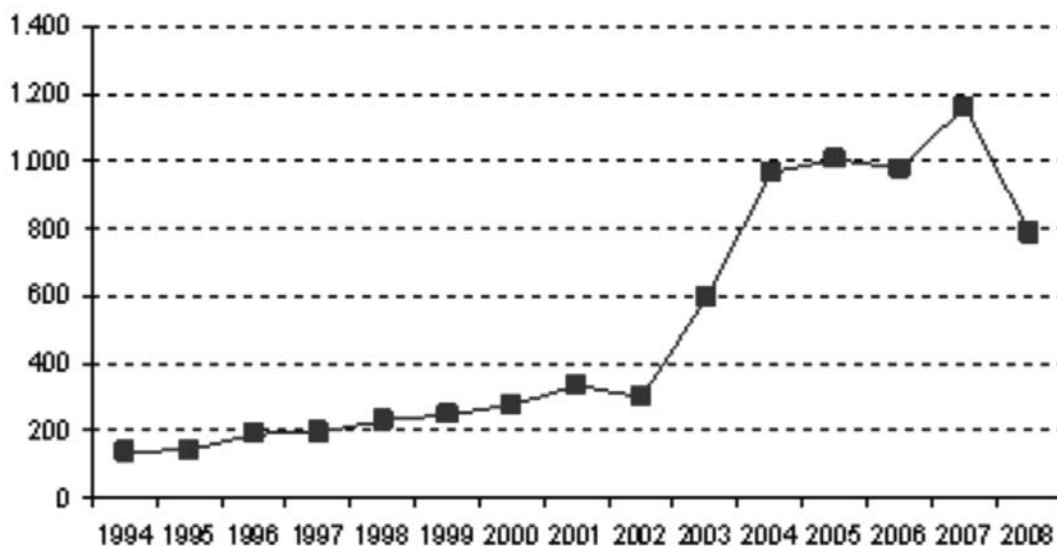
Foreign direct investment has flowed traditionally to oil production, but more recently they have been associated to the expansion of production capabilities that have important environmental implications. In 2004, the new pipeline for heavy crude oil (OCP is the acronym in Spanish) was completed with a record investment of more than 700 million USD in one year. The new feature here is that the OCP is owned and operated by private sector firms that extract crude oil in Ecuador's northeast region.



Credit: Archive  
www.energiasrenovadas.com

This project is the culmination of a process that started in the nineties seeking to give stronger guarantees to private investments in this sector. As a result, the share of the State-owned oil company, Petroecuador, in total production dropped

**Figure V.19 Ecuador: Profitability remittances by FDI in Oil Sector**

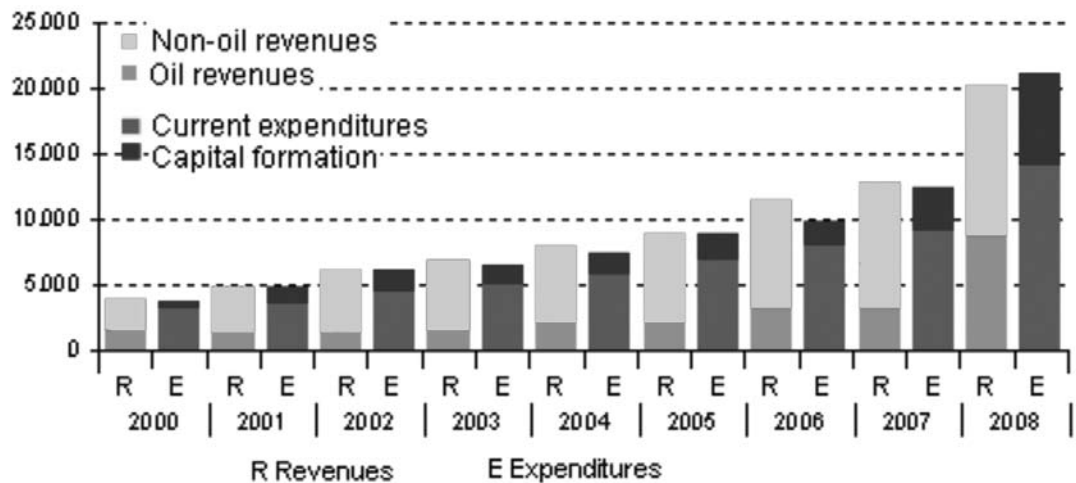


Source: Pablo Samaniego, Ecuador Country Study.

to 47.6%, while private sector firms accounted for 52.4%. The public sector's stance in oil production was weakened through a reduction of its investments while private foreign firms were allowed to gain a stronger foothold in Ecuador's oil sector. Although the public sector gained less from oil production, the external accounts improved, albeit temporarily, and this allowed the economy to maintain the dollarization format. But in fact, this has led to setting up a scheme in which a greater percentage of a key non-renewable resource: profitability remittances for FDI in this sector increased by an astonishing 97% in 2003 and 62% in 2004, moving from 1.2% to 3% of GDP in 2004. The counterpart of this has been the increased flow of materials and energy in what can be aptly described as extreme extractivism.

In 2008 these remittances show a downward trend. This is the consequence of several government measures adopted since 2007. In that year, the government of President Rafael Correa started the renegotiation of several important contracts with oil firms and as a result, fiscal revenues increased significantly. This process was consolidated by the National Constitutional Assembly (charged with drafting a new Constitution for Ecuador) established several special funds for oil revenues with direct implications for the central government's budget. Because of these measures, the government was able to obtain significant increments in its resources: in 2008 its resources increased by 56.8% (their share of GDP rose from 29.4% to 40%). This boom in non-tax revenues is only comparable to the years in which Ecuador started its oil exports.

**Figure V. 20 Ecuador: Revenues and Expenditures of Public Non-Financial Sector (Millions of USD)**

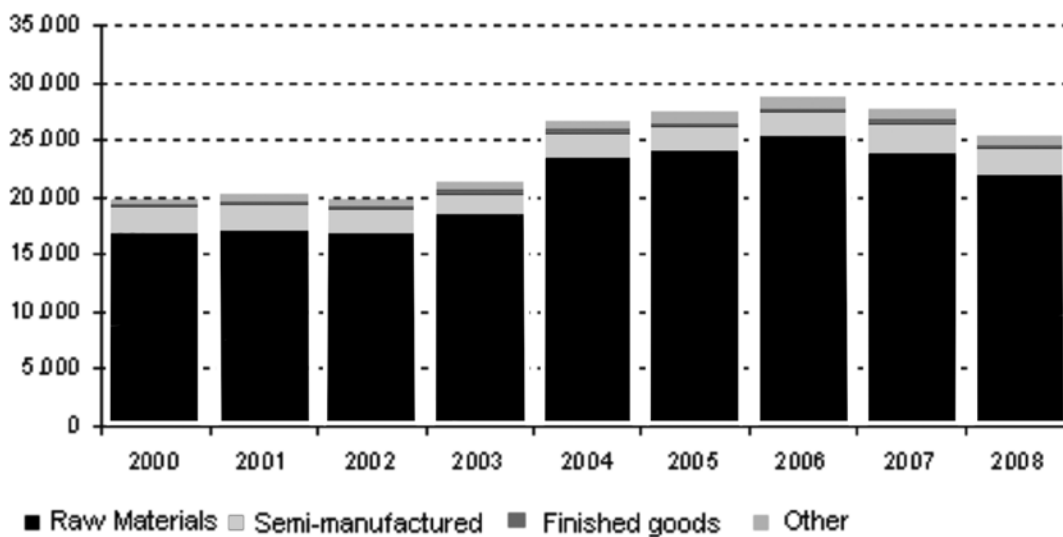


Source: Pablo Samaniego, *Ecuador Country Study*.

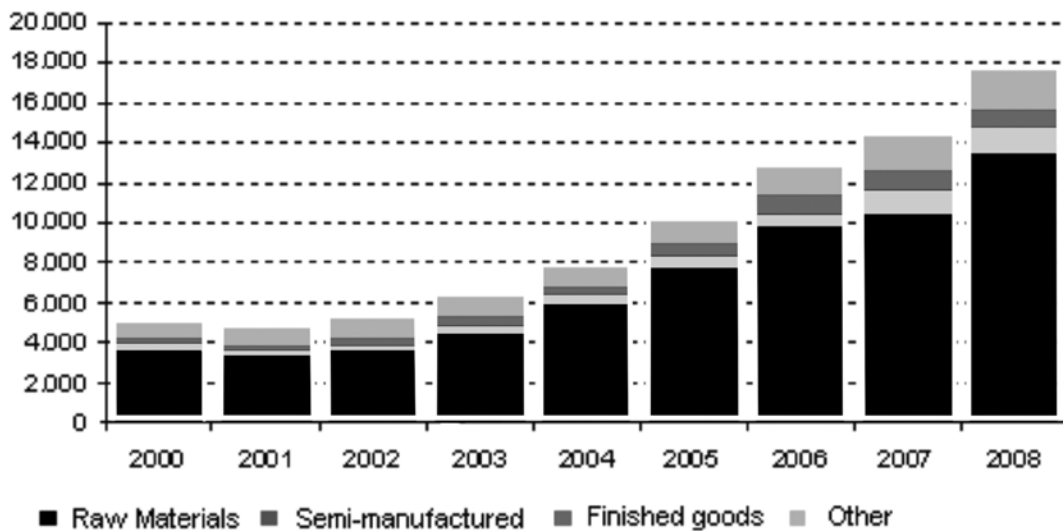
To summarize, Ecuador's economy was able to expand its monetary base because of the positive results in external accounts. This was mainly due to the extraordinary growth of exports which as a percentage of GDP increased from 21% to more than 36% between 2002 and 2008. During the same period, remittances from migrant workers averaged 6.6% of GDP, a level that surpassed the surplus in the trade balance (1.4%) and FDI (2.1%).

Figure V. 21

**Exports in Physical Flows (thousand tons)**



**Exports in Value Terms (millions USD)**



Source: Pablo Samaniego, Ecuador Country Study.



## PHYSICAL FLOWS IN ECUADOR'S ECONOMY

The methodology based on physical or materials' flows is used here to examine trends and assess the long term sustainability of the current economic model. Data from Ecuador's Central Bank covering the period 2000–2008 is analyzed.<sup>75</sup> These exchanges are measured for four categories of goods: raw materials (fossil fuels, minerals and biomass), semi-manufactured products, finished products and other non-classified goods.<sup>76</sup>

In general terms, the data for 2000–2008 shows that, in physical terms, the vast majority of exports is constituted by fossil fuels and biomass. The structure of exports by weight in 2000–2008 shows that 86% of these exports are primary raw materials and only 9.4% by semi-manufactured products. Raw materials gained 1.6 percentage points during this period, while finished products increased by 0.4 percentage points. Other products, mostly biotic in origin, increased their share. During this period, the share of semi-manufactured goods was diminished.

One of the key factors behind the dramatic rise in exports in value

terms is found in the evolution of oil prices. But the prices of other commodities and raw materials (biomass) also experienced substantial increases. Especially interesting is the fact that raw materials exports increased at the annual average rate of 5.1% per year. This is mostly explained by the expansion of crude oil exports, but also by biomass exports, especially from fisheries and forest products. Ecuador's economy transferred energy, nutrients, water and biomass to its trade partners in order to obtain the currency needed to keep functioning. But in value terms, their contribution is only 79% (and this will go down due to the drop in oil prices). All of this means that Ecuador's dollarization policy is based on the continuous flow of increasing doses of raw materials and primary products, with their severe ecological footprint, in order to sustain current levels of money supply. The contrast between the physical and monetary balances reveals the absolute supremacy of raw materials and provides additional information on the requirements of the economy to subsist in the context of dollarization and fiscal stringency. Raw materials provide a favorable balance (surplus) and this compensates the monetary

<sup>75</sup> The analysis carried out in this study is similar in all respects to the assessment of Eurostat measuring the exchange of physical flows between economies. Data comes from the Central Bank and is processed with the methodology of the European Union (European Commission 2001, Economy-wide material flow accounts and derived indicators: A methodological guide, Office for Official Publications of the European Communities).

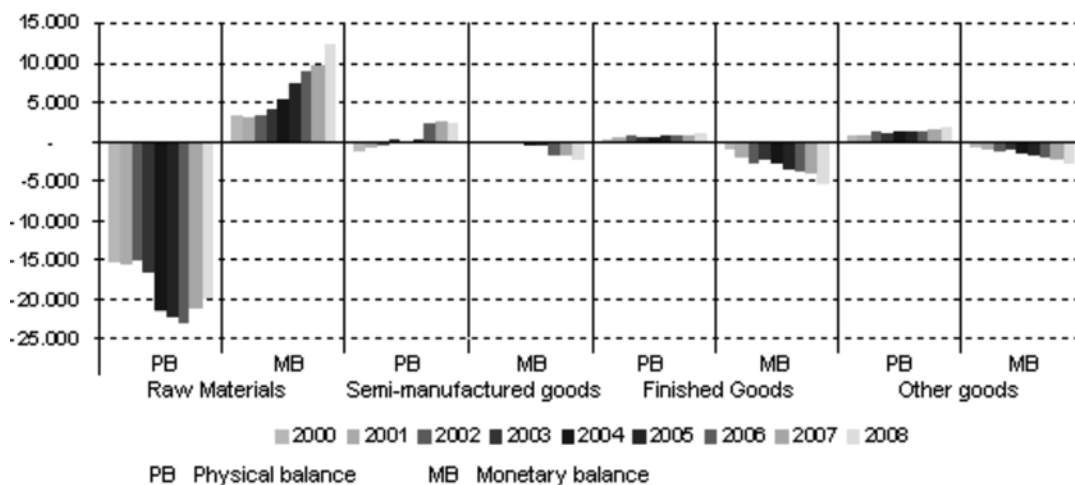
<sup>76</sup> One obvious limitation of this methodology is that it does not differentiate between one ton of wood and one ton of crude oil. But if economic values are used to solve the problem of additivity, the problem of distinguishing between the different environmental features of goods remains unsolved.

deficit that is generated by the other products. It must be emphasized also that this result in the past few years is due to the evolution of the price of oil and other products (African palm), so this vulnerable situation could be reversed in the context of the global financial crisis. In addition, the enormous deficit of the raw materials' physical balance (Figure V.22) is just the most apparent sign of the predicament of Ecuador's natural resource base: the ecological footprint of these exports is something that needs a careful assessment.

In a dollarized economy the need to expand exports is not only an issue of trade policy. It is foremost a question of monetary policy. And because the money supply will depend not only on the balance of the current account but also on the size of the primary surplus, the pressure on the

economy will also come from the side of a restrictive fiscal policy. Now, in an economy with a weak and non-competitive manufacturing sector, exports will be provided by the natural resource base and usage rates will intensify in a syndrome of an extractive economy. Also, because interest rates are not determined in a market of savings and investments, the surplus in the external accounts does not automatically mean that interest rates will go down, that credit will flow and that consumption and investments will increase, generating employment and growth. The dependency on raw materials is also observed through extraction rates. If we compare the decade of the nineties with the years of the period 2000–2007 we observe an increment in extraction levels in all of the categories we have been considering here. In fact, these greater extraction rates are required to generate the expansion of the money

**Figure V.22 Ecuador: Physical and Monetary Balance of Commercial Transactions (Millions USD and tons)**



Source: Pablo Samaniego, Ecuador Country Study.

supply. Finally, all of this will affect both the private and public sector, especially if the latter relies on such items as crude oil exports to increase its fiscal revenues.

In order to evaluate the dependency of the economy on the natural resource base, a model was estimated to assess the role of variation rates of the extraction of biomass, fossil fuels, metallic minerals and minerals for the construction industry. The model is expressed in terms of constant USD for 2000. The equation described in the following table shows that biomass has the highest influence in the rate of growth of GDP, followed by metallic minerals and fossil fuels.

Together, these materials and those for construction industry and industry explain 84% of the annual variation of GDP.<sup>77</sup>

One of the most important conclusions from this exercise is that GDP variations always react favorably to the increments in extraction rates of natural resources, whether they are renewable or not. Assuming that the transmission channels that have been analyzed here through public expenditures and the balance of the country's external accounts are valid, this equation shows that materials' extraction is crucial for growth. And this in turn, means that Ecuador has fallen into the trap of low productivity and comparative



Lake Sibinacocha, Peru.  
Credit: Villemin,  
Creative Commons

<sup>77</sup> Because the equation is expressed in terms of variation rates, the adjustment observed in R2 is rather high.

advantages, a trap that may lead to irrevocable environmental degradation. In the future, this weakening of the physical environment may even put a brake on the economy's growth. Of course, this is a delicate subject and over-dependence on raw materials' extractive practices for growth may play out differently if instead of fossil fuels, for example, the process relies more on biomass. After all, fossil fuels are non-renewable and biomass is a renewable resource. But even here there needs to be caution: certain biomass resources, such as fisheries or forests, can be abused

**Table V.5 Materials' Extraction and GDP Growth**

Dependent Variable DGDP				
Method Least squares				
Sample (adjusted): 1972-2007				
Observations: 36 after adjusting extreme points				
Variable	Coefficient	Standr Error	Stat - t	Probability
C	0.002808	0.004860	0.577665	0.5679
DBIO(-1)	0.240170	0.076323	3.146775	0.0038
DFOS	0.004739	0.001751	2.706885	0.0113
DFOS(-1)	0.020195	0.001776	11.37146	0.0000
DMIN	0.149981	0.019560	7.667715	0.0000
DMINM(-1)	0.002769	0.001226	2.258001	0.0316
DDOL	0.030982	0.008442	3.669915	0.0010
R <sup>2</sup>	0.865634	Dependent variable mean		0.038291
R <sup>2</sup> Ajusted	0.837835	SE Dependent variable		0.049379
SE of regression	0.019885	Information criterion Akaike		-4.825067
Sum Sq Res	0.011467	Schwarz criterion		-4.517160
Log Max Ver	93.85120	F Stat		31.13818
Durbin-Watson	1.756902	Probability of F stat		0.000000

Notes:

- DGDP *Variation rate of GDP*
- DBIO *Variation rate of biomass extraction*
- DFOS *Variation rate of extraction of fossil fuels*
- DMIN *Variation rate of metallic minerals*
- DMINM *Variation rate of minerals for construction and industry*
- DDOL *Dummy variable (equals 1 since dollarization and 0 for the rest of the period, expresses structural change)*

Numbers in parentheses express lags for independent variables to have their effect.

Source: Pablo Samaniego, *Ecuador Country Study*.

and over-exploited, sometimes to the point of collapse and recovery may take a long time. Also, high biomass extraction rates can also have negative effects on biodiversity and on the long term survivability of natural protected areas.

### **THE ISHPINGO/ TAMBOCOCHA/TIPUTINI PROJECT**

Today, Ecuador is at a crossroads. In order to assess alternative trajectories, we can consider two possible scenarios, each with its own disadvantages. In the first one, the dollarization scheme is abandoned altogether and a new domestic monetary unit is adopted. This is not an easy path and there are many political and economic costs that would be incurred. In the second, Ecuador maintains the dollar as its domestic currency, but in order to solve the external constraints, it aggressively intensifies exports of the agricultural products that have shown to have the strongest demand in the international market and promotes exports from the extractive industries.<sup>78</sup> In this case, heavy environmental costs are incurred and, in fact, the future viability of the economy may be seriously impaired. In addition, here we have to take into account that these policies will probably require a certain

amount of years before their benefits materialize.

An innovative project that offers a way out from this dilemma is the Ishpingo-Tambococha-Tiputini project which pursues simultaneously the dual objectives of economic development and environmental sustainability. This project consists of a scheme to leave a significant amount of Ecuador's oil reserves underground. These reserves are located in a mega-diverse region that is covered by pristine tropical rain forest and is home to several indigenous peoples. By leaving these reserves underground, Ecuador would contribute simultaneously to three critical objectives. First, it would contribute to the conservation of biodiversity. Second, it would be a factor in the reduction of CO<sub>2</sub> emissions, both from deforestation and from the burning of fossil fuels. Third, it would contribute to the conservation of cultural diversity. The counterpart of this would be a flow of income that would be disbursed by international donors, governments and anyone willing to support the project.<sup>79</sup> The scheme would allow Ecuador to reduce the physical deficit of its economy, reap the benefits of its endowment of natural resources as a reward for this contribution to environmental sustainability.

<sup>78</sup> The external sector also faces a problem with declining revenues due to the fall in oil prices in 2009. It is expected that a gap of the order of USD 1500 million needs to be bridged, most probably with the assistance of multilateral financial institutions so as to prevent draining the domestic money supply.

<sup>79</sup> This project may also be articulated with the scheme of emissions reductions due to avoided deforestation and other schemes that may emerge from the Copenhagen conference in December 2009.

Figure V.23 Location of the Yasuní National Park



Source: Pablo Samaniego, *Ecuador Country Study*.

The area covered by this project is in the Yasuní National Park located in Ecuador’s Amazon region. This area is the homeland of the Waoram<sup>80</sup> and Tagaeri-Taromenane people. The latter live in voluntary isolation from the rest of the world. These people are nomad and have defended their territory for centuries. They have

been forcibly displaced by oil explo- rations in the Yasuní National Park.

This area is a hotspot of biodiversity, with one of the richest concentra- tions of insects (more than 100,000 species per hectare), amphibians (105 species), reptiles (83 species) and freshwater fish (382 species).

<sup>80</sup> This Word means “True Humans”.



*Yasuni National Park  
www.natura-medioam-  
biental.com*

In one hectare of Yasuní forest 644 different species of trees have been found, a number larger than the total number of tree species in all of North America.<sup>81</sup>

The Yasuní National Park was declared a biosphere reserve by UNESCO in 1989. It has a core zone that is free from any human activity, a buffer zone and a transition zone in which human productive activities take place under a resource management plan. However, due to lack of resources,

the resource management plan has not been designed and never was implemented.

The Ishpingo-Tambococha-Tiputini (ITT) oil exploration block involves 412 million barrels of proven reserves of (heavy) crude oil (14.7° American Petroleum Institute) and, taking into account probable reserves, the total amount could reach 920 million barrels.<sup>82</sup> Total proven reserves in Ecuador amount to 4,500 million barrels, which means that the ITT

<sup>81</sup> See Oilwatch (2007), Project ITT in <http://www.amazoniaporlavida.org/es/La-propuesta/>. Original document: "Scientists Concerned for Yasuní National Park. 2004. Technical advisory report on: the biodiversity of Yasuní national park, its conservation significance, the impacts of roads and our position statement."

<sup>82</sup> Heavy crude like the one in ITT need to be combined with other lighter crudes or their transformation into synthetic crude oil in order to be transported. This would require additional investments in a converter and a thermoelectric plant.



fields would account for 9%–22% of the country’s reserves. The economic importance of the fields located within the ITT block is undeniable, both from the viewpoint of the external sector (and monetary policy) and from the perspective of fiscal revenues. Petroecuador and Sinopec (China Petroleum and Chemical Corporation) are two firms currently developing plans for ITT. The first would initiate operations with 130 wells and the second with 214 wells and an investment of approximately USD 5,000 (Oilwatch 2007). If this output were to be exported it would increase Ecuador’s crude oil exports by 31% with respect to 2008.

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*Archive*  
*energiasrenovadas.com*

Initially, the Yasuní project was based on a payment for environmental



*bottom*  
*Deepwater Horizon Burns*  
*Credit: US Coast Guard,*  
*Creative Commons*



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*Rufous Bellied Euphonia*  
 Credit: G. Gallice  
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services scheme. The following parameters were estimated: net present value of income from exploitation of the oil fields, value of lost forest products and biodiversity loss, losses from reduced ecotourism, costs of CO<sub>2</sub> associated to deforestation, tons of CO<sub>2</sub> generated by the use of this crude oil, etc. The scheme of payment for environmental services was abandoned because it was considered to be impractical.

The new project has a different financial architecture and is contained in the National Development Plan is not based on the damages but on the benefits that the project would generate. Among these are the following:

1. Effective conservation of 40 natural protected areas (4.8 million hectares) and adequate resource management plans for 5 million hectares in natural zones property of indigenous and Afro-Ecuadorian peoples. This is equivalent to 38% of Ecuador's territory. The conservation of Yasuní



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 H. Zell  
 Wikimedia Commons



would also allow the Tagaeri and Taromenane people to continue in voluntary isolation if they so desire.

2. Reforestation, natural regeneration and adequate management of one million hectares of forests belonging to small landowners in soils currently threatened by erosive processes (all of this would involve a substantial reduction of the deforestation rate).

3. Improved energy efficiency and energy savings in Ecuador.

4. Social development in the influence zones of the areas covered by the project through education, training, technical assistance, generation of productive employment in sustainable activities such as eco-tourism and agro-forestry.

The central ideas of the Yasuní project would go a long way in transforming the economic logic of production and conservation. First, as oil would be kept underground, CO<sub>2</sub> emissions would be reduced by a significant amount: it is estimated that the emissions from proven



*Mackerel*  
Credit: Archive  
[www.edibleblog.com](http://www.edibleblog.com)

reserves in Yasuní would equal the emissions of Brazil (332 million MT of CO<sub>2</sub> equivalent), France (373 million MT) and equivalent to Ecuador's emissions for thirteen years. Second, funds would be obtained from CO<sub>2</sub> avoided emissions' certificates (already the German Parliament has agreed to allocate USD 50 million to these certificates). Third, the funds would be allocated to conservation, prevent deforestation in other protected areas and develop energy efficiency projects, helping to start the transformation of Ecuador into a sustainable fossil free economy in which activities such as ecotourism and agroforestry would gain in importance.

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quevedo.olx.com.ec*

The fund of the project would be basically integrated by the market value of the avoided CO<sub>2</sub> emissions. Taking as a reference the quotation of USD 17.66 per MT for certified emissions reductions (CERs) in the European market, a net present value of USD \$5,195 million (using a 6% discount rate). This is less than the net present value of USD \$6,979 million that would correspond to the output from these fields at a price of USD 61.21 (WTI) and using the

same discount rate. The income would accrue to a special fund that would emit Yasuni Guarantee Certificates which would not be added to current allowed emissions' quotas. If Ecuador would decide to exploit the ITT fields, it would have to reimburse these funds (but in that case Ecuador must give notice five years before proceeding to exploitation). The Yasuní initiative is a bold project designed to initiate a structural transformation for Ecuador's economy. Much depends on the reaction of the international community to ensure its success.



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Deepwater Horizon on Fire.  
Credit: USCG,  
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# **MEXICO: THE NEOLIBERAL MACROECONOMIC POLICY PACKAGE, STAGNATION AND ENVIRONMENTAL DEGRADATION**

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*Mexican Farmers  
Credit: Archive  
Jornada Política*

Mexico is a megadiverse country that has a wide variety of ecosystems in its territory. From the coastal plains on the western and eastern coasts, to the central highlands, a rich tapestry of varied ecosystems covers its landscapes. The ecosystems include tropical rainforests, temperate forested areas, cloud forests, semi-arid and arid environments. Mexico's coastline extends some 11,000 kilometres and its exclusive economic zone covers reef barriers and well endowed marine fisheries. This combination of ecosystems allows Mexico to be the home of more than 200,000 different species or approximately 10%–12% of total biodiversity. According to the National Biodiversity Commission, Mexico ranks first in biodiversity of reptiles (707 species), second in mammals (438 species), fourth in amphibians (290 species) and fourth in flora (26,000 species).

One of the most important strategic objectives of Mexico's environmental policy is the conservation and management of this endowment in biodiversity. The most important policy instrument to attain this objective is the National System of Natural Protected Areas (NSNPA). Already more than 170,000 square kilometres are NPAs, with 34 biosphere reserves, 64 national parks, 26 areas of protected flora and fauna and 17 sanctuaries (CONABIO 2007).

This wealth of environmental diversity is at risk in Mexico today.

Deforestation proceeds at a very fast rate, with an estimate one million hectares being lost every year to illegal logging and the expansion of the agricultural frontier. The loss of biodiversity that is associated with this process of loss of habitat is incalculable and its real costs will probably never be properly accounted for. In addition, soil erosion, loss of topsoil and the reduction of soil fertility continue to haunt the rural landscape. Over exploitation of aquifers is another very serious problem, with more than 35% of the country's underground aquifers being exploited at rates that are higher than the pace of their natural replenishment. Commercial fisheries have also been taxed with very intense catch levels and some of them are on the verge of total population collapse. Pollution of soils and water bodies proceeds rapidly with no end in sight to the accumulation of toxic waste. Greenhouse gas emissions per unit of GDP were slightly reduced in the past decade, but that is due more to the collapse of the petrochemical industry than to genuine progress in productivity and energy efficiency. In summary, almost every environmental dimension is imperilled.

#### MACROECONOMIC POLICY AND MEXICO'S ECONOMIC PERFORMANCE

During the period 1950–1970, Mexico's economy maintained an average yearly rate of growth above 6.3%. This allowed for a substantial increment of per capita income and was

associated (as in the case of the rest of Latin America) with an industrialization strategy based on import substitution. However, the protectionist strategy was implemented in a very inefficient and careless manner, without any consideration for accountability, strategic objectives in the area of exports and technological development. This led to high market concentration coefficients in many key industries and to sub-optimal production scales and a persistent anti-export bias.

The difficult international economic context of the 1970s, combined with several problems linked to the manner in which protectionist policies were implemented, led to drops in capital formation rates, inflationary pressures, unsustainable fiscal deficits and growing indebtedness. All of this translated into stagnant GDP Growth rates. But in the second half of the 1970s new oil discoveries allowed the government to maintain the illusion that its financial situation was robust and healthy. In fact, a process of “Dutch disease” led to higher debt levels and a significant and quite detrimental appreciation of the exchange rate. The international recession of the final years in the decade, together with unacceptable inflation rates in the United States, brought about a very steep hike in interest rates and a sudden collapse of international commodity prices, especially oil. This combination of events led to Mexico’s unilateral declaration of a moratorium in its

international financial obligations. In turn, this detonated the world’s debt crisis that wrought havoc in the world economy and caused the so-called lost decade of the 1980s.

In the aftermath of this critical period, Mexico implemented a deep change in its development strategy. As the first stabilization plans of the 1980s gave way to deeper structural reforms, the country adopted a strategic course based on two crucial premises. The first was that the State would no longer provide the signals that would guide the development process. From now on, its role would be to allow markets to fulfil this mission. The second premise was that exports would become the engine for growth, and Mexico would have to unleash its export potential based on its comparative advantages.

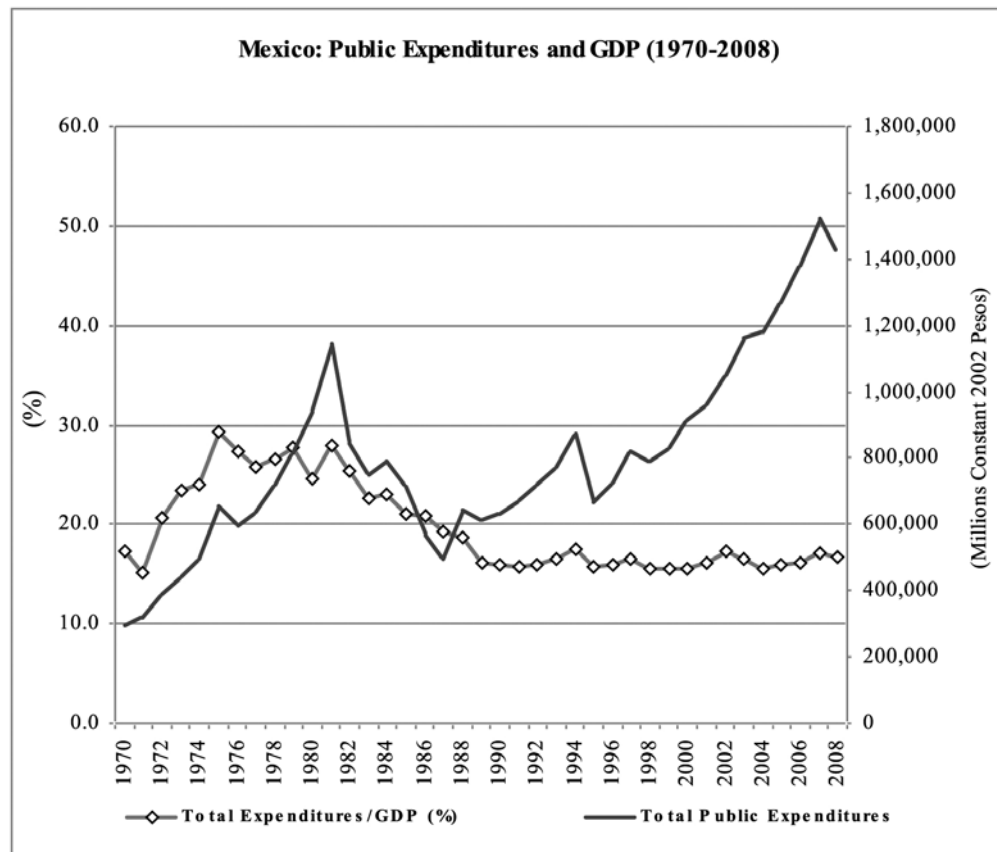
The corollary from these two premises was that a large scale privatization process would have to take place, the complete deregulation of markets was to be implemented and macroeconomic policy would have to be organized around these strategic premises. Accordingly, the main objectives of fiscal policy would have to be redefined in order to ensure the sustainable management of public debt (both internal and external) and to maintain an open space for private investment (i.e. to prevent any so-called crowding out effect on the private sector). This meant that the primary balance would have to generate a permanent surplus in order

to guarantee a flow of resources that would allow for sustainable debt management. This redefinition culminated with a federal law that established the obligation to maintain a balanced budget. As a result, public expenditures were systematically reduced and only a modest growth rate marked the evolution of this key policy tool. As a percentage of GDP, public expenditure stagnated and remained at a very low level after 1990, as can be seen in **Figure V.24**. This affected all the real sectors of the economy which are related to environmental sustainability, from small

scale agricultural production (which has important environmental stewardship implications) to natural protected areas (which are lacking adequate support for the development and implementation of their resource management plans). One important point here is that this approach to fiscal policy transformed it into a pro-cyclical instrument with serious effects on Mexico's economy.

Monetary policy was also redefined along two lines of action. The first one was to provide complete autonomy for Mexico's central bank. The

**Figure V.24**



Source: Marcos Chávez, *Mexico Country Study*.

main objective here was to prevent runaway fiscal deficits from being “monetized”. The second line was to define by law the main objective of monetary policy: the control of inflationary pressures. Together with these new definitions, monetary policy was charged with the task of maintaining a stable exchange rate in order to generate a favourable climate for foreign direct investment and international capital flows.

Accordingly, after 1989 Mexico underwent an intense process of privatization, deregulation of markets and the shrinking of State intervention in the economy. This was accompanied by the complete deregulation of the capital account, creating the conditions that would lead to international capital flows. This process culminated with the negotiation and

completion of the North American Free Trade Agreement (NAFTA) between Mexico, the United States and Canada. Mexico was sending a clear signal to the rest of the world about its commitment to the new set of policies.

In the first few years of the 1990s there were some signs that this policy package might lead to a successful exit strategy from the crisis of the 1980s. A very rapid growth of exports from the manufacturing sector created the impression that Mexico could get away from over reliance on oil exports and continue with its industrialization strategy as it established a solid platform for export-led growth. However, the maquiladora sector that was behind this rapid expansion of industrial exports was disconnected from the rest of



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*Maquiladora*  
*Credit: Guldhammer,*  
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*www.energiasrenovadas.com*



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 Credit: Archive  
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 Credit: Jebulon  
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the economy. Although it was able of spectacular double-digit growth rates in exports, the economy remained stubbornly fixed with very slow growth rates, incapable of generating sufficient employment to meet the demands in the job market.

This was only the first sign of the fragility of the new macroeconomic model. In fact other variables were being artificially kept in what appeared to be a healthy position. For example, inflationary pressures had subsided due to the restrictions imposed on aggregate demand through a restrictive monetary policy and the imposition of a norm for minimum wage that persistently led to a drop of real wages. This of course implied putting a brake on the role of the domestic demand as a source of GDP growth. But even more important

was the role of the exchange rate which was chronically overvalued as a result of the inflow of capital. The appreciation of the exchange rate was used as an anchor for the system of relative prices and was a key instrument to control inflation. But this led, in turn, to a deterioration of the external accounts as it punished Mexico's exporting sector. The country had to rely increasingly on capital inflows to sustain its growing trade deficit.

Capital inflows not only brought about the appreciation of the exchange rate, but they also imposed a framework that created strong inertias to maintain the overvaluation. The reason for this is that as a surplus in the capital account was required to cover the current account deficit, attempts to correct the trade balance

via devaluations were resisted by the financial community. The government and monetary authorities considered the cost of this adjustment too high. Typically, the adjustment was postponed indefinitely until expectations in the financial world led to the conviction that the host country was unable to fulfil its commitment and would have to devalue sooner or later. In December 1994 a stampede for the nearest exit exacerbated the reversal of capital flows that had been going on since March of that year. This was followed by a macro-devaluation, a decision that was implemented in complete disarray. All the temporary gains in the struggle against inflation were wiped out (see **Figure V.25**). As 1995 advanced, the economy went into a tailspin, with a drop of 6.5% in GDP. The severity of the crisis can be gauged by its impacts in the world's financial markets.

In the aftermath of the 1995 crisis, the entire banking system was severely affected as the non-performing portfolio increased. The government implemented a rescue program consisting in the (illegal) purchase of these non-performing loans, replacing these liabilities in the banks' books with government backed IOUs that had handsome interest payments. Because the new IOUs are assets, this changed dramatically the

balance sheets of the banks, allowing foreign investors to purchase most of the banking industry in Mexico.<sup>83</sup> In addition, in order to prevent the exchange rate from becoming seriously maladjusted, a modified floating exchange rate system was adopted (with "dirty" intervention by the central bank), but otherwise, the macroeconomic model remained essentially the same.

The economy's performance under the neoliberal policy package has been disappointing. Not a single strategic objective has been attained. Growth remains mediocre (with an average 2.2% per year) and is insufficient to meet the requirements of the labour market. The country's external accounts remain fragile, with an extreme concentration of trade in a single market (the United States). There is a large surplus in the country's trade balance with the United States, but this is the result of oil and maquiladora exports, so that in the final analysis, Mexico's trade structure is relying on cheap labour and its natural resource base. This is problematic for several reasons. One is that the maquiladora sector is not a good engine for growth. Maquiladora plants are disconnected from the rest of the economy and this is why we can observe spectacular growth rates in maquiladora exports,

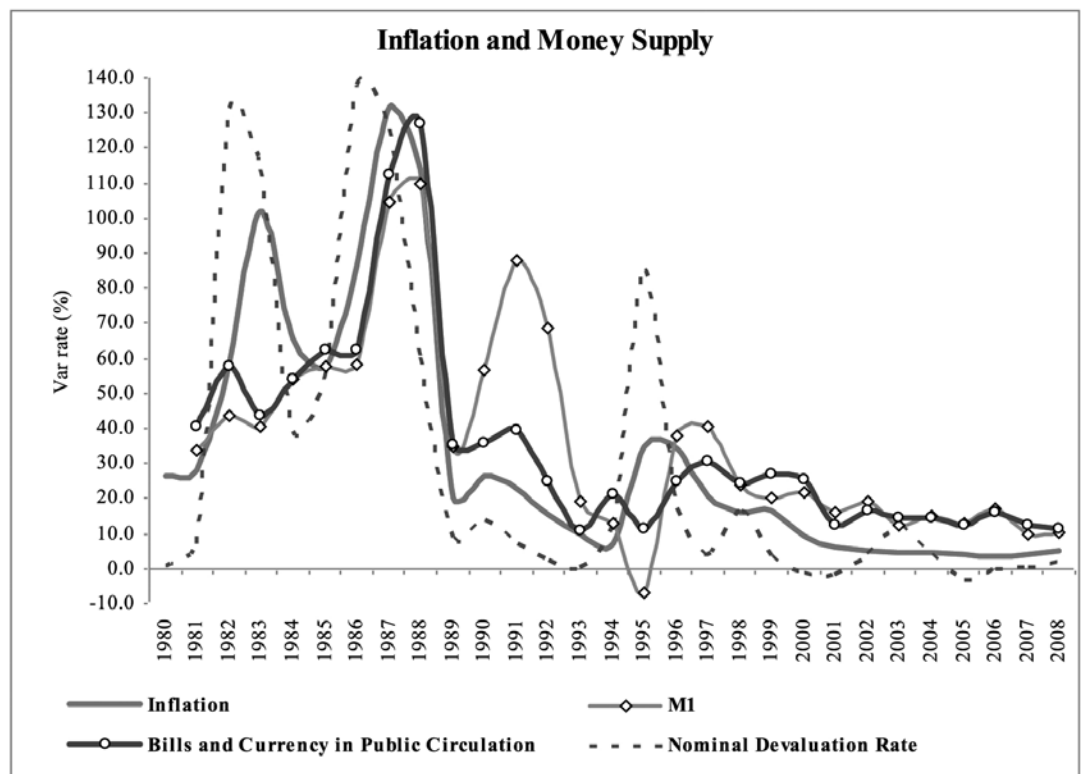
<sup>83</sup> Ironically, the banking sector had been one of the most heavily protected sectors in the NAFTA. Foreign investment in this sector was heavily regulated and was to remain as a virtually forbidden sector for ten years. In the aftermath of the 1995 crisis, authorities realized that banks had to be recapitalized and they reached the conclusion that only foreign investors were up to the task but NAFTA was an obstacle. At first, between 1995-1997 the law for the banking sector was clearly violated, but afterwards this was reformed. Today, 95% of the banking industry is foreign owned.

without any significant effects on the rest of the economy. In addition, oil exports in volume terms will likely start diminishing because of Mexico's dwindling reserves. Finally, the important surplus observed with the United States is not enough to compensate for the deficit in Mexico's trade with Europe and Asia (especially China). Clearly, trade liberalization simply did not allow Mexico to establish a robust foundation for export-led growth.

As a result of high oil prices and the important surplus with the United States, Mexico's current account deficit has been stabilized in the past few years. This is also the result of

slow growth rates, a fact that is seldom included in official analyses of the macroeconomic landscape. When the Mexican economy grows at rates above the average of the past twenty years, the current account deficit also increases significantly. Thus, slow growth rates also help maintain a fragile balance in the external accounts. Finally, the balance of payments is also improved by the remittances of migratory workers that have crossed the border in search for stable employment opportunities. Mexico has expelled an average of 400,000 migrant workers to the United States every year since 1994. Their remittances have been a positive contribution to the balance

Figure V.25



Source: Marcos Chávez, *Mexico Country Study*.

of payments, but their personal experience is a testimony of the failure of the Mexican economy to provide adequate job opportunities for its people.

The key problem of Mexico's trade balance is that it relies on exports of maquiladoras and oil (the official narrative about the lack of importance of oil in total exports notwithstanding). The following exercise gives a better idea of the structure of the trade balance. In 2008 the total trade deficit amounted to USD \$17 billion, or 1.5% of GDP. However, if we exclude maquiladora exports, the deficit reaches USD \$ 42 billion, or 4.4% of GDP. And if we abstract from oil exports, the deficit reaches USD \$ 67 billion, or 6.2% of GDP. This would of course be the worst performance of Mexico's trade balance in decades,

but this is just an exercise that shows how important oil and cheap labour is for Mexico's exports.

In so far as the strategic objectives of maintaining equilibrium in the country's internal macroeconomic aggregates, the picture is not very bright. Inflation has been subdued, but this is achieved at a very high cost. **Figure V.25** shows how the restrictive posture in monetary policy has contributed



*left*  
*Maize*  
*Credit: Marco Guzmán*  
*Wikimedia Commons*

*right*  
*Mexican Stock*  
*Exchange*  
*Credit: Keith Weller*  
*Wikimedia Commons*

to the control of inflationary pressures. The main component of the anti-inflation strategy has been a restrictive monetary policy. This is translated into a contraction oriented approach to the monetary base. Interest rates have remained very high throughout the period and this has affected capital formation rates. This has acted as a powerful brake for productive investment and has slowed down economic activity.

In addition, another anti-inflation instrument has been the overvalued currency with detrimental effects on the country's external accounts. Because imports are an important component of aggregate supply, an overvalued exchange rate is an important instrument to put a lid on inflationary pressures. **Figure V.24** also shows how the exchange rate has been successfully utilized as anchor for the price system. The peak



*Gulf Offshore Platform*  
Credit: Coquitlam  
Wikimedia Commons

in 1995 shows how a macro-devaluation can as a long period of overvaluation helps subdue inflation but leads to a severe adjustment as expectations deteriorate and capital flight takes place. **Figure V.24** shows that when tension builds up and finally the exchange rate is adjusted, a macro-devaluation takes place in a very

disorderly process, with extreme capital flight. As pointed out above, the positive achievements of the anti-inflation struggle are destroyed and a very unstable situation emerges. High interest rates are used to attract foreign capital, but this affects the cost of credit and leads to high non-performing portfolios.

*top  
Harbor  
Credit: Miguel B. Sanchez  
Wikimedia Commons*

*bottom  
Field  
Credit: Archive  
www.ecoalimenta.com*



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Of course, the use of the exchange rate as an anchor for the price system presents its own problems because it impedes using the exchange rate as an adjustment instrument for the trade balance. This is a major problem in the open economy model: as capital inflows take place, the exchange rate is appreciated, with negative effects on the external sector. In addition, because these capital inflows are crucial for the country's international balance of payments, monetary authorities are trapped into a commitment to maintain the exchange rate stable. So, even though the open economy model is based on the premise that the exchange rate must adjust with great flexibility to the results of the current account,

in practice this adjustment process is impeded by financial liberalization.

Finally, minimum wages, which is a key reference for contractual wages, have been indexed with the expected inflation rates established by the central bank. Throughout the period, real inflation rates have exceeded expected inflation, leading to a systematic drop in real wages. Although this helps contain aggregate demand (and thus less inflation), it also leads to greater inequality and poverty.

Mexico's fiscal accounts appear as a good basis for sustainable debt manageable. However, there are serious problems with this conclusion. In the



*Peso  
Archive*

first place, as we have noted several times in this report, fiscal policy has been dominated by the central objective of generating a primary surplus. This has been achieved through the reduction of expenditure rather than through increased revenues. So the impact of this on the allocation of resources for environmental stewardship has been rather intense. Of course, social expenditures (health, education, housing, municipal services) have also been drastically affected by this approach to fiscal policy. But even this approach has not been enough to solve the problem of increased indebtedness. In 1998 the Federal government disclosed information about the true state of public

finance in Mexico. The notion of the so-called Financial Requirements of the Public Sector (FRPS) was used to provide a more accurate idea of the health of public finance.

As a result of several bailout operations, first for the sugarcane industry (which went bankrupt in the 1980s), then for the failed system of privatized toll roads (early 1990s) and finally for the rescue package of the country's banking system (1995-1997), the FRPS represented more than double the normal public balance deficit. In addition, if we add the government's commitments associated with the reform of the pension system, the real deficit becomes significantly higher.



*Irrigate*  
Credit: Alupus  
Wikimedia Commons

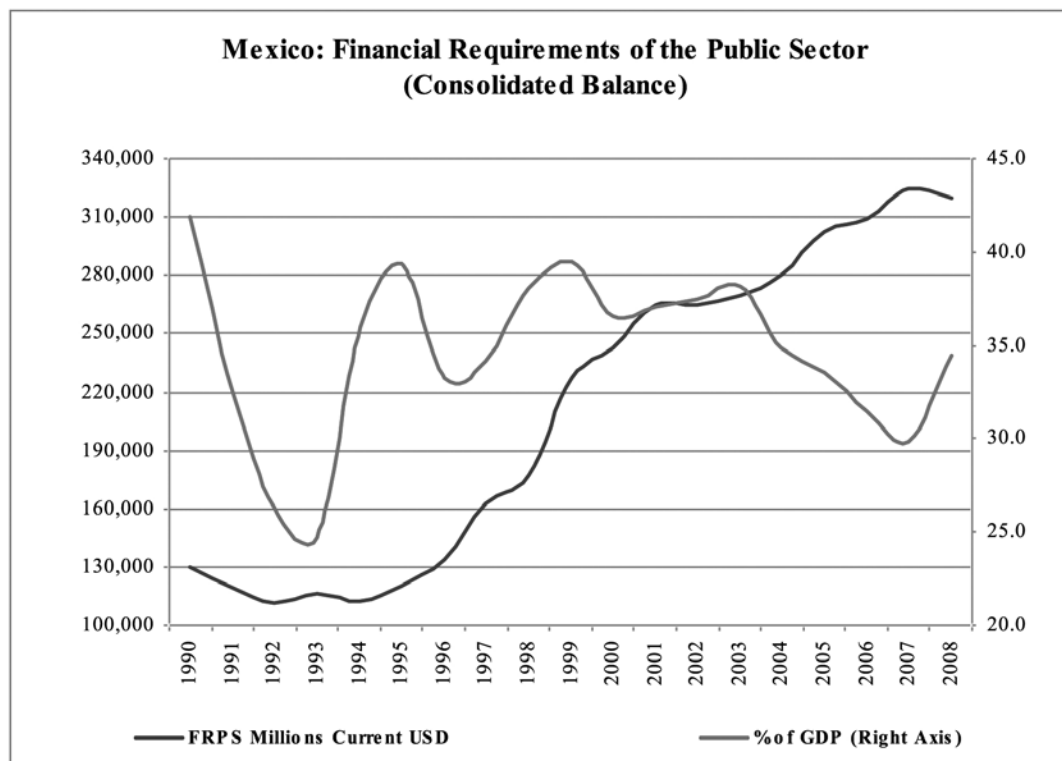


Today, this deficit is more than twice the size of the deficit authorized by the Mexican Congress. Servicing this deficit is a problem that remains unsolved and leads to a heavy mortgage of public resources.

The global financial crisis of 2008 is having a severe impact on Mexico's economy. The contraction for 2009 is currently being estimated to be of the order of 6.8% by Mexico's monetary authorities, but the International Monetary Fund is forecasting a drop of 7.3%, while several private sector rating firms, such as Moody's, are forecasting even steeper falls in aggregate output. There are two

critical reasons behind this dramatic outcome for Mexico. The first is that approximately 88% of Mexico's total international trade is carried out with the United States. As the crisis unfolded and the US economy started to slow down, the ripple effects extended into almost every corner of Mexico's economy. The second reason is that oil prices have collapsed and this brought about a fiscal crisis, with a gaping hole of more than 300 billion Mexican pesos. The response of the government was a pro-cyclical fiscal package that will exacerbate the effects of this crisis: taxes are being increased, while expenditures continue to be curtailed. The combined

**Figure V.26**



Source: Marcos Chávez, *Mexico Country Study*.

effects of this will have a long lasting impact on Mexico's ability to allocate adequate resources for environmental stewardship.

### STAGNATION AND ENVIRONMENTAL DEGRADATION

Mexico's recent economic history is a picture of stagnation combined with environmental deterioration. One possible explanation for this may be found in the misallocation of resources that takes place through macroeconomic policies. In particular, fiscal policy has not been able to remedy the serious problems associated with environmental degradation through the allocation of an adequate level of financial resources. The evolution of public expenditure may be in line with a strict ideological view about the need to reduce stet intervention in economic life in order to attain economic development. But it is not in accordance with historical experience (see Chang 2002), nor is it in agreement with the need to invest in environmental stewardship.

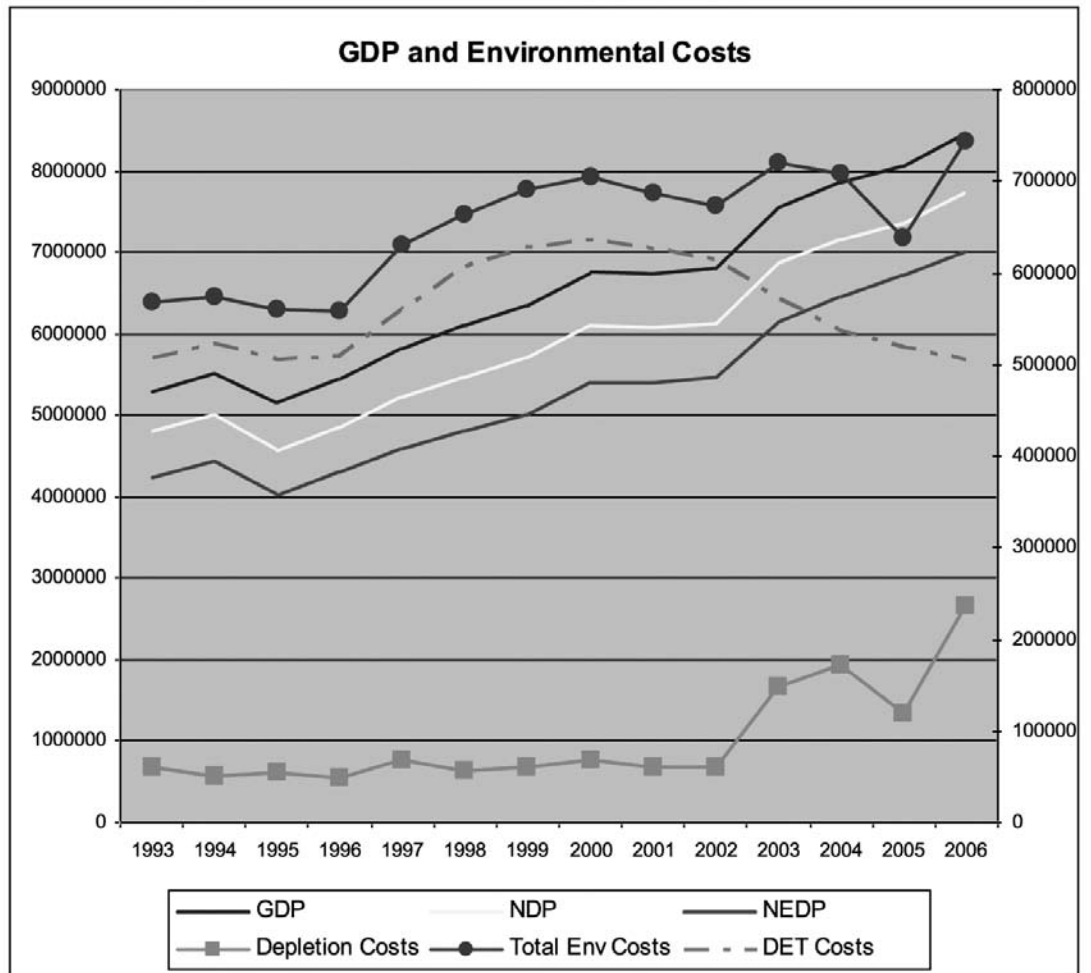
An examination of **Figure V.27** reveals that net environmental costs are significant. The graph shows how net domestic product (GDP minus fixed capital depreciation and amortization) and total net ecological domestic product (which takes into the costs of account depletion and environmental deterioration) evolve as time unfolds. The ecological accounts show that these environmental costs have kept pace

with the sluggish rate of growth of GDP. This almost assumes a linear relationship between GDP and environmental costs, something that is not justified by what we know about growth and stagnation. In a stagnant economy, productivity and technical change remain more or less constant. In any event, the total costs of depletion and environmental deterioration are of the order of 22% of GDP. This amount is probably underestimated (due to the coverage of the environmental accounts), but it still is quite significant and may be an indicator that if this pattern of events is not reversed, the country may well enter into a dangerous phase of environmental degradation that may be capable of threatening the future potential for sustainable development.

**Figure V.27** shows that in spite of years of "responsible" budget management (i.e., generating a primary surplus and containing expenditures), the financial requirements of the public sector continue to grow. In fact, they have almost doubled since 1998 when data started to be disclosed. Clearly, there is something wrong with this approach to fiscal policy. The distraction of resources from areas related to environmental stewardship is not only substantial, but it is also useless when it comes to reducing the financial burden of the State.

It is difficult to conclude that technical progress has taken place and that this maintains environmental costs

Figure V.26



Note: All figures are in constant 2002 Mexican pesos.

NDP = Net domestic product.

NEDP = Net Ecological Domestic Product.

DET = Environmental Deterioration Costs.

GDP, NDP and NEDP are measured against the left hand axis.

Depletion Costs, Deterioration Costs and Total Environmental Costs are measured in the right hand vertical axis.

Source: Marcos Chávez, Mexico Country Study.

more or less in line with the slow growth of GDP. But in fact, **Figure V.27** shows a strange behaviour in the case of the curve describing the evolution of environmental deterioration costs. Until 1999-2000, the curve continues with a positive

slope that reflects the growth of environmental deterioration costs. But after 2000 the curve adopts a negative slope, indicating that these costs are being reduced. This could only be the result of greater efficiency, increased productivity or a change in the output

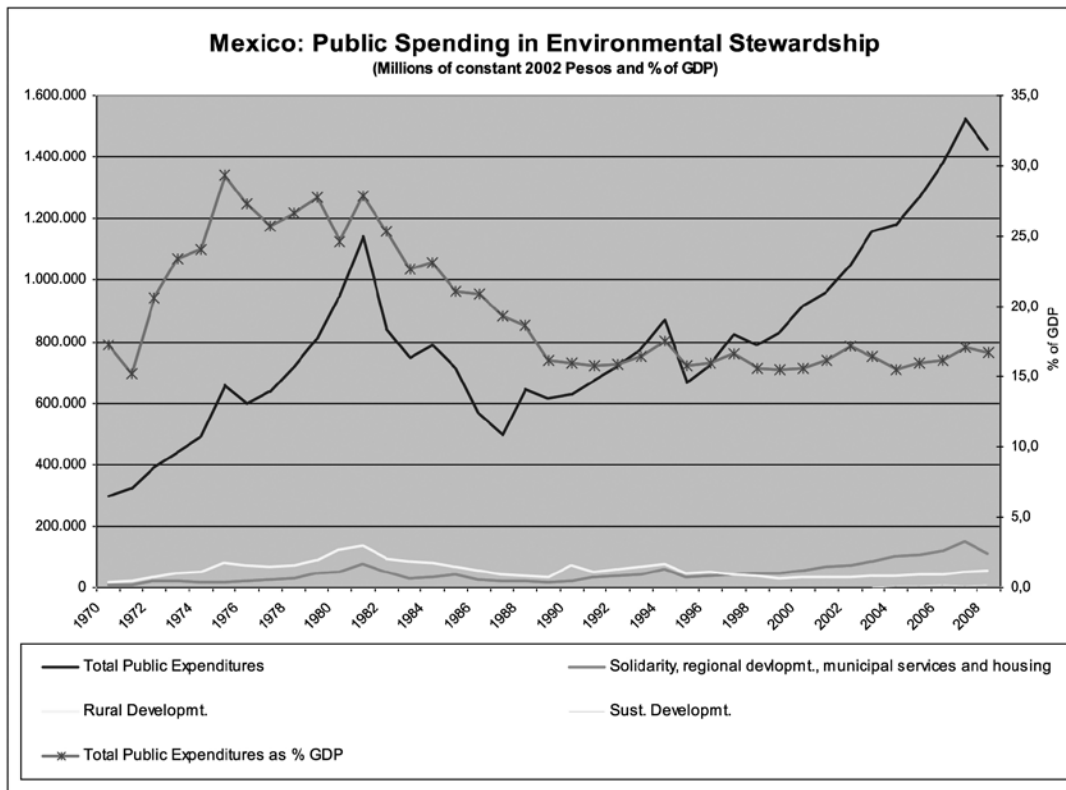
mix that would be accompanied by inferior environmental deterioration costs. In fact, all indicators and the output mix of the Mexican economy contribute to cast serious doubts on this conclusion.

Could it be that Mexico is investing more in remediation and control of environmental deterioration? The study of how public spending in environmental sustainability has evolved contradicts this viewpoint. **Figure V.28** shows that total public expenditure (programmable appropriations, without debt service) has increased modestly in real terms in the period 1987-2008. In these two decades, total expenditures have remained constant

as a percentage of GDP (oscillating around the 16% level).

In absolute terms, the resources allocated to the Federal budget items that can be considered as close to environmental stewardship have remained at very low levels. The curve that includes regional development, municipal and housing services, also includes social expenditures related to the war on poverty campaigns. Even this amount remains at the level of 150 billion pesos, and is even showing a downward trend in 2007-2008. This means that the environmental costs that are associated with the evolution of the Mexican economy (which, as we have seen, has

**Figure V.28**



Source: Marcos Chávez, Mexico Country Study.

maintained a modest growth rate) are met with a more or less constant and modest level of resources.

The country study for Mexico shows that the long period of economic stagnation that has taken place in the last thirty years is accompanied by a process of constant deterioration in almost every environmental dimension. The level of public spending allocated to environmental damage remediation and prevention is not enough to compensate the total cost of depletion and environmental deterioration used to calculate the Net Ecological Domestic Product (see **Figure V.27**).

As commented above, Mexico's environmental accounts reveal that the total cost of depletion and deterioration is equivalent to approximately 22% of GDP. The amount of resources allocated to environmental stewardship is not more than 4% or 5% of GDP. And even this amount is overestimated because it includes expenditures that are not strictly directed towards environmental conservation and remedial actions. Clearly, if fiscal policy continues to generate a primary surplus, this negative trend in the amount of resources allocated for environmental sustainability will continue with negative consequences into the future.<sup>84</sup>



*Botswana Sunset*  
Credit: Matt80,  
Creative Commons

<sup>84</sup> This conclusion is quite independent of any assumption on weak or strong sustainability

# THE CHALLENGE OF SOCIO-ECONOMIC AND ECOLOGICAL SUSTAINABILITY IN INDIA UNDER NEO-LIBERAL MACROECONOMIC POLICIES<sup>85</sup>

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*Credit: Archive  
[www.natura-medioambiental.com](http://www.natura-medioambiental.com)*

<sup>85</sup> While the term neo-liberalism has been adopted in this paper, the policies associated with it are neither too new, nor very liberal, as far as the majorities in a country like India, who are impacted adversely by it, are concerned. Given the co-optation of the state by powerful, globally mobile private players from both India and abroad, the term ‘corporate totalitarianism’ is perhaps no exaggeration, even if corporations are occasionally ‘defeated’ by mass movements (for instance, when the Indian government stopped Vedanta’s plunder of the ‘bauxite mountain’ Niyamgiri in the state of Orissa; though it remains to be seen if the order stands for good). Corporate hubris is of such proportions today that a transnational giant like IBM, as per its popular commercial, has no shame in boasting that it is helping “build a smarter planet” (as though it’s the planet that is not smart enough for us!). In fact, even the Chief Economist of the IMF has pointed out recently the “privatization by stealth of the state in India.” (The Times of India, July 31, 2010, <http://timesofindia.indiatimes.com/business/india-business/Many-of-Indias-billionaires-have-made-money-by-their-proximity-to-govt-/articleshow/6239385.cms>)

THE CHALLENGE OF SOCIO-ECONOMIC AND  
ECOLOGICAL SUSTAINABILITY IN INDIA UNDER  
NEO-LIBERAL MACROECONOMIC POLICIES

In this paper I outline the changing character and structure of the Indian economy and analyse some of the key socio-economic and ecological consequences this is leading to. The central hypothesis is that the formal advent of neo-liberal economic policies since 1991 has had a dramatic impact both on the country's environment, as well as on the livelihoods of hundreds of millions of people and their prospects for the future. In the process, not only have hunger, malnutrition and poverty remained about as serious as they were in proportionate terms two decades ago, we are seeing new ways in which people are becoming poor or poorer. We show how neoliberal 'economic reforms' have contributed to a most socially divisive process that has, at once, also compounded ecological difficulties.

The first section of this chapter focuses on the increasing external orientation of policies and its key consequences: financialization of the Indian economy

and the implications for macroeconomic policies and policy sovereignty, and the imbalanced, jobless growth and stagnant real wages. The second section centres on the social and environmental collateral damages brought about by this macroeconomic policy package.

**PART I**  
**Increasing external orientation of policies and its consequences**

**A. Financialization of the Indian economy**

The externally oriented growth strategy crafted for India in the 1980s and 1990s took a dim view of purchasing power in the domestic market. It was argued that India was too poor to grow by itself. Given its limited capacity to save, it needed not only capital from abroad, it was felt that it also needed the markets of the Western world to sell its exports. Success stories from East Asia were cited to open up the Indian economy to transnational



*Credit: Archive  
Wikimedia Commons*

business. The Indian growth process since the reforms began is externally stimulated –both by service sector exports and by capital inflows.

It is factually incorrect to argue that the Indian savings rate and the limited size of the domestic market were impediments to growth. India was growing at 5-6% between 1974 and 1990. The only post-reform period in which it has exceeded this significantly was during 2003-08, when the economy grew at 6-9% and the stock market went delirious.<sup>86</sup>

As far as savings and capital for investment are concerned, it is noteworthy that domestic savings and investment are even today not too far apart, suggesting the redundancy of foreign capital for growth. In many years, savings have exceeded investment. India had already achieved a savings rate of about 23% of GDP when the reforms started in 1991. This was high for a poor country, and certainly much higher than rates of saving in the West, especially the US (which has typically had a negative savings rate till the crash of 2008). In fact the savings rate, even after the reforms, hovered around 23% all the way till 2002-03, before crossing 30% for the first time in 2004-05. In 2006-07, while the national savings

rate was 35.7% of GDP, the rate of investment was only marginally higher, at 36.9%, suggesting that foreign capital inflows are performing some altogether different role in the economy.<sup>87</sup>

Indian export performance has been inadequate for making policy-formulation relatively autonomous of global financial interests. The slow growth of export revenues and the persistence of the external trade deficit are serious problems and show that the net contribution of foreign trade to the Indian economy has been negative all along, and is, in fact, deteriorating.

The last time that India enjoyed a trade surplus was in 1976-77. After the reforms began, India's merchandise trade deficit has expanded (at constant prices) rapidly from \$6 billion in 1990-91 to \$57 billion in 2007-08 (over 5% of our GDP). The surplus from trade in services, including IT (\$37.6 billion, 3.5% of GDP) was not adequate to make up for this in 2007-08. Import liberalization has allowed much demand to "leak away" from the Indian economy. The trade deficit worsened from 2.3% to 7.8% of the GDP in the 5 years preceding the crash. If India spent Rs. 8 out of every Rs.100

<sup>86</sup> Economic Survey 2007-08, Government of India, New Delhi, p. 248, <http://indiabudget.nic.in/>

<sup>87</sup> Economic Survey 2007-08, Government of India, New Delhi, p. A-10, <http://indiabudget.nic.in/>; RBI Annual Report 2008-09, p.80 [http://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/IRAR200809\\_Full.pdf](http://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/IRAR200809_Full.pdf). To say that the national savings rate has kept pace with investment is not to negate the Keynesian logic that investment can sometimes spur growth of incomes, and hence, savings. It is only to discern the role of foreign capital inflows to India.



of its GDP on imports in 1991, by 2000 the proportion had increased to Rs.14 and in 2008 it was Rs.30. We can see from these figures who has benefited most from the reforms under globalization.<sup>88 89</sup>

India's foreign exchange reserves have hovered between \$200–300 billion during the first decade of the century. Apart from yielding high returns to investors, they have served to finance India's persistent and growing trade deficit with the rest of the world. This fact is of some significance for the dilution of autonomy over policy-making for the Indian State. It means that the latter needs to sustain the attractiveness of the economy to investor elites abroad, by keeping interest rates high and exchange rates stable, the latter in order to reduce the risk for foreign investors who decide to invest in rupee-denominated assets.

When it comes to foreign exchange reserves, the difference between India and China is huge. Unlike China, whose enormous reserves are based on an export surplus, giving their policy-makers remarkable room for manoeuvre, Indian foreign exchange

reserves are based entirely on inflows of speculative capital owned by foreigners and Non-Resident Indians, who see India as a desirable destination for their investment. In one three-month period in 2007, Indian markets gave a flattering return of over 33% to investors at a time when the “mature” markets of the West were often yielding negative returns.<sup>90</sup>

For the government, there is always the lurking fear that speculative portfolio investments (also referred to as foreign institutional investments, FIIs) would be withdrawn if policies



*Selling Flowers*  
Credit: E Sandler,  
Creative Commons

<sup>88</sup> Economic Survey 2007–08, Government of India, New Delhi, p. A-81, <http://indiabudget.nic.in/>

<sup>89</sup> Economic Survey 2008–09, Government of India, p.129, p.148, <http://indiabudget.nic.in/>, World Bank Country Data: India, [http://ddp-ext.worldbank.org/ext/ddpreports/ViewSharedReport?&CF=1&REPORT\\_ID=9147&REQUEST\\_TYPE=VIEWADVANCED&HF=N&WSP=N;](http://ddp-ext.worldbank.org/ext/ddpreports/ViewSharedReport?&CF=1&REPORT_ID=9147&REQUEST_TYPE=VIEWADVANCED&HF=N&WSP=N;) Sunanda Sen, “State, society and the market: Indian Economy under Economic Reforms”, Paper presented at the Italian Institute of Political Economy, Rome, 2008.

<sup>90</sup> “India is world's best performing stock market”, Economic Times, November 21, 2007, <http://economictimes.indiatimes.com/Markets/Analysis/India-is-worlds-best-performing-stock-market/articleshow/2559788.cms>

are seen to be anything but entirely friendly towards overseas and NRI investor elites. Countries competing for global finance could drain such capital away from India. If such a thing were to happen, India will once again confront the situation it faced in 1991, when it only had hard currency reserves left at one stage for two weeks of imports.

The net result is that global finance profoundly influences the real domestic economy (producing actual goods and services), whose activities are relegated to lower priority. This mirrors a world-wide trend in which the centre of gravity of the economy as a whole has moved away from real production towards finance.

What is crucial to understand from the point of view of those with a genuine concern for the economic betterment of people in India is that purely financial transactions result in a mere change of ownership. They contribute little or nothing to the productive or job-generating capacity of an economy. When shares change hands in the secondary market, the transaction does not reflect the creation of any real assets.

Thus, a finance-led boom of the sort that India has witnessed since the beginning of this century brings windfall gains to global and Indian investor elites, but deprives many

needed sectors of badly needed funds, by attracting them instead to the financial sector. Moreover, under the liberalized tax regimes that have been created as “incentives” for financial investment, neither capital gains (when assets are sold) nor dividends on financial assets are taxable. This adds fuel to the fire as secondary market transactions grow in volume relative to primary transactions. Greed in this case, as in so many others, actually undercuts industrial capitalism.

While foreign capital inflows may not have brought much benefit for the bulk of the Indian population, their sudden outflow can certainly bring much harm. The experiences of Latin America in the 1980s and 1990s, those of East and South-East Asia in 1997-98, of Russia in 1998 and of Argentina in 2001 suggest that the sudden departure of foreign capital easily leads to a quick devaluation of the currency, inflation and unemployment. Given India’s precariously poised external accounts, this remains a serious worry for Indian policy-makers.<sup>91</sup>

Policy space is taken up not just by measures which open the economy to foreign goods, services, and capital. The conditionalities imposed by the IFIs ensure that fiscal and monetary policies are also put in place which suits the interests of financial

<sup>91</sup> The literature on these crises is vast. For a specialist’s overview, see Charles P. Kindleberger and Robert Aliber, *Manias, Panics, and Crashes: A History of Financial Crises*, 5th ed. Wiley; For a journalistic overview, see John Lee, “Dollar’s fate written in history”, *Asia Times* June 4, 2009, [http://www.atimes.com/atimes/Global\\_Economy/KF04Dj03.html](http://www.atimes.com/atimes/Global_Economy/KF04Dj03.html)

markets. This is why, for instance, Indian governments have had to accept the Fiscal Responsibility and Budgetary Management (FRBM) Act (2003) which enforces balanced budgets and thus restricts deficit spending, thereby capping public expenditure on health, education, public housing, environmental protection (which has suffered a proportionate decline in State spending during the last decade) and social services (though the 2008 collapse forced the government to make an exception – to boost business activity, not for generating employment specifically). Under pressure from international creditors, working through the IMF and the World Bank, India's policy-makers have consistently had to focus on maximising the primary surplus (or minimising the primary deficit, to be more precise) on the government budget. This hovered around zero, till the global crisis hit in 2008. But

if we add to the primary deficit the large interest payments made by the government since the 1990s, the fiscal deficit balloons to 3-6% of GDP every year. Arguably, this (together with the growing trade deficit, 1-4% of GDP) constitutes the flip side of the institutional capital inflows into India (1-3% of GDP).<sup>92</sup>

Likewise, no policy which slows down financial transactions, such as a turnover tax, or a capital-gains tax, on transactions in securities is allowed on the agenda. These steps, it is argued, will upset "investor sentiment" and drive away foreign capital inflows. But measures like easing the convertibility of the Rupee (on the capital account, thereby easing large capital outflows), it is pointed out, will vastly improve such sentiment.<sup>93</sup>

A key lesson from the ongoing global crisis is that an externally oriented growth strategy for countries



Rupees  
Credit: Archive  
apudecadiz.blogspot.com

<sup>92</sup> Economic Survey 2009-10, Government of India, New Delhi, <http://indiabudget.nic.in/es2009-10/chapt2010/chapter06.pdf>

<sup>93</sup> "Tax-GDP ratios slated to drop to 10.94% in 2008-09" <http://www.livemint.com/2009/07/07002528/TaxGDP-ratio-slated-to-drop-t.html>; "Low tax-GDP ratio daunts India's quest to join the developed world", <http://www.thehindubusinessline.com/2005/10/13/stories/2005101301531200.htm>

as large as India or China is flawed at the root. First of all, the markets of the affluent nations are saturated, while the unemployed labour force in a country like India is huge. Secondly, exports to the rich nations are usually capital-intensive (unless one thinks of super-exploitative sweatshops), and so cannot support too much employment. Thirdly, there is stiff competition from other poor countries also trying to sell in the same markets of the wealthy nations. China and East Asia have already conquered the largest share of Western markets. Fourthly, when India attracts big inflows of foreign capital, it raises the value of the rupee, thereby making Indian exports less competitive in global markets. To compensate for this, suppliers often suppress wages, or even retrench workers. Finally, too much portfolio investment (FII) generates exchange rate instability in a developing country, causing problems for exporters and importers, again adversely affecting wages and/or employment.

### **B. Imbalanced, jobless growth and stagnant real wages**

When Indian economic policies were re-directed towards a more open economy in the early 1990s, the

resulting growth in output was expected to be pro-poor as well. In other words, growth in employment was expected too. Has it actually happened as hoped for?

Between 1983 and 1994, when economic growth was 4-5% every year, employment in the organized sector grew at 1.2%.<sup>94</sup> Between 1994 and 2005, when growth increased to 5-6% (sometimes crossing 7%), employment growth turned negative (-0.3%). It turned imperceptibly positive by 2006 (0.12%). But once the data is in for all the hundreds of thousands of workers laid off during the current recession, the employment growth will once again probably turn negative. Importantly, in the pre-reform period, rate of growth of employment was well above the rate of growth of population. During the post-reform period the opposite is the case.<sup>95</sup>

In 1991, when reforms began, the mainstream economy (the organized sector) employed 26.7 million people, of whom 7.7 million worked in the private corporate sector. In 2006, the numbers had remained virtually unchanged (total employment was 27 million with 8.8 million in the private

<sup>94</sup> I use the term mainstream economy to refer to the dominant formal (or organized) sector of the Indian economy. In this sector, at least ten people are employed in a registered production unit which uses power. It also pays taxes, and employs only about 7% of India's work-force. Contrasting with this are many subsistence or default economies in the country, which include most of agriculture and allied activities and the enormous unorganised, or informal sector of industry and services, on which most people in the country are dependent (and in this sense should actually be called the mainstream!)

<sup>95</sup> Various issues of Economic Survey 2002-09, Government of India, New Delhi, <http://indiabudget.nic.in/>.



*Potter at work,  
Credit: Yam,  
Creative Commons*

corporate sector, including the big spurt in the IT sector). Almost all the net increase in employment in the organized sector has been of the casual variety, without job or social security. Following the neo-liberal prescription of flexible labour markets, there is a clear trend towards the informalisation of the workforce. Meanwhile, between 1991 and 2006, India's labour force grew from about 325 to 440 million.<sup>96</sup>

<sup>96</sup> Economic Survey 2008–09, Government of India, New Delhi, <http://indiabudget.nic.in/es2008-09/chapt2009/tab31.pdf>; The Challenge of Employment: An Informal Economy Perspective, National Commission for Enterprises in the Unorganised Sector (NCEUS), GoI, New Delhi, 2009, p.14, [http://nceus.gov.in/The\\_Challenge\\_of\\_Employment\\_in\\_India.pdf](http://nceus.gov.in/The_Challenge_of_Employment_in_India.pdf)

<sup>97</sup> Quoted in Samuel Bowles and Herbert Gintis, "The Revenge of Homo Economicus", *Journal of Economic Perspectives*, Vol.7#1, Winter 1993.

Making labour markets more flexible, as per the neo-liberal prescription, is unlikely to generate more employment: "Empirical findings suggest that the so-called labour market inflexibility had hardly been a factor in determining either the growth of employment or labour intensity in organized manufacturing."

The primary explanation for the stagnation in organized sector employment lies in the very nature of the capital-intensive technology used in modern industry and services. Mechanization and automation account for this. India today produces more than three times the industrial output it made in 1990 with the same number of workers in the organized sector that it employed then. The above numbers are confirmed by evidence from the shop-floor. Here are some of the many examples that can be cited.

Redundancy, even more than exploitation, is increasingly the condition of labour around the globe. It seems that the economist Joan Robinson's characterisation of the modern worker's situation, articulated decades ago, is now only too real today: "The only thing worse than being exploited by a capitalist is to be exploited by no one at all."<sup>97</sup>

So, if India’s labour force has expanded by well over 100 million since the early 1990s, where have people found work? The answer lies in the dramatic growth of “self-employment” and employment in unorganised services. They appear to have absorbed over 60 million new workers since 1993, most of them severely under-employed and underpaid. The remainder are –even officially– unemployed.<sup>98</sup> What sorts of wages are being earned by informal workers? The tables below (computed from NSS data) tell their own story:

SOURCE: J. Unni and G. Raveendran, “Growth of Employment (1993-94 to 2004-05): Illusion of Inclusiveness?”, EPW, January 20, 2007. Data includes agricultural workers.

**TABLE 1**

	<b>1993-94</b>	<b>1999-2000</b>	<b>2004-05</b>
<b>Rural Male</b>	58.5	80.2	83.8
<b>Rural Female</b>	34.9	71.8	49.4
<b>Urban Male</b>	78.1	102.3	101.0
<b>Urban Female</b>	62.3	84.6	76.1

*Average Real Daily Wages of Regular Workers, All India, 15-59 years, in Rs./day at 1993-94 prices*

**TABLE 2**

	<b>1993-94</b>	<b>1999-2000</b>	<b>2004-05</b>
<b>Rural Male</b>	23.2	28.6	31.1
<b>Rural Female</b>	15.3	18.5	20.2
<b>Urban Male</b>	32.4	38.1	37.3
<b>Urban Female</b>	18.5	23.0	21.8

*Average Real Daily Wages of Regular Workers, All India, 15-59 years, in Rs./day at 1993-94 prices*

<sup>98</sup> RUPE (2008).

Real wages declined or stagnated for most categories of workers over the period from 1999-2000 to 2004-05. If we take five members and two wage-earners per family (one male, one female) we can see that for casual workers –the majority– in urban areas, daily per capita income in 2004-05 (at 1993-94 prices) was under Rs.12 a day. In rural areas, it was just over Rs.10 a day. Both are below the official poverty line. And this is only for the days of the year that both working members in a family found work. It is to be noted that these are averages. In other words, there are many not even earning this much. Small wonder that the high economic growth of recent years has made no impact on the living standards of the poor.



*top*  
*Credit: Bernard Gagnon*  
*Wikimedia Commons*



*bottom*  
*Farmer*  
*Credit: Redaloes,*  
*Creative Commons*

**PART II**

**The ‘collateral damage’ of macroeconomic and other policies for growth and ‘development’ under globalization**

In sum, the state’s approach to agriculture and small farmers is a harbinger of times to come. By giving obvious preference to a few corporations over millions of indigenous small farmers, it is failing to perform its duty under the nation’s Constitution. If domestic companies and TNCs ultimately win this battle the small farmer of old will be decimated over the next few decades. Tens, if not hundreds, of millions of dispossessed and displaced peasants will join the ranks of footloose labour which is lucky to find work for even half the year. Perhaps the numerical growth rate in agriculture will become impressive after this massive destruction of traditional livelihoods. The chosen few among the globally agile TNCs will come to control and dominate the Indian food chain—from the seed and input supplies and the grain fields all the way up to the wholesale and retail of processed foods in city supermarkets.

However, given the size of the population under consideration—over 700 million—this scenario is somewhat unlikely to actually transpire. The pressure of population on the land is growing, not diminishing, especially since jobs in others sectors of the economy are not forthcoming at anywhere close to the desired rate.



*top*  
*Flower Seller*  
*Credit: Ekabhishel,*  
*Creative Commons*



*center*  
*Credit: Archive*  
*Vanguardia*



*bottom*  
*Assorting Eggplants*  
*Credit: Arne Hückelheim*  
*Creative Commons*



People are not going to quietly accept the rapid worsening of their lot. The more likely eventuality is that traditional Indian agriculture will become a zone of perpetual conflict and violence as powerful global players challenge the age-old foundations of Indian agrarian life with the sometimes open, sometimes tacit backing of state policy.

The neglect of agriculture since the dawn of the reform era is working against the broader economic interests not just of the rural population, but of the country as a whole. Agriculture is germane to the well-being of a poor country. It is the very foundation of a strong developing economy. This much is obvious –now even to the World Bank and the IMF, normally not quick to grasp such insights. What is less obvious is that the well-being of agriculture has a profound impact on industry and other sectors of the economy, especially in the countryside. The linkages have long been understood by Development economists. It's a surprise that in the excitement around globalization and the reforms these elementary lessons

have been forgotten. They can be briefly outlined here.

If government invests in agriculture (at least in proportion to its significance in national income, if not to its significance in employment), especially in land and water regeneration, decentralised irrigation and dryland agriculture, and the RBI ensures affordable credit for farmers, land productivity and food production will grow (unless land continues to be seized from agriculture at a high rate). If decent prices are offered to farmers for the sale of their crop (which is to some extent happening with organic produce already), farmer's incomes would grow as well. As farmers become better off they would spend a larger fraction of their income on non-agricultural goods, generating demand for the products of industry and services. Many of these things would be produced in rural areas themselves. Consumer goods and small retail would be obvious beneficiaries of such an approach. As non-agricultural demand in the countryside increases one can reasonably expect rural non-farm employment



*Credit: Bernard Gagnon  
Wikimedia Commons*

(RNFE) to grow as well. This would be especially so because consumer goods, small retail and other sectors likely to benefit from such policies are more labour-intensive than other (more modern) sectors of industry and services.

The growth of RNFE will give a further impetus to local food production as the effective demand for food increases. This will further boost other sectors of the local rural economy. And so on. A 'virtuous cycle' can be set in motion. In conjunction with potentially successful government programmes like NREGS it can change the socio-economic face of the countryside.

There is only one problem with such an approach to agriculture. It leaves virtually no opportunity for the giant food companies (both domestic and foreign) and seed companies to make growing profits by controlling India's food-chain. Nor do corrupt politicians and bureaucrats have opportunities they are used to. On the contrary, as local rural economies pick up a dynamism of their own, they will render the Indian peasantry relatively autonomous of happenings in the world outside. Leaders of farmers' movements in India are not interested in continuing their dependence on external help of any sort. As a Karnataka farmer says "we the farmers need to stand on our own two legs. We don't want financial

assistance...we don't want to be dependent on the WTO, the IMF and the World Bank." What these latter institutions and their client corporations are most afraid of is precisely such independence.<sup>99</sup>

One of the fundamental commitments made at the dawn of independent India –and dating to the concerns of the freedom struggle during the early decades of the 20th century– was for the state to ensure the availability of land to the rural poor and marginal peasantry, by carrying out extensive land reform. This was seen as basic to the goal of distributive justice. To this end, for instance, zamindari (absentee landlordism) was legally abolished after independence. In fact, the promise of "land to the tiller" informed many of the electoral campaigns of various parties in the decades after independence. Availability of fertile land to the peasantry was seen as a necessary pre-requisite to food security and the removal of rural poverty. Land reforms were not particularly successful in most parts of India. Nonetheless, the intention was significant, and progress was made in some states.

This intention has been summarily dethroned in policy circles after the reform era began. The hypocrisy is blatant when you compare the rhetoric of political parties with their actual performance. The UPA government, for instance, in their Common

<sup>99</sup> A Karnataka Rajya Raitha Sangha (KRRS) farmer, quoted in Raj Patel, *Stuffed and Starved*, Portobello Books, London, 2007, p.42.

Minimum Program announced before the 2004 elections that “landless families will be endowed with land through implementation of land ceiling and land redistribution legislation. No reversal of ceiling will be permitted.” Meanwhile, land legislation across the country is being radically changed, to remove all land ceilings and make agricultural land available for industry, infrastructure, mining, Special Economic Zones (SEZs), or quite simply ‘land banking’. “There is real danger of reversal of the land reform agenda”, admits a report of the Ministry of Rural Development.<sup>100</sup>

Textbooks of development economics hardly ever acknowledge the routine phenomenon of the uprooting of human communities and

cultures, euphemistically characterised as ‘development-induced displacement’. The way that development is assumed to happen by the book is something like this: Most people in a developing country are found living in a ‘tabula rasa’ world – in a condition of utter destitution, barely surviving under an open sky, with no access to the means of subsistence. The government of the country then opens up its markets to ‘the world’. As competition arrives, investment pours in, productive jobs are generated, incomes rise and ultimately prosperity prevails everywhere. The process takes a while, and causes pain to some along the way, but is said to unfold roughly like this.<sup>101</sup>

We know full well –if our cognition is not tinted– that there is no such



Credit:  
Rajesh Kumar Singh  
Wikimedia Commons

<sup>100</sup> Quotations from Committee on State Agrarian Relations and Unfinished Tasks of Land Reform, Ministry of Rural Development, GoI, New Delhi, 2009, p.i, ii, available at [http://www.rd.ap.gov.in/IKPLand/MRD\\_Committee\\_Report\\_V\\_01\\_Mar\\_09.pdf](http://www.rd.ap.gov.in/IKPLand/MRD_Committee_Report_V_01_Mar_09.pdf)

<sup>101</sup> While this may be seen by some as a rude caricature of the complexity of developmental processes, the popular meaning, if not the essence, of the latter is certainly captured by this description. This popular meaning has such persuasive force today that even as sophisticated a writer as Amartya Sen for instance, omits any discussion of the loss of land and livelihood, human community and culture invariably involved in the displacement induced by development. See his much lauded book *Development as Freedom*, Oxford, New Delhi, 2000.

thing as a 'tabula rasa' in the Developing world. Each poor family tries to survive by living off land, water, forests, pastures, rivers or coastlines which provide it with the basic means of subsistence. In a country like India, every little thing –from fallen twigs and wild grasses to cow-dung– finds its place in the everyday economic life of the people. Before the arrival of development, they do have access to natural resources, often in the form of the commons, and should not even count amongst the 'poor' if this access provides them all their basic needs and more. (Unfortunately, that's not how poverty or prosperity is measured nowadays!) The government recognises land as privately owned if an individual has an authorised patta or title. In all other cases (except major parts of north-east India) the land is considered State property. However, in practice such land may be common property. It may be a common grazing area, a village forest or a coastal belt shared traditionally by fishermen. These are often areas used by communities for generations without the State providing titles or rights.

The requirements of the mainstream economy are today enormously demanding. Integration with a globalizing world economy on terms favourable to it (and the national elite) involves creating a domestic economy with, among many other things, smoothly functioning land and property markets. (This is urgently demanded by globally powerful

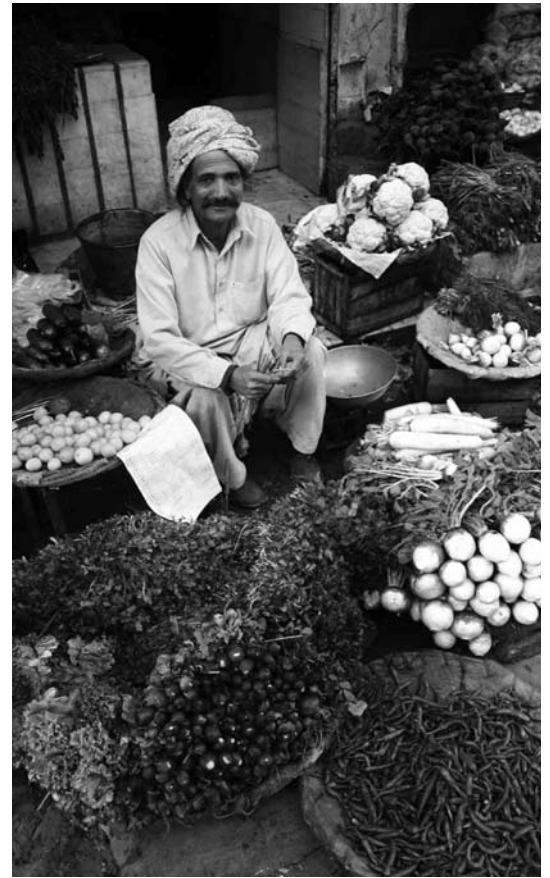
financial firms to have easily transferable portfolios of assets which can be auctioned to highest bidders at great profit.) What the vast majority of people in the country suffer is the 'collateral damage' of such imbalanced economic growth: they live in the shadow of forces and decisions taken far away from them, very often outside the country, and for considerations that do not concern them whatsoever. The scale of displacement that has resulted from the acceleration of economic growth in recent times is large.

It bears emphasis that the mining and mega-projects intended for the greater good of the nation, on account of which so much of displacement has happened over the past six decades have virtually nothing to do with the people who are forced to move. The latter do not usually partake of the benefits that accrue from the projects (whether it is power, water or something else). Nor do they typically find employment in these projects. Increasingly, such modernizing projects need highly qualified and skilled personnel who usually come from outside the region where the project is located.

Also important to remember is that all too often land requirements are overstated and much more land is acquired than is needed for an industrial project. In places where privatization and enclosure ends up depriving village communities of access to the commons, it is the more marginalised

groups –women and landless classes in particular– who suffer the most. As a collective form of economic life is lost, rural society is transformed into a set of individuals competing against each other for the crumbs of development. Many of the poor, marginalised classes lose out in the race and village society gets further stratified as the well-off classes are able to corner the few local gains of the development process –perhaps a few contracts or high levels of compensation with which they could start a new business. Rich landlords around Delhi, for instance, are often the new owners of cab services that have proliferated in recent times, even as Dalits who served as agricultural labour in the past go jobless, or have to spend money on transport to travel every day for work.

*Pakistan Street Vendor  
Credit: S. Evans,  
Creative Commons*



A line of argument that is often given in favour of land acquisition is that a change in land-use from agriculture or forestry to industry raises the value of the land dramatically, especially if the land is close to an urban area. With this greater monetary value of the land the losers can be more than adequately compensated. This argument has been used to defend land acquisition for SEZs, industry, infrastructure and mining.

The fundamental question that has to be asked of any change from the status quo is whether people get to have the access to resources they have at present, or to viable alternatives, whether the change will

enlarge or shrink their livelihood options. The experience with displacement hitherto tends to suggest that people's options typically shrink once they lose their access to land, water or forests.

The way that land is typically acquired for industrial or other purposes in India reflects the underlying historically given inequalities of power. Those who must move for the nation's progress and development are typically poor and powerless. (Delhi's powerful politicians and bureaucrats are after all not going to move if high-grade iron ore was suddenly discovered under the city). An anachronistic piece of legislation from colonial

India (the Land Acquisition Act of 1894), meant for the extractive goals of the British Empire, is invoked to enable this. In the name of “public purpose”, using the power of “eminent domain” (the state’s prerogative to acquire in the ‘public interest’), the land of the powerless is seized from them by the state to promote “development” projects which essentially enrich a powerful lobby of contractors, developers, industrialists, bureaucrats and politicians, along with urban middle classes and the rural elite.<sup>102</sup>

Following an enduring colonial-era practice, the Indian State arrogates to itself a discretionary power which profoundly distorts land markets, raising asset prices for speculative ends. It is perhaps the single biggest source of corruption in the country, enabling the formation of vast fortunes. If Indian capitalism is often accused of being “crony” in nature, the land market and its sponsors have to shoulder the most blame.<sup>103</sup>

<sup>102</sup> For detailed critical scrutinies of the Act, see Usha Ramanathan, “Displacement and the law”, EPW, Vol. XXXI, #24; June 15, 1996 and Colin Gonsalves, “Judicial failure on land acquisition for corporations”, EPW, Vol. XLV #32, August 7, 2010

<sup>103</sup> For detailed critical scrutinies of the Land Acquisition Act, see Usha Ramanathan, “Displacement and the law”, EPW, Vol. XXXI, #24; June 15, 1996 and Colin Gonsalves, “Judicial failure on land acquisition for corporations”, EPW, Vol. XLV #32, August 7, 2010

<sup>104</sup> “Indian school shooting sparks US gun crime fears”, The Telegraph, Dec.12, 2007, <http://www.telegraph.co.uk/news/worldnews/1572359/Indian-school-shooting-sparks-US-gun-crime-fears.html>; “Vedic Village land-grab goon nabbed”, The Times of India, September 9, 2009, <http://timesofindia.indiatimes.com/city/kolkata-/Vedic-Village-land-grab-goon-nabbed/articleshow/4988654.cms>; Shoma Chaudhury, “Weapons of mass desperation”, Tehelka, Vol.6 #39, Oct.3, 2009, [http://www.tehelka.com/story\\_main42.asp?filename=Ne031009coverstory.asp](http://www.tehelka.com/story_main42.asp?filename=Ne031009coverstory.asp); For an extended critique of the growth of organized, so-called “Far Left” rural violence, see Sailendra Nath Ghosh, “Lalgarh and Junglemahal: Where are we heading”, Mainstream Weekly, Vol. XLVII, #50, November 28, 2009, <http://www.mainstreamweekly.net/article1801.html>.

It is as important to notice the breakdown of rural society under the pressure of rapid commercialization, and the advent of huge sums of money in the hands of the few who are able to auction out large areas of land to the state or to industrialists. As the availability of guns grows (gun culture is not new to the villages), new forms of violence are emerging in the countryside and the urban centres in their vicinity, in addition to older, feudal modes of violence, especially in North India.<sup>104</sup>

What we are witnessing across the country today is perhaps an accelerated, Indian version of the Enclosure movement which engulfed the British countryside over a period of 3-4 centuries stretching right across the period of the industrial revolution in the 18th century. This long and complex process entailed the forced eviction of millions of peasants from their traditional fields, commons and homesteads. The peasants of early modern Britain resisted this process,



*Green Revolution*  
Credit: Lokilech  
Wikimedia Commons

as was witnessed in numerous insurrections repeatedly over the early centuries of industrialization. In fact, resistance continued all the way till the middle of the 19th century.<sup>105</sup>

**A house on fire:  
Economic growth  
causes ecological havoc**

The current phase of globalization has had a severe impact on the country's natural environment, and consequently on those communities who depend directly on nature for their subsistence and livelihood. Privatization in various sectors is encouraging the violation or dilution of environmental standards, and the neglect of social services/goods for the poor. Crucial public benefits or functions like water have been privatized in some parts of the country under advice from institutions like the World

Bank and the Asia Development Bank. The high user charges effectively exclude poor consumers, who constitute a majority.

Financial liberalization also has devastating consequences for the environment. The consequences are all too real for the environment and for the people living closest to those ecosystems which are impacted by mining. Enormous transfers of the control over real ecological and economic wealth is now taking place through financial mechanisms. These can only be stopped through state intervention. Even a routine thing like the printing of money to balance the government's budget is a way of redistributing control over resources from those with fixed incomes to those with upwardly variable incomes, since it relies on inflation. When banks

<sup>105</sup> Eric Hobsbawm, *The Age of Revolution*, Abacus Books, London, 1980, p.65.



create money to finance mining projects, to take a different example, they too are again abetting the redistribution of resources away from the poor – who do not have access to credit that the rich do. If we understand money and credit as claims on resources, and also notice the structural financial exclusion faced by the poor in a climate when the rich have been borrowing and buying at will, we can appreciate the transfers of wealth that have been taking place over the past few decades in a deregulated world. Things are made doubly worse by governments only too willing to treat public and common land as though it owned them, often auctioning them to private corporations for a song.

*top  
Charity  
Credit: Archive  
apudecadiz.blogspot.com*



*down  
Traffic  
Credit: Archive  
www.cepolina.com*



Changes in macroeconomic policies –such as in interest rates, tax rates and social spending– have profound consequences for the environment and people’s livelihoods, howsoever indirect. These go unnoticed since we do not even have a conceptual framework, let alone systems of national accounts, which incorporate such connections. Even so, some observations can be made. For instance, cuts in social spending on account of pressure from the IFIs have led to lack of funds for environmental protection. Currency devaluations lead to greater pressure on the environment, as an exporting Developing country necessarily gives up more of its resources in order to obtain a given amount of hard currency through international trade.

to environmental constraints and considerations, but also to those of equity and fairness when it comes to the distributions of power and material and institutional resources.

However, as we have just seen, the impositions made by the mainstream economy and the IFIs on the subsistence, default economies of vulnerable majorities, are of an order that can only exacerbate environmental problems. Even the limited environmental

A sustainable form of socio-economic life cannot emerge in a land of India’s size, diversity and complexity without the adoption of a radical version of ecological democracy, which would be sensitive not merely

*top*  
*Bombay Stock Exchange*  
*Credit: A. Tallam,*  
*Creative Commons*



*bottom*  
*Credit: Coyau*  
*Wikimedia Commons*

promises that have been made have not come close to being met. The macroeconomic policy imperatives of a large, indebted, industrializing economy such as India's, under a neo-liberal regime, are such as to completely colonize the policy space available and short-change any possibility of a genuine transformation which could terminate both poverty and hunger on the one hand, and stem the ecological crisis on the other.

### CONCLUSION

Almost everyone in the educated classes has come to believe that poverty in India has been declining steadily since the inception of the reforms and has reached manageable proportions of around a quarter of the overall population. The rising tide of economic growth has lifted all boats. This has been the dominant view. The 2007-08 Economic Survey of the government, for instance, claims that the proportion of the poor in the total population has declined from 36% in 1993-94 to 27.5% in 2004-05, a view supported (as we saw earlier) till very recently by the World Bank, using an international poverty line of \$1 a day (in PPP terms).

Poverty –even if perhaps on the decline– has not been falling quite as swiftly as everyone has been led to believe, or as compared to the rate at which it may have decreased in some other Developing countries. If

economic growth is meant to be the decisive salve for poverty, the latter is still too high for a country that has been growing impressively at 8 or 9% in recent times. More recent official estimates than the ones we considered earlier have been done by the Planning Commission. The latest one puts the proportion of the poor population across the country at 38%. The Sengupta Committee figure of 77% of Indians spending Rs.20 a day or less is corroborated by a number of other figures, as we have seen. Malnutrition in the country has been consistently high and in fact rising in some parts of the country. The incidence of anaemia among children and women of child-bearing age has grown perceptibly during this period. We would hardly expect to see such trends had the poor been benefiting from India's growth run during the past few decades.<sup>106 107</sup>

How does one conceptualise the nature of the growth process in the Indian economy over the past few decades? What is the primary mechanism at work?

High growth, it appears, is feeding on inequalities. The growth has been demand-deepening (within the wealthy and the rich classes), rather than demand-widening (cutting across classes). Different income groups meet their needs in markets

<sup>106</sup> <http://www.expressindia.com/latest-news/Poverty-line-fluctuates-with-conflicting-data/504141/>

<sup>107</sup> NFHS, 2005-06, GoI, <http://www.nfhsindia.org/pdf/IN.pdf>



Credit: Yann  
Wikimedia Commons

quite distinct from each other. The well-to-do buy their provisions in malls and super-markets. The not so well off go to Kirana stores. The poor end up in ration shops or outlets in the informal economy. As inequalities have grown, purchasing power has come to be concentrated among the elites and the middle classes, mostly in urban areas and metros.

The growing demand for luxury goods and services thus feeds a particular pattern of consumption demand and corporate industrialization which renders increasingly redundant the skills and talents of village artisans and small producers, no less than the modest output of small industries. What's more, land is taken away from agriculture and farmers in order to facilitate industrialization (via things like SEZs), infrastructure and mining, thereby exacerbating inequalities in society, both between

rich and poor and between cities and villages. It also generates pressures for further migration to urban areas.

The well-known economist Amit Bhaduri proposes a simple way to understand what has been going on: *“The combination of accelerating growth and rising inequality begins to work in unison. The corporations are needed to produce goods for the rich, and in the process they make their high profits and provide well-paid employment for the rich in a poor country who provide a part of the growing market. It becomes a process of destructive creation of corporate wealth, with a new coalition cutting across Right and Left political division formed in the course of this road to high growth. The signboard of this road is ‘progress through industrialisation’. The middle class opinion-makers and media-persons unite, and occasionally offer palliatives of ‘fair compensation’ to the dispossessed. Yet, they are at a loss*

*as to how to create alternative dignified livelihood caused by large-scale displacement and destruction in the name of industrialisation.”*

Bhaduri adds:

*“Over time an increasingly irreversible production structure in favour of the rich begins to consolidate itself. Because the investments embodied in the specific capital goods created to produce luxuries cannot easily be converted to producing basic necessities (the luxury hotel or spa cannot be converted easily to a primary health centre in a village etc.) And yet, it is the logic of the market*

*to direct investments towards the most productive and profitable sectors for ‘the efficient allocation of resources’. The price mechanism sends signals to guide this allocation, but the prices that rule are largely a consequence of the growing unequal distribution of income in the society. The market becomes a bad master when the distribution of income is bad.”<sup>108</sup>*

Such a process of industrialization, driven by the growing demand for luxury items from a small fraction of the people relies on unsustainable levels of exploitation of the environment,



*Chiang Mai  
Credit: Takeaway,  
Creative Commons*

<sup>108</sup> <http://www.expressindia.com/latest-news/Poverty-line-fluctuates-with-conflicting-data/504141/>

<sup>108</sup> NFHS, 2005-06, GoI, <http://www.nfhsindia.org/pdf/IN.pdf>

given its appetite for water, energy and non-renewable resources. Rural India gets a raw deal in this transfer of resources from the hinterland to urban India. In effect, the metros thrive on the ecological subsidies routinely extracted from the countryside.

This growth can never trickle down.

Even if a lot of well-meaning businessmen and policy-makers in powerful decision-making positions wish it to, the benefits of the unprecedented economic growth that India has

been experiencing over most of the past decade can never trickle down to the mass of the people.

Why? For growth to be inclusive in an increasingly privatised, capitalist society, it must, minimally, ensure that the poor find growing purchasing power in their hands. One or more of the following conditions must be met: (1). New employment must be generated in the organized sector at a pace somewhat comparable with the rate of growth of the working population. (2). The indirect employment effects (in the informal economy)



*Lacquerware Factory  
Workers  
Credit: Hybernator,  
Creative Commons*

of growth in the organized sector must be substantial and make up for the failure of the organized sector to create adequate employment. Moreover, such informal jobs have to be minimally rewarding. Super-exploitation only deepens structural poverty. (3). If the gains of growth accrue largely to the rich, the government must be able and willing to redistribute a significant fraction of them to the poor, through appropriate fiscal policy. This possibility is the last surviving hope of the growth economist –who has traditionally defended inequality– generating growth on the grounds that its

overall benefits can always be split in an egalitarian fashion after they have accrued (to the rich), through taxation.

The evidence presented earlier leaves us in serious doubt as to the viability of either (1) or (2). We have seen that growth has been largely jobless as far as the organized sector of the mainstream economy is concerned. We have also seen that the linkages between the organized sector and the rest of the economy (where they exist) are typically too exploitative to bring any significant lasting benefit to the poor majorities who work in agriculture and the informal economy.

*Credit: Archive  
www.cepolina.com*





Credit: Yann  
Wikimedia Commons

This also implies that population growth is not the real cause of the global ecological crisis. If there was no economic growth during 1981–2001, but the aforesaid redistribution was carried out, the rich would be imperceptibly less rich than before and the poor would be a shade less poor. However, nature and our progeny would be far better off. It shows that redistribution is, at least ecologically speaking, the far more effective way to reduce poverty than is economic growth.<sup>109</sup>

It would be worthwhile for young researchers, keen on working with data, to estimate, in the manner of the NEF has done for the world as a whole, what fraction of the gains from growth in India since 1991 have actually reached the intended population of, say, the poorest 20–40%. One should be pleasantly surprised if the fraction is significantly above what it is for the world as a whole.

The truth is that the way the pie gets created determines in good measure how it gets divided. If high growth is based on an exorbitant financial sector and increasingly capital-intensive industrial technologies which structurally exclude large numbers of working people, it is a formidably uphill task for the government to correct the inequalities that result with the help of taxes and spending programmes. There are demands after all from the mainstream economy on the tax collections – for things like infrastructure, defence, security, higher education etc. – which usually take priority over social spending. If growth was to be employment-led, ecologically and culturally sensitive, resulting as a by-product of an expansion of people’s creative participation in a sustainable economy, it would take care of both demand as well as inequalities. The removal of poverty could truly become a feasible goal.

<sup>109</sup> Growth isn’t Working, New Economics Foundation, London, 2006 [http://www.neweconomics.org/sites/neweconomics.org/files/Growth\\_Isnt\\_Working\\_1.pdf](http://www.neweconomics.org/sites/neweconomics.org/files/Growth_Isnt_Working_1.pdf)

## GLOBALISATION AND ITS ALTERNATIVES: A VIEW FROM INDIA<sup>110</sup>

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*Nandi Hillside  
Credit: Shyamal,  
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<sup>110</sup> This essay is a shorter, modified version of chapters from a forthcoming book by the author and a colleague, Aseem Shrivastava, provisionally titled 'Reclaiming India: Escaping the Globalisation Trap'.



## PART I GLOBALISATION AND ITS IMPACTS

In 1992, soon after heralding in the new economic policies constituting globalization, the then Finance Minister of India (now its Prime Minister) Manmohan Singh delivered a lecture on environmental aspects of the reforms in Delhi (Singh 1992). His main argument was that environmental protection requires resources, which would be created by the new policies. However, as we shall see below, things have not played out as Singh argued. Economic globalization in India has had a severe ecological impact, with adverse effects on several hundred million people who depend directly on nature for their subsistence and livelihood. It is important to examine this as a global issue, not only because

of the sheer numbers of people involved, or the global importance of India's biodiversity and natural resources, but also because increasingly the Indian economy is playing an international role.

Economic globalisation policies introduced in 1991, include: a shift away from an inward-focused model of self-reliance towards a stress on exports and imports, the opening up of various economic sectors to foreign investment, liberalization of regulatory regimes, and a move from public sector investments to privatization. The impacts of these, include the following, each of which will be examined in more detail in this essay.

- i. Rapid growth of the economy has required a major expansion of infrastructure and resource extraction,



*Credit: Archive  
www.justamedio.com*

and encouragement to wasteful consumption by the rich. The economy has tended to predominantly demand-led, with no thought given to how much demand (and for what purpose) is to be considered legitimate and desirable. The result is a significant increase in projects and processes with negative ecological and social costs.

ii. Liberalization of trade (exports and imports) has had two consequences: rapid increase in exploitation of natural resources to earn foreign exchange, and a massive inflow of consumer goods and waste into India (adding to a rapidly rising domestic production). This has created serious disposal and health problems, and impacted traditional livelihoods in forestry, fisheries, pastoralism, agriculture, health, and handicrafts.

iii. Environmental standards and regulations have been relaxed, or allowed to be ignored, in the bid to make the investment climate 'friendlier' to both domestic and foreign corporations. Governments are sacrificing more and more natural habitats and prime food-growing land to make way for commercial enterprises. In sync with this, goals of equity are being given up, for instance in the move to relax land ceiling laws to allow industrial expansion.

iv. The opening up of the economy to foreign investment is bringing

in companies with notorious track records on environment (and/or social issues), with demands to further relax environmental and social equity measures. Domestic corporations, partnering with foreign ones or on their own, have also grown considerably in size and power, and now make the same demands.

v. Privatisation of various sectors, while bringing in certain efficiencies, is encouraging the violation or dilution of environmental standards, and the neglect of social services/goods for the poor.

Had Manmohan Singh's assertion worked, by now we should have seen a spate of measures and programmes to protect India's environment. But the ecological crisis has only intensified. This chapter attempts to show that this is an inherent and inevitable outcome of the globalization process. Just as the 'trickle-down' theory does not work for the poor, so too the 'having the resources to invest' assertion does not work for the environment.

#### Two caveats

Two clarifications are necessary at the outset. First, criticism of a number of sectors and activities below, does not mean I am per se against them. I am not saying there should be no mining, no floriculture, no fishing, no exports and imports, and so on. What is crucial is to ask not only whether we need these, but to what

extent, for what purpose, and under what conditions. These questions are simply shoved under the carpet in the current model of 'development' under globalization.

Second, many of the trends described below, are not necessarily a product of current globalization. Indeed many of them have roots in the model of 'development' we have adopted in the last five-odd decades, and/or in underlying problems of governance, socio-economic inequities, and others. However, the phase of globalization has not only greatly intensified these trends, it has also brought in new elements that considerably enhance the dangers of this model to India's environment and people.

**Infrastructure and materials: demand is the god**

With a single-minded pursuit of a double-digit economic growth rate, demand achieves the status of a god that cannot be questioned. The need for infrastructure or raw materials or commercial energy is determined not by the imperatives of human welfare and equity, but by economic growth rate targets, even where, growth rates may have no necessary co-relation with human welfare.

The last couple of decades have therefore seen a massive increase in new infrastructure creation (highways, ports and airports, urban infrastructure, and power stations). This has meant increasing diversion of land, mostly natural ecosystems like forests

and coasts, or farms and pastures.

The example of minerals is strikingly illustrative. Between 1993-94 and 2008-09 mineral production in India has risen by 75%. India is now amongst the world's biggest producers of barites, chromite, talc/steatite/pyrophyllite, coal/lignite, bauxite, iron ore, kyanite/sillimanite, manganese ore, and crude steel (Ministry of Mines Annual Report 2008-09). This would be a source of pride, were it not for the inconvenient fact that most of the minerals being demanded are under forested or poor rural areas, rich in biodiversity, where communities are heavily dependent on the area's resources. Of the approximately 113,000 ha. of forest land that has been diverted for mining since 1980 (when it became mandatory for non-forest use of forest land to be cleared by the central government), over 70% has been in the period 1997-2007, a clear indication that globalization has dramatically raised demand for minerals. (Data from Ministry of Environment and Forests, obtained by Kalpavriksh using applications under the Right to Information Act).

The ecological and social impacts have been horrifying. The blasted limestone and marble hills of the Aravalli and Shivalik Ranges, the cratered iron ore or bauxite plateaux of Goa, Madhya Pradesh, and Orissa, the charred coal landscapes of eastern India, and the radioactive uranium belt of Jharkhand, are all witness to the worst that economic 'development'

can do. Tens of thousands of hectares of land have been rendered completely barren and unproductive, with only a small percentage restored (mostly a euphemism for reclamation by a handful of mostly exotic species of trees, nowhere near the original vegetation). (Vaghlikar and Moghe 2003; Bhushan et al 2008; see also <http://www.mmpindia.org/>).

Since 1991, some of the world's largest mining companies are investing in India. This includes Rio Tinto Zinc (UK), BHP (Australia), Alcan (Canada), Norsk Hydro (Norway) Meridian (Canada), De Beers (South Africa, Raytheon (USA), and Phelps Dodge (USA). Many of these have as bad or worse environmental and social records as India's own mining companies. <http://www.mmpindia.org/Multinationals.htm>.

The direction of policy change has been towards making life much

easier for mining companies, starting with the 1993 National Mineral Policy. In 1996, the government approved guidelines allowing private companies to get prospecting licences to areas upto 5000 sq. km, as against the then limit of 25 sq.km. In 2001, Foreign Direct Investment (FDI) upto 100% became possible. In the period 2000 to 2009, permits for mineral reconnaissance went up from 53,000 sq.km to 466,556 sq km. In 2006 a high-level committee set up by the Planning Commission recommended a "seamless" transition from reconnaissance permits to prospecting licences and onto mining licences. Then in 2008, a new National Mineral Policy was brought in with the objective to make the regulatory environment "more conducive to investment and technology flow". The new policy encourages the move towards greater mechanization, privatisation, and foreign investment, suggests that



*Agni Missile  
Credit: A. Milena,  
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environmental regulations become voluntary, and assures companies the seamless transfer mentioned above. (Ministry of Mines and Minerals, Annual Reports, 1999–2000 to 2008–09; Planning Commission 2006; Saha-Sinha 2009; Ministry of Mines 2010; Vagholikar and Moghe 2003).

The lack of regulation in the mining sector, an inevitable consequence of a demand-driven economy that is trying to meet the greed of India and the world, is clearly indicated in the spate of exposes regarding illegal. In Karnataka alone, 11,896 cases of illegal mining were detected between 2006 and 2009; in Andhra, 35,411 cases. The central government has had to ask the Central Bureau of Investigation (CBI) to go into the matter. Some states, shamed into action, have halted operations in many illegal mines, and arrested concerned officials. (Ministry of Mines and Minerals, Annual Reports 2005–06 and 2007–08; [\[www.thehindu.com/2009/12/10/stories/2009121058660800.htm\]\(http://www.thehindu.com/2009/12/10/stories/2009121058660800.htm\)\)](http://</a></p></div><div data-bbox=)

### Exports: Selling our future

Globalizing India's economy has meant opening up natural resources to both domestic and foreign demand, justified by the positive effect this will have on domestic economic growth. In line with this, exports grew at an annual rate of over 25% from 2003–04 to 2007–08, jumping to US\$163 billion, representing 1.4% of global trade. (Singh undated; [http://commerce.nic.in/publications/annualreport\\_chapter4-2008-09.asp](http://commerce.nic.in/publications/annualreport_chapter4-2008-09.asp), accessed 30 November 2009; [http://pib.nic.in/archieve/eximpol/eximpolicy2002/eximpolicy2002\\_rel.html](http://pib.nic.in/archieve/eximpol/eximpolicy2002/eximpolicy2002_rel.html), accessed 20 February 2010).

Whether an economic development model that depends heavily on exports is itself desirable, is a question for a separate essay. For the moment, assuming that some level of exports is



Mine  
Credit: Archive  
[energiasrenovadas.com](http://energiasrenovadas.com)

desirable or necessary, a responsible policy would have at least the following key principles:

- Access of the country's citizens to the products being considered for export is not jeopardized by reduced physical availability or increased costs;
- Extraction or manufacture of these products is ecologically sustainable;
- Rights of local communities from whose areas the resources are being extracted are respected; and
- These communities are the primary beneficiaries.

Unfortunately, exports under globalization have violated each of these principles, not surprising when targets are set in terms of monetary figures of growth rather than the quality of the impacts of such growth. The rapid increase in mining (a significant portion of which is for export) has already been discussed above. Another instance is marine fisheries.

Exports of marine products have risen from 139,419 tonnes in 1990-91, to 602,835 tonnes in 2008-09. While the rise was extremely steep in the pre-1991 period also (from a small volume of 15,732 tonnes in 1961-62), the globalization phase is significant in many ways. A growing demand from countries to which

India previously did not export, and the introduction of new technologies, has fueled a steady growth in extraction and export. From a handful of products being sent to about a dozen countries, we now export about 475 items to 90 countries ([www.mpeda.com/inner\\_home.asp?pg=publications/exportreview/trends.htm](http://www.mpeda.com/inner_home.asp?pg=publications/exportreview/trends.htm)).<sup>111</sup>

But at what cost? India is now the 2nd largest aquaculture producer (in quantity and value) in the world, at the cost of serious ecological damage, and disruption of the livelihoods of traditional fisherfolk and farmers. One study showed that in the states of Andhra Pradesh and Tamil Nadu, the social and environmental costs of shrimp aquaculture were 3.5 times the earnings (annual losses: Rs. 67280 million; annual earnings: Rs. 17780 million). (NEERI 1995a&b; Kurien 1999). As more and more areas get converted to shrimp farming, local fish that are the staple food of local communities, like mullets (*Mugilidae*) and pearl spot (*Etroplus suratensis*), are eliminated (Bhatta 2002).

As marine capture fisheries have also grown to about 3 million tonnes in 2008, there is evidence of over-fishing in the territorial waters (though not in the deeper seas), and overharvesting of several species. (James and Kitto 2008). This, according to the Report of the Working Group on

<sup>111</sup> All pages in the MPEDA site open with the same URL; readers would need to search for the relevant data by accessing the links on the home page.

Fisheries for the 10th 5-Year Plan, is mainly due to the use of the seas as 'open access' with no tenurial rights given to traditional fishing communities (Mathew 2003). Technologies have also changed, with bottom trawling becoming very common, and the traditional diversity of gear as also the traditional knowledge that maintained sustainability, rapidly eroding.

The government claims that big operators under the new policies will be allowed to fish only in deep waters, where traditional fisherfolk do not go. But past experience has shown that trawler owners find it convenient and cheaper to fish closer to shore (Kurien 1995). Also, trawlers continue to be illegally used in the fish-breeding season. Physical clashes between trawler owners and local fisherfolk remain common.

#### **Import liberalization: India as dumping ground**

Accompanying the liberalization of exports has been the opening up of the Indian economy to an increasing amount and variety of imports. Policies or programmes that gave priority to domestic agriculture and production, and to environmental and consumer safety, have given way to a virtual free-for-all.

The last decade or so has also seen India emerging as a major importer of hazardous and toxic wastes from the industrial countries, like many other tropical countries in the past. We

now import over 100 broad kinds of wastes, of which a few dozen are hazardous. Import of metal wastes is now in several millions of tonnes annually. Import of waste parings and PCV scrap shot up from about 33 tonnes in 1996-97 to 12,224 tonnes in 2008-09. Plastic wastes as a whole more than quadrupled from 101,312 tonnes in 2003-04 to 465,921 tonnes in 2008-09 (Department of Commercial Intelligence and Statistics, Ministry of Commerce and Industry, data supplied on Right to Information application by Kalpavriksh, February 2010). Corporate giants are often the culprits: Pepsico has been exposed sending PET bottles (very difficult to recycle) to India; Hindustan Lever Ltd (subsidiary of Unilever) has been implicated in a case of dumping wastes containing mercury, behind a settlement in Tamil Nadu. Protests by the community led the Tamil Nadu Pollution Control Board to take action, including ordering the scrap (416 tonnes) to be sent back. ([http://www.thesouthasian.org/archives/2004/mercury\\_in\\_our\\_backyard.html](http://www.thesouthasian.org/archives/2004/mercury_in_our_backyard.html), December 10, 2004; [http://www.thesouthasian.org/archives/2005/waste\\_dumping\\_grounds\\_of\\_the\\_w.html](http://www.thesouthasian.org/archives/2005/waste_dumping_grounds_of_the_w.html), June 28, 2005).

A growing proportion of the imported waste is from the computer and electronic industry. According to an investigation by Toxics Link, an NGO working on waste issues, about 70% of e-wastes found in recycling units of Delhi were those dumped by industrial

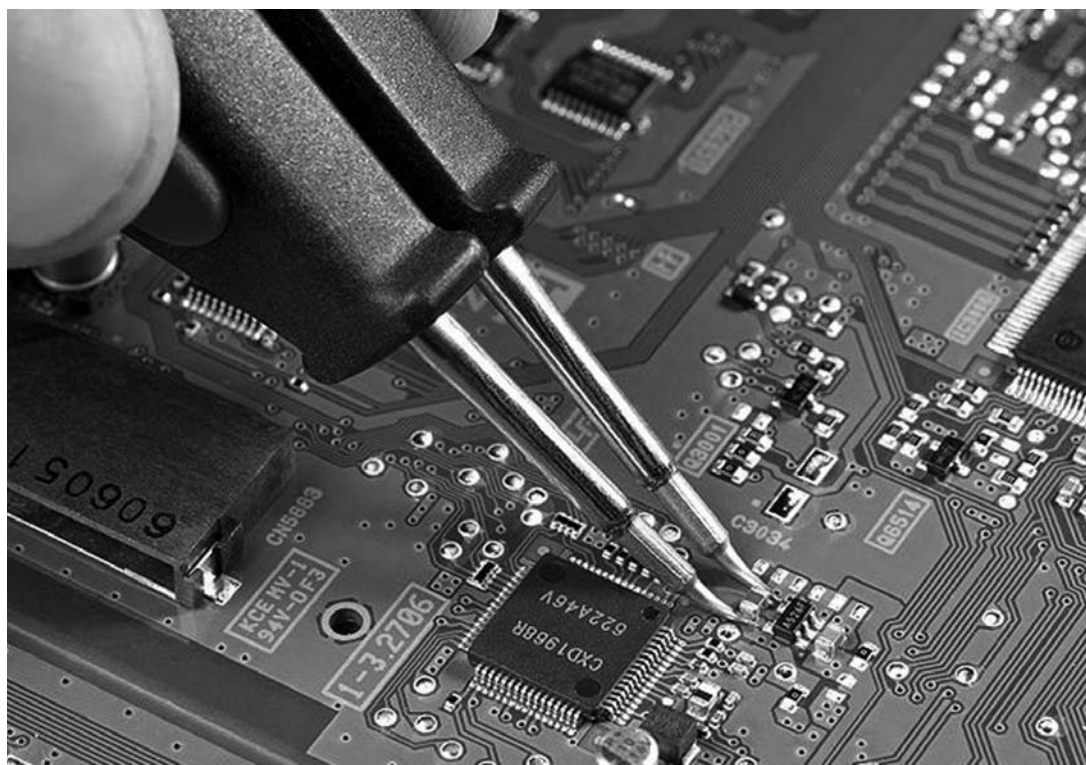
countries into India. Toxics Link found that the company Attero had received permission to import 8000 tonnes of e-waste in 2009. (Ministry of Environment and Forests, Office Memorandum, No.23-9/2009-HSMD, 2nd July 2009).

### Consumerism and waste

India's current wave of ostentatious consumerism has its roots in a thirst for foreign consumer products amongst a tiny elite minority, which was before the 1980s possible to satiate only by purchasing them abroad and paying substantial customs duties to bring them home (or smuggling them in). In the 1980s the then Prime Minister Rajiv Gandhi began opening up the import sector. However, the biggest thrust to consumerism has come after the economic 'reforms' began in right earnest in

the 1990s, and has also fueled a huge domestic luxury product sector.

The rapid rise in production of luxury goods has major ecological consequences from resource extraction (mining, tree-felling, etc.) to production (pollution, working hazards, etc.). The links between such consumerism and the environment are not well-studied, but there are some indications. Based on surveys by the CSO and NCAER over the 1980s and 1990s, The Energy Research Institute (TERI) has documented the rapid rise in the use of non-renewable materials (like minerals), manufactured consumer goods (including those with direct environmental impact like refrigerators and air-conditioners using CFCs), transport vehicles, and so on. This is not just a result of rising populations, but perhaps more due



*Credit: Aisart  
Wikimedia Commons*



to changing lifestyles. For instance, consumer preferences are changing from non-packaged goods to packaged ones – TERI estimates that consumption of packaged paper will rise from 2.7 kg per person per year in 1997 to 13.5 kg per person per year by 2047. This would mean a total paper use of 23.1 million tonnes for packaging alone, and the consequent rise in solid wastes. Hazardous waste generation is now mind-boggling, at about 4.4 million tonnes in 2006. Electronic waste, a phenomenon purely of the last couple of decades, was estimated at 146,180 tonnes in 2005, and likely to go up to 800,000 tonnes by 2012. (Pachauri and Sridharan 1998; MoEF 2009).

Plastics have penetrated the life of Indians in ways no-one would have predicted even two decades back. Since

1991, production capacity of various forms of plastics in the country has shot up from less than 1 million tonnes, to well over 5 million. Average consumption of virgin plastics per capita reached 3.2 kg in 2000/2001 (5 kg if recycled material is included), from only 0.8 kg in 1990/1991. By 2000–01, India was producing 5400 tonnes of plastics waste per day, about 2 million tonnes per annum (more recent figures not available). (Kandhari 2009; MoEF 2009; [http://en.wikipedia.org/wiki/Plastics\\_materials\\_in\\_India](http://en.wikipedia.org/wiki/Plastics_materials_in_India), accessed 27 February 2010).

### Consumption Inequities

In 2007, Greenpeace India produced a report on climate change issues in India, showing that a tiny percentage of India's population was responsible for an inordinate amount of carbon



right  
Credit: Archive  
Cepolina Photo

emissions, but this was hidden by the fact that a huge number of low-emission Indians reduced the per capita figures ([www.greenpeace.org/india/press/reports/hiding-behind-the-poor](http://www.greenpeace.org/india/press/reports/hiding-behind-the-poor)). It found that the richest (those with income above Rs. 30,000 a month) emit 4.5 times (per person) more than the poorest (income below Rs. 3000 a month, well over half of India's population). All 150 million Indians who earn above Rs. 8000 per month are already above the global limit of 2.5 tonnes per capita that scientists consider is necessary if we want to restrict the temperature rise to below 2°C. (Greenpeace India 2007; Bidwai 2009).

What explains this gross difference in emissions? Greenpeace found that the biggest difference was in the extent of household appliances using electricity. While general lighting, fans, and TVs are common to all classes (though much more in use by the rich), several appliances were found only or predominantly in rich households... air conditioners, electric geysers, washing machines, electric or electronic kitchen appliances, DVD players, computers, and the like. Secondly, much greater use of transportation using fossil fuels, including gas-guzzling cars and airplanes, characterised the consumption of the rich.

Carbon emissions are only one indicator of consumption inequities. If one adds all the products and services that the richest classes consume,

and the wastes they throw out, it is very likely that their overall ecological impact is even more skewed vis-à-vis the poorest classes.

**Internal liberalization:  
towards a free-for-all?**

All industrial countries of the world have gone through a process of tightening environmental standards and controls over industrial and development projects, for the simple reason that project authorities and corporate houses on their own have not shown environmental and social responsibility. In India, there is a reverse process going on.

In 1994 a notification was brought in, under the Environment Protection Act 1986, making it compulsory for environmental impact assessments (EIAs) to be conducted for specified projects. While this notification was weak, and subject to various kinds of implementational failures, it nevertheless injected some degree of environmental sensitivity in development planning. However, it continued to be seen as a nuisance by industrialists, politicians, and many development economists. A committee set up by the Indian government pointed to the need to reduce the environmental hurdle, and a World Bank-funded process to assess environmental governance, also suggested 'reforms' (read: 'weakening') of this and other regulatory measures. Thus in 2006, despite considerable civil society opposition, the government changed the notification, making it

much easier for industries and development projects to obtain permission, and weakening the provisions for compulsory public hearings. The notification also took tourism off the list of projects needing environmental clearance, despite evidence that in many places this was a sector out of control. (Kohli and Menon 2005; Saldanha et al. 2007; Menon and Kohli, 2008: 14-17)

The net result of these changes (and others outlined in this chapter) has been a sharp increase in the number of projects that are seeking and getting environmental clearance, making it impossible for the central Ministry of Environment and Forests (MoEF) to properly scrutinize their implications, or monitor their impacts. As of early 2009, MoEF had over 6000 projects to monitor, with about 20 personnel; projects granted environmental clearance are monitored only once in 3 to 4 years. (Kohli and Menon 2009).

The impact of globalization on environmental regulations is nowhere clearer than when examining how the Forest Conservation Act 1980 (under which all proposals for non-forest use of forest land have to get central government permission), has become a Forest Clearance Act. Out of the total forest land diversion that has taken place since 1980-81, about 55% has been after 2001; as already mentioned, about 70% of the forest land diverted for mining since 1980-81, came between 1997 and 2007

(Data supplied by Ministry of Environment and Forests, in response to Right to Information applications filed by Kalpavriksh, 2008).

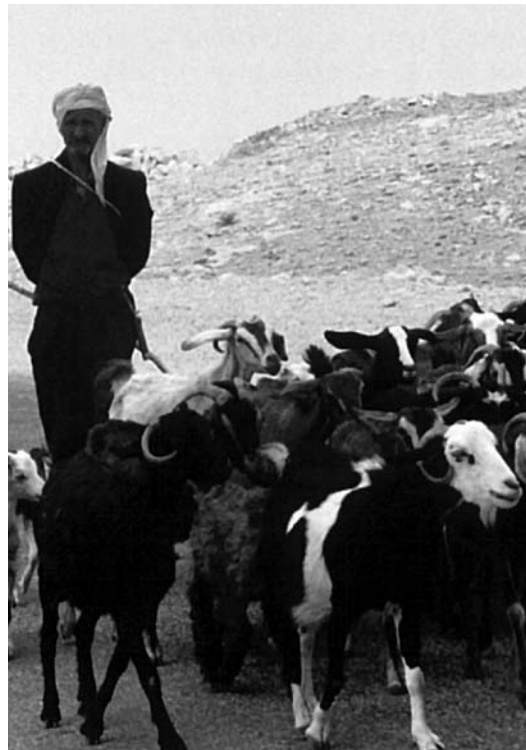
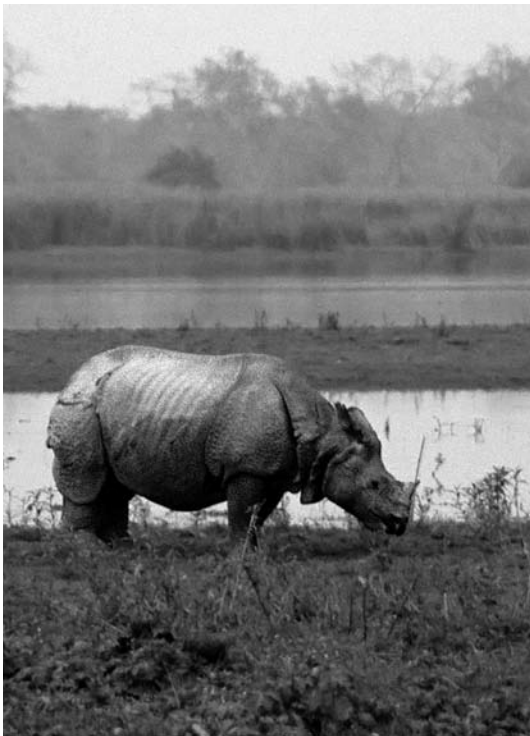
Even areas designated for the specific protection of wildlife and biodiversity have not been spared. The last couple of decades have seen a spate of proposed and actual diversions of land within national parks and sanctuaries, including outright denotifications (or degazetting). Very soon after the reforms process started, for instance, several hundred sq.km of Darlaghat Sanctuary (Himachal Pradesh), Narayan Sarovar Sanctuary (Gujarat) and Great Himalayan National Park (Himachal) were de-reserved to make way for mining, industries, and dams. This has continued with several dozen other protected areas being affected.

In 1991, the Coastal Regulation Zone (CRZ) notification was promulgated under the Environment Protection Act 1986, as a means to regulate activities that could be detrimental to ecological and livelihood interests. Though by no means perfect, and despite indifferent implementation by most states, the notification helped protect many coastal areas and the fishing communities living in them. But for the same reason it became a thorn in the flesh of industrial and commercial interests, and their pressure on the government resulted in about 20 relaxations to the original notification. Then in 2005-6 the government initiated

a move to change the notification altogether, proposing a system in which state governments can determine what should and should not be allowed in various zones along the coast. Civil society organizations and fisher communities (through networks like the National Fishworkers' Forum) have severely criticized the proposal for being a sell-out to commercial and industrial interests. Responding to this, MoEF has allowed the CMZ draft notification to lapse, and as of the time of writing, promised widespread consultations before coming up with a new notification. (Menon et al 2007; Kasturi 2008; <http://www.coastalcampaign.page.tl/Home.htm>).

Tourism has received a major boost in the globalization era. From about 140 million domestic tourists in 1996,

the figure almost quadrupled to 527 million in 2007; in the same period, foreign visitors increased from 2.29 million to 5.08 million. Several parts of India previously restricted to visitation, have been opened up for tourism in the last few years. This includes ecologically, culturally and strategically sensitive areas like Ladakh, Andaman and Nicobar Islands, Lakshadweep, and many parts of north-eastern India. Other areas, already open before globalization, are groaning under mass, unregulated tourism activity. Hundreds of cases of violations of the law, e.g. of the CRZ notification by tourist resorts on the coast, have been reported in the last few years (over 1500 cases from Kovalam beach area in Kerala alone). Tiger reserves and other protected areas like Kanha, Bandhavgarh, Corbett, Periyar, Ranthambhor, Bandipur, and



*left*  
Indian Rhinoceros  
Credit: Gnozej,  
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*right*  
Herding goats  
Credit: Priit Kallas,  
Creative Commons

Nagarahole, are ringed by resorts that put enormous pressure on the staff and facilities of the reserves, repeatedly violate both the letter and spirit of regulations meant to minimize tourism impact, and contribute virtually nothing to the upkeep of the reserves. (MOT 2009; EQUATIONS 2008; 2009).

Though well aware of the situation, there is little action by the government to regulate tourism. On the contrary, it is actively considering the declaration of Special Tourism Zones (STZ). These zones would have several facilities, e.g. single window clearance and 100% tax exemption for 10 years, and would be quite large as they should be able to provide 2000 to 3000 hotel rooms. (EQUATIONS 2007).

There have been some welcome moves towards stronger environmental oversight, by the Minister of State for Environment and Forests who came in with the new Indian Government in 2009. But a new institution in the form of a National Environment Tribunal, aimed at providing faster legal recourse to litigants, and a proposed National Environment Protection Authority, aimed at creating an independent regulatory body, are very inadequate attempts, given that the overall context of fundamentally flawed legislation and approach to

the treatment of environmental sustainability of 'development' projects and processes is not being changed. (Lele et 2010; Menon and Kohli 2009; TAI-India 2010).

Along with the attack on environmental governance, has come an increasing propensity to dilute or sidestep the social guarantees given to some of the most vulnerable sections of Indian society. The Land Acquisition Act 1894, one of colonial era's most pernicious laws that allows the government to take over virtually any land it wants for an arbitrarily defined 'public purpose', has been strengthened in a recent amendment (1984), and a proposed new Bill (2007) to enable faster or easier take-over of land by state and private entities. (Parker and Vanka 2008; Asher 2009).

Massive chunks of land in the heart of tribal India, home to some of country's most sensitive communities and some of its best forests, have been (or propose to be) leased to industrial houses for mining, steel plants, and other industries. Finding however that both Adivasi resistance and the hold of the so-called 'Naxal' or 'Maoist' groups<sup>112</sup> is not allowing any of these plans to materialize, the state government in the name of fighting 'Naxalism', has armed some Adivasis to turn against their own

<sup>112</sup> 'Naxalism' or 'Maoism' are loose labels to a range of strongly leftist groups in parts of eastern and central-southern India (especially in areas of tribal concentration), that have been waging armed struggles for land rights and other issues for many years. The Government of India terms them the country's biggest internal security threat, a perspective not shared by several independent observers.

kind. Termed ‘Salwa Judum’ (‘peaceful hunt’), this has created a civil war like situation, in which hundreds of villages have been forcibly evicted or forced to flee. A high-level committee set up by the Union Ministry of Rural Development ([http://www.rd.ap.gov.in/IKPLand/MRD\\_Committee\\_Report\\_V\\_01\\_Mar\\_09.pdf](http://www.rd.ap.gov.in/IKPLand/MRD_Committee_Report_V_01_Mar_09.pdf)), in its draft report had indicted corporate houses like Essar and Tata, in what it called “the biggest grab of tribal lands after Columbus”; but both this phrase and references to specific corporate houses were removed from its final report (<http://www.dolr.nic.in/>). Meanwhile, a report on “national security and terrorism’ by the Federation of Indian Chambers of Commerce and Industry (FICCI), released in November 2009, is a thinly veiled argument to open up central India for exploitation by corporations. (FICCI 2009). It argues that “the growing Maoist insurgency over large swathes of mineral-rich countryside could soon hurt some industrial investment plans”..... “just when India needs to ramp up its industrial machine to lock in growth and just when foreign companies are joining the party, the Naxalites are clashing with the mining and steel companies essential for India’s long-term success.” ..... “The other reason for sounding the alarm stems from the increasingly close proximity between the corporate world and the forest domain of the Naxalites. ....India’s affluent urban consumers have started buying autos, appliances, and homes, and they’re demanding improvements in the country’s roads,

bridges and railroads. To stoke Indian manufacturing and satisfy consumers, the country needs cement, steel, and electric power in record amounts.... There is a need for a suitable social and economic environment to meet this national challenge. Yet there’s a collision with the Naxalites....Chhattisgarh, a hotbed of Naxalite activity, has 23 per cent of India’s iron ore deposits and abundant coal. It has signed memoranda of understanding and other agreements worth billions with Tata Steel and Arcelor Mittal (MT), De Beers Consolidated Mines, BHP Billiton (BHP), and Rio Tinto (RTP). Other states also have similar deals. And US companies such as Caterpillar (CAT) want to sell equipment to the mining companies now digging in eastern India”.

### **Headlong into unsustainability?**

Given the way India has treated its environment in the last few decades, environmentalists and social activists have been warning that we are on an unsustainable path of ‘development’. This conclusion, born out of observation and experience, was confirmed in a report produced by the Global Footprint Network (GFN) and the Confederation of Indian Industries (CII) (GFN 2008). Released in 2008, this document said that:

- India has the world’s 3rd largest ecological footprint, after the USA and China;
- Indians are using almost two times what the natural resources within

the country can sustain (or twice its 'biocapacity');

- The capacity of nature to sustain Indians has declined sharply by almost half, in the last four decades or so.

TERI in a study in the late 1990s, concluded that environmental costs in India exceed 10% of the GDP as a result of loss in agricultural productivity, loss in timber value due to degradation of forests, health costs due to polluted water and air and costs due to depleted water resources. Further, the economic loss due to soil degradation resulted in an annual loss of 11-26% of the agricultural output. (Pachauri and Shridharan 1998).

A report on energy scenarios for India has a somewhat positive analysis: "The

Indian economy exhibits some robust features of low carbon growth that makes its overall energy and CO2 intensity lower than that of China and comparable to that of the US." Nevertheless, the Report concludes that: "Notwithstanding these signs of optimism, India is by no means on an optimal path towards sustainable development." This is because growth has been very uneven, leaving behind a huge section of the population; and because carbon intensity of the energy sector, relying as it does on inefficient coal technologies and distribution systems, is still one of the highest in the world. (Rao et al 2009: 40-41).

#### **Multiple crises: food, water, livelihoods**

A very large section of India's population is going through severe and multiple crises: food insecurity, water

*left*

*Credit: Angélica Barón  
angelicabaron.blogspot.com*



*right*

*Credit: Archive  
apudecadiz.blogspot.com*



**Box 1**  
**The Climate Change Impact and Response**

The period since the 1980s, when economic globalisation started being imposed on countries of the South, has seen the greatest rise in climate change emissions. Carbon dioxide emissions have nearly doubled since 1985, as a result of substantial jumps in global trade (requiring transportation of goods and people), the rise of some key Southern economies (South-east Asia, China, India) riding on the backbone of fossil fuel energy, growth and trade related natural resource destruction (especially deforestation).

There are several scenarios of the impacts India will face. A rise of one metre in sea levels, which could occur by the early 22nd century, could inundate about 5764 sq.km, displacing over 7 million people. Changes in rainfall patterns, with overall amount increasing, but a decrease in both amount and number of rainy days in many areas, will cause worse droughts and floods than so far experienced. This and increased temperatures could, according to most assessments, reduce foodgrains production (by upto 20% for some crops), though some say it may increase. The receding and faster melting of the Himalayan glaciers (the rate of which is a topic of serious scientific disputes, but very few challenge the fact that this is happening) will threaten river-based livelihoods across northern India. Changes in marine water temperatures will affect the productivity of the seas, cause rich coral systems to start dying, and change fish movement patterns in ways that fisherfolk will find difficult to cope with.



While India's global position has justifiably been one of demanding accountability and action from the Northern countries, its domestic policy remains weak and vacillating. In 2009 a National Action Plan on Climate Change (NAPCC) was released. There are some good elements, such as a significant focus on solar power and energy efficiency through dedicated missions. But even these have conceptual and implementational problems (e.g. a focus only on solar and none on other renewables, little emphasis on decentralised energy generation, and several missing sectors in energy efficiency). Many of the other elements (e.g. missions on sustainable agriculture, and water) remain stuck in tired, outmoded strategies with little bold, out-of-the-box thinking. The water mission includes a continuing dependence on big dams, completely ignoring their immense ecological and social costs. In agriculture a major chance to shift away from chemical fertilizers (responsible for about 6% of climate emissions in India) to organic inputs, has so far been missed (the Mission is still under development). There is little or no mention of inequities in how much 'climate space' is occupied by different sections of India's population, and the obscene consumerism of the ultra-rich. The NAPCC has been drafted, and continues to be worked on through its individual missions, with minimal public input and transparency. Overall, it does very little to challenge the fundamental flaws of the 'development' and growth model that brought about the climate change crisis in the first place.

Sources:

GOI 2009a; MoEF 2009; Bidwai 2009; Thakkar 2009a; Greenpeace India 2009

shortages, inadequate fuel availability, and dislocation of livelihoods with limited alternative options. These have all existed prior to the current phase of globalisation, and even prior to modern forms of 'development'. But they are precisely what 'development' and globalisation is meant to have alleviated; on the contrary, they have been exacerbated, or stayed as severe, for many people and regions.

Take food insecurity. The percentage of the population going hungry has declined from 24 at the start of the 1990s to 22 in 2004-06, a marginal decrease. More tellingly, India has the world's largest number of undernourished people: the Food and Agriculture Organisation (FAO) estimate for the period 2004-06 is 251 million, a little less than a fourth of the country's population. There is still plenty of food available, with foodgrain stocks of the Food Corporation of India (FCI) remaining consistently high, and yet a fourth of Indians go to bed hungry. These are people who simply can't afford to buy the grains, and who are not being reached by the government's welfare schemes; a situation made much worse by the alarming inflation in food prices India has seen at the end of the first of the third millennium. As millions of people get pushed out of ecosystem and small-agriculture based subsistence livelihoods, into the market economy, food can only be obtained with cash, which is a scarce resource for them.

Crucial sources of nutrition such as traditional cereals (e.g millets) and pulses, or wild and semi-wild foods from forests and wetlands, have declined both in availability and affordability (e.g. a 26% decline in per capita availability of pulses since the early 1990s). (FAO 2009; MoEF 2009; GOI 2009b; TPCG and Kalpavriksh 2005; MoEF 2009).

Water insecurity is as serious. For several million people in both rural and urban areas, access to adequate potable water even for drinking is a struggle. Proximate causes include mismanagement of surface wetlands and subsurface aquifers, degradation of catchment areas that trap rainwater, repeated droughts, excessive concentration of population (in cities), pollution of surface and groundwater sources. At the root of these lie policy failures (relating to wetland and groundwater conservation and management, pollution, and pricing of water), and appropriation by powerful corporations and elites (for instance, Coca Cola's bottling plants in many parts of India have deprived local communities of safe groundwater, see <http://www.indiaresource.org/issues/water/index.html>, accessed 27 February 2010; <http://www.teriin.org/cocacola.php>).

Of particular concern is groundwater. Its exploitation for agricultural, industrial and urban purposes, has in many parts of India reached levels where aquifers are dropping alarmingly. Over half the groundwater blocks in

rural India are not recharging as fast as withdrawal. In a reply to a question in parliament, the government has stated that in one-third of the country's districts, groundwater is not fit for drinking, due to high levels of iron, fluoride, arsenic, and salinity. (MoEF 2009; Bidwai 2009; TOI 2010).

Total use of water in India (at about 750 billion cubic metres) is still well within the water available (about 1869 bcm), but it is projected to level off soon after 2025 and then overshoot by 2050. This, of course, is if we only consider human use; if we need to account for all other functions of water for natural ecosystems and for other species, we realize we are already in a crisis situation. (MoEF 2009).

And finally, there is the crisis of livelihoods, or employment. As ecosystem disruption and land/water degradation intensifies, or as access to natural resources and traditional consumers declines, communities who have been traditionally self-employed (as farmers, hunter-gatherers, fishers, pastoralists, craftspersons, etc), are increasingly impacted. There is no comprehensive estimate of the loss of livelihoods and employment that has taken place so far, itself an indication of how neglected this issue is. (Raju 2003; TPCG and Kalpavriksh 2005).

Particularly badly hit are nomadic groups, their migratory routes disrupted, their lifestyles and cultures marginalized, misunderstood or denigrated, and their own younger generations

turning away under myriad influences. The Anthropological Survey of India estimated that there were at least 276 non-pastoral nomadic occupations (hunter-gatherers and trappers, fishers, craftspersons, entertainers and story-tellers, healers, spiritual and religious performers or practitioners, traders, and so on). Most of these are threatened, some already extinct or dying, and the people displaced from these livelihoods are either getting absorbed into insecure, undignified, low-paid, and exploitative sector of unorganized labour, or left simply unemployed. The same holds for many of the 40-million pastoral nomads of the country. (Misra and Prabhakar 2002; Vivekanandan undated; Sharma et al undated).

### **Has environment been mainstreamed into national planning?**

As mentioned at the beginning of this chapter, at the start of the globalization reforms in 1991, the then Finance Minister Manmohan Singh had stated that India needed to increase its rate of economic growth to raise the resources needed to protect the environment. Quite apart from the fundamental issue of whether one can bring back what has already been destroyed (e.g. the several hundred thousand hectares of natural forest that have been submerged under dams or mined out or chopped for industry), one can ask: has funding for environmental protection substantially increased in proportion to

the problems that globalised ‘development’ has caused? And has environment become a central part of the planning process?

While the central government allocation to the MoEF has steadily gone up since the early 1990s (from about Rs. 3700 million in 1995–96 to 15000 million in 2009–10<sup>113</sup>), its share of the total budget has remained dismally low. MoEF’s allocation has never, ever, gone even near the mark of 1% of the total budget. Indeed, it has steadily declined as a share of the total budget, since 2004–05., reaching an all-time low of 0.36% in 2009–10. While the total budget has risen over 5 times in this period (1995–96 to 2009–10), the MoEF budget has risen only 4 times. It is therefore clear that even where the government has more overall money, it is not putting a proportionally higher amount into environment.

What about other sectors of the budget that may be related? One clear indication could be the funding for

non-conventional energy sources. These were given about 0.8% of the total energy budget in 1992–93, and have crept up to a still-mere 1.28% in 2008–09. Most of the rest of the budget went into thermal power, acknowledged to be highly polluting and the biggest source of climate change gases; a substantial portion also went into hydro-power, much of it into ecologically and socially destructive big dams. (GOI 2009).

Another way to assess the centrality given to ecological issues in the macro-planning process, is to examine the annual Economic Survey produced by the Government of India, reviewing major trends in the economy and providing an outlook for the coming year. Since the early 1990s, the Survey has included a section on environment, previously absent. However, the section has remained an insignificant aside, getting one or two pages out of around 200. And while this has often painted a dismal situation regarding forests, land and water, and pollution, this



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<sup>113</sup> Figures not adjusted to a baseline; it is therefore more relevant to look at the trend of the share of the budget that MoEF is allocated, over this period.

has never been linked to the years' major economic developments. They do not, for instance, analyse whether the impact of these developments was ecologically detrimental or corrective, nor the implications of environmental degradation for future economic development.

Despite repeated pronouncements of the goal of 'sustainable development', there are no criteria and indicators in use to assess whether we are heading towards such a goal.

For perhaps the first time, the 2008-09 Survey mentions that 'consumption

issues' have to be looked into, in relation to climate change and the need for 'ecological sustainability of India's development path'. This could be one wedge for the much fuller entry of environment into economic assessments in future, but for the moment, those who are in charge of India's economy, do not appear to be particularly interested.

**Has globalization not benefited the environment at all?**

There are undoubtedly a number of environmental benefits that globalization brings. Several technologies



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relating to renewable energy, pollution control, efficiency, and so on, have been part of the overall inflow that globalization enables. The electronics and communications boom too has facilitated much faster and greater exchange of information and ideas, including the possibility of campaign alerts that people around the globe can respond to virtually immediately. It can also be argued that many multinational corporations, and India's own megacorporations, have greater resources to research into and develop ecologically superior technologies for many processes.

Yet, there is no indication that these benefits of globalization are anywhere commensurate with the losses it entails, as outlined in this chapter. Whatever indications are available, quantitative or qualitative, point to growing ecological unsustainability of the country as a whole, and increasing environmental insecurity for hundreds of millions of its citizens. At least partly this is because the forces

that economic globalization has unleashed are not going to be quelled simply by deploying environmentally appropriate technologies or spreading rapid-fire information. At best, these will delay the ecological collapse and social disruption that economic globalization is leading us towards, helping us to gain time, and providing some steps in the transition to, a radically different society. But what could such a society look like; what is the alternative to economic globalisation?

## **PART II TOWARDS ALTERNATIVES: RADICAL ECOLOGICAL DEMOCRACY**

### **Radical Ecological Democracy: An introduction**

If the real aim of human society is happiness, freedom, and prosperity, there are indeed many alternative ways to achieve this without endangering the earth and ourselves, and without leaving behind half or more of



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*Credit: Yann  
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humanity. This applies to India as to any other country, though the specifics of the alternatives will vary greatly depending on ecological, cultural, economic, and political conditions. This essay presents, all too briefly, an outline of some key ingredients of a more sustainable, equitable, and just India, and glimpses of initiatives that are already achieving one or more elements of such a framework.

I call this framework Radical Ecological Democracy (RED): a social, political and economic arrangement in which all citizens have the right and full opportunity to participate in

decision-making, based on the twin principles of ecological sustainability and human equity.<sup>114</sup>

**Ecological sustainability**, is the continuing integrity of the ecosystems and ecological functions on which all life depends (including all hydrological, chemical, and physical processes that give us the air, water, and soil we cannot live without). This encompasses the continuation of biological diversity as the fulcrum of life, ensuring the security of species from human-caused extinction.

<sup>114</sup> For elaborate expositions of more participatory forms of democracy, see: the concept of 'radical democracy' in Markovic 1994: 131-145; 'inclusive democracy' by Fotopoulos, [http://en.wikipedia.org/wiki/TakisFotopoulos#Inclusive\\_Democracy](http://en.wikipedia.org/wiki/TakisFotopoulos#Inclusive_Democracy), 'associative democracy' in Hirst 1994. For glimpses into ancient Indian democratic or republic-like practices, see Muhlberger 1998; on clan assemblies, village assemblies, and gana-sanghas, see Thapar 2002. The environmental angle to radical democracy has been brought out by many, including Morrison (1995) and Mitchell (2006). An earlier and shorter exposition of RED occurs in Kothari 2009.

**Human equity**, is a mix of equality of opportunity, full access to decision-making forums for all (which would include the principles of decentralization and participation), equity in the distribution and enjoyment of the benefits of human endeavour (across class, caste, age, gender, race and other divisions), and cultural security.

Linked to these is a set of the following basic values (amongst others) that need to be respected:

**1.** Diversity and pluralism: the great plurality of ways of living (cultures, livelihoods, political and governance systems, all of these relating to diverse ecological conditions), that have characterized the ages, many of which continue even in 21st century India, with none having the predominant status of being the ‘mainstream’, moving away from the homogenizing tendency of globalisation.

**2.** Cooperation and the ‘commons’: the conduct of life predominantly through forms of collective cooperation, treating resources for survival as the commons, as opposed to the cutthroat competition and privatization that globalisation thrives on.

**3.** Rights with responsibilities: the full range of community and individual human rights, including the right to a healthy and fulfilling environment, but with the full responsibility of ethical citizenship,

where individuals and collectives are responsive to each other’s needs and rights, and to the needs and rights of non-human nature.

**4.** Dignity of labour: equity between intellectual work and physical labour, as opposed to the premium given to the former.

**5.** Subsistence lifestyles: ways of living that are not predominantly profit-oriented, with low ecological footprints and greater control by communities and citizens.

**6.** Simple living and the qualitative pursuit of happiness: the pursuit of knowledge, happiness, and satisfaction through cultural and social interaction, in which simple (not necessarily austere) lifestyles become a norm, replacing the endless accumulation of material goods as central human goals.

**7.** Customs and social norms: reliance on customs and norms (not necessarily written) as much as on coded policies and statutory laws, to regulate all forms of human behaviour; but freed of the class, caste, gender and other inequities they are sometimes characterized by.

**8.** Non-violence: not doing harm to fellow human beings (including those of future generations), and to non-human species; this includes moving away from the violence inherent in the current model of ‘development’ and globalisation.



9. Participation: access to forums and avenues of participation in all matters impacting one's life, local to global.

Taking the above principles together (and undoubtedly others that can be added), RED is a continuous and mutually respectful dialogue amongst human beings, and between humanity and the rest of nature. It is also not one solution or blueprint, but a great variety of them. One of the first mistakes we must immediately correct, is the imposition of one economic model, or indeed one model of governance, education, health, and environmental management, on the enormous diversity of ecological and cultural situations that defines India.

These would include systems once considered valuable but now considered outdated and 'primitive': subsistence economies, barter, local haat-based trade, oral knowledge, work-leisure combines, the machine as a tool and not a master, local health traditions, handicrafts, learning through doing with parents and other elders, frowning upon profligacy and waste, and so on. This does not mean an unconditional acceptance of traditions -indeed there is much in traditional India that needs to be left behind- but rather a re-considered engagement with the past, the rediscovery of many valuable practices which seem to have been forgotten and building on the best of what traditions offer. This is not the kind of revivalism that India's

right-wing Hindu chauvinists talk about; traditions need to be rescued from those who use them in a bigoted way (on which, see an incisive essay by Sharma, 2009).

### Localisation

Localisation, a trend diametrically opposed to globalization, is based on the belief that those living closest to the resource to be managed (the forest, the sea, the coast, the farm, the urban facility, etc), would have the greatest stake, and often the best knowledge, to manage it. Of course this is not always the case, and in India many communities have lost the ability because of two centuries of government-dominated policies, which have effectively crippled their own institutional structures, customary rules, and other capacities. Nevertheless a move towards localization of essential production, consumption, and trade, and of health, education, and other services, is eminently possible if communities are sensitively assisted by civil society organizations and the government. The few examples given in this essay are amongst thousands of Indian initiatives at decentralized water harvesting, biodiversity conservation, education, governance, food and materials production, energy generation, waste management, and others (in both villages and cities) (Agarwal and Narain 1997; CEE 2002; Sathesh, 2002; Pathak 2009; for several dozen case studies, see [http://planningcommission.nic.in/reports/sereport/ser/seeds/stdy\\_seed.htm](http://planningcommission.nic.in/reports/sereport/ser/seeds/stdy_seed.htm); see also Down

to Earth Special issue ‘Good News’, at <http://www.downtoearth.org.in/default20090115.htm>). Nor are these only initiated by civil society groups. Indeed the 73rd and 74th Amendments to the Indian Constitution (mandating decentralization to rural and urban communities), taken to their logical conclusion, are essentially about localisation.<sup>115</sup> ‘Com-munitization’ (providing greater local control) of education, health and other aspects has been success-fully tried by the government of

### Box 2 Agricultural Transformations

In the low-rainfall region of Zaheerabad, Andhra Pradesh, Dalit women have brought about an agricultural revolution in 75 villages. Mobilised under the banner of the Deccan Development Society, women’s sanghas (assemblies) have used a mix of organic farming and pastoralism, traditional seed diversity, economical water use, community grain reserves, links with consumers including through the Public Distribution System and an organic restaurant, celebration of biodiversity as part of cultural events and festivals, outreach through locally generated media, and a host of other measures. This has helped transform a situation of chronic food shortage, unemployment, and dependence on government, particularly amongst Dalit women and other disprivileged sections, into one of self-sufficiency, dignity, and control over their own lives. ([www.ddsindia.com](http://www.ddsindia.com)).

Other such initiatives have been facilitated by the NGO Green Foundation in Karnataka (<http://www.greenconserve.com/>), and the Jaiv Panchayat network of Navdanya (<http://www.navdanya.org/campaigns/jaiv-panchayat>).

<sup>115</sup> Decentralisation has so far had very mixed impacts in India; widespread bureaucratic resistance, local power-play, and lack of capacity amongst communities to handle decentralized functions, have undermined implementation across much of India, but in many states organized communities and civil society groups, and sensitive officials, have also managed to utilize it for people’s benefit. For a detailed review, see various essays in Jayal, 2006.

the north-east Indian state of Nagaland (<http://www.nenanews.com/ANE%20June%201-15,%2007/special%20report1.htm>, accessed 1 June 2009).

For localization to succeed, it is crucial to deal with the socio-economic exploitation that is embedded in India's caste system, inter-religious dynamics, and gender relations. Such inequities can indeed be tackled, as witnessed in the case of dalit women gaining dignity and pride through the activities of Deccan Development Society in Andhra, dalits and 'higher'

castes interacting with much greater equality in Kuthambakkam village of Tamil Nadu, and adivasi children being empowered through the Narmada Bachao Andolan's jeevan shalas (all described elsewhere in this chapter). In any case, there is little evidence that globalisation has in any significant way reduced caste, religious, and gender exploitation, and indeed not brought in new forms of inequality.

### **Working at the landscape level**

The local and the small-scale are not by themselves adequate. For many of the

### **Box 3 Conservation Democracy**

Across the country there are literally thousands of community-led efforts at protecting and regenerating forests, wetlands, grasslands, and coastal/marine areas, as also wildlife populations and species (several case studies and state/national analyses are presented in Pathak 2009). Such 'community conserved areas' (CCAs) are a crucial reason for the continued presence of natural ecosystems and wildlife even amidst dense human population. An important component of these initiatives is the enormous diversity of rules and institutions that communities have developed, for governance and management. Institutions for management range from a small youth committee to the full gram sabha (village assembly), and the rules can be oral or written, traditional or new, usually accompanied by varied sanctions and penalties for violation.

problems we now face are at much larger scales, emanating from and affecting entire landscapes (and seascapes), countries, regions, and indeed the earth. Climate change, the spread of toxics, and desertification, are examples. Landscape and trans-boundary planning and governance (also called 'bioregionalism', or 'ecoregionalism', amongst other names), are exciting new approaches being tried out in several countries and regions. These are as yet fledgling in India, but some are worth learning from. The Arvari Sansad (Parliament) in Rajasthan brings 72 villages in the state of Rajasthan together, to manage a 400 sq.km river basin through inter-village coordination, making integrated plans and programmes for land, agriculture, water, wildlife, and development (Hasnat 2005: 16-17; <http://www.tarunbharatsangh.org/programs/water/arvariparliament.htm>, accessed 1 June 2009). This is part of an effort to create water self-sufficiency in an arid zone, over several hundred villages, through decentralised harvesting and strict self-regulation of use, initiated by the community NGO Tarun Bharat Sangh ([www.tarunbharatsangh.org](http://www.tarunbharatsangh.org)). In Maharashtra, a federation of Water User Associations has been handed over the management of the Waghad Irrigation Project, the first time a government project has been completely devolved to local people (Paranjape and Joy undated).

Working at the landscape necessarily envisages thinking across political

and cultural boundaries. In a detailed exercise conducted as part of the National Biodiversity Strategy and Action Plan process (TPCG and Kalpavriksh, 2005), such planning was envisaged for 10 such landscapes across India. These pointed to the need to:

1. Delineate appropriate ecological boundaries, e.g. those defined by mountain ranges, rivers and river basins, coasts, etc.

2. Understand the dynamics of various ecological factors within these boundaries.

3. Overlay these boundaries and interactions with socio-cultural and political ones, highlighting the possible convergences, e.g. when district or state boundaries match those of watersheds or mountain ranges.

4. Consider planning and management mechanisms for the eco-regions thus defined, including, building from the grassroots as described below, one or more institutions that can be charged with these tasks.

Building on decentralized and landscape level governance and management, and in turn providing it a solid backing, would be a rational land use plan for each bioregion, state and the country as a whole. This plan would permanently put the country's ecologically and socially most fragile or important lands into some form of conservation status (fully participatory and mindful of local rights and

**Box 4**  
**Sustainable and Democratic Cities**

Moving away from the classic model of a city parasitically dependent on the countryside for all its needs, is precisely what Bhuj, the district headquarters of Kachchh (Gujarat), is aiming for. Civil society and consultancy groups like Hunnarshala, Sahjeevan, Kutch Mahila Vikas Sangathan, and ACT, have teamed up to mobilize slumdweller, women's groups, and other citizens into reviving watersheds and creating a decentralized water storage and management system, manage solid wastes, generate livelihood for poor women, create adequate sanitation, and provide dignified housing for all. The process is also re-establishing common spaces for all to use, and informed citizens' involvement in the full planning process to realize the vision of the 74th Amendment of the Indian Constitution (providing for urban decentralization). Deeper democratic processes in the context of a city are also the aim of processes in Bangalore, initiated by the network Janaagraha. Its approach is characterized by taking a regional perspective of the city (looking at linkages with Bangalore's surrounds), empowering citizens (including children and the youth) with information regarding their rights and roles in urban processes, enabling citizens and officials with the skills necessary for improved urban planning, and facilitating direct responsibility, accountability and transparency of agencies towards citizens. In Delhi, the NGO Parivartan has facilitated greater citizens' access to government offices, helped people in lower income class colonies obtain better services including by challenging the massive fraud in ration (fair price) shops, and forced the government to abandon a proposed World Bank funded project that would have hiked up water costs with the poor bearing the brunt ([www.hunnar.org](http://www.hunnar.org); [www.janaagraha.org](http://www.janaagraha.org); [www.st-award.org](http://www.st-award.org); Baviskar 2010).

tenure). Such a plan would also enjoin upon towns and cities to provide as much of their resources from within their boundaries as possible, through water harvesting, rooftop and vacant plot farming, decentralized energy generation, and so on; and to build mutually beneficial rather than parasitic relations with rural areas from where they will still need to take resources. The greater the say of rural communities in deciding what happens to their resources, and the greater the awareness of city-dwellers on the impacts of their lifestyles, the more this will happen.

Ultimately as villages get re-vitalized through locally appropriate development initiatives, rural-urban migration which today seems inexorable, would also slow down and may even get reversed... as has happened with villages like Ralegan Siddhi and Hivare Bazaar in the state of Maharashtra, those in

Dewas district of Madhya Pradesh where Samaj Pragati Sahayog is active, and those in Alwar district of Rajasthan where Tarun Bharat Sangh works (Pangare and Pangare 1992; Sakhujia 2008; <http://www.fao.org/docrep/x5669e/x5669e06.htm>, accessed 1 June 2009; Anand undated; [www.tarunbharatsangh.org](http://www.tarunbharatsangh.org); [www.samprag.org](http://www.samprag.org)).

### **Governance, local to national**

Central to the notion of RED, is the practice of democratic governance that starts from the smallest, most local unit, to ever-expanding spatial units. A number of theories of democracy or governance have expounded on this, across the broad spectrum of political ideologies (Markovic 1994; Gandhi 2008; Morrison 1995). In each of these, and crucial to the concept of RED, is the combination of rights and responsibilities posited above.

*Industrial Park, Mumbai*  
Credit: A. Sarda  
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**Box 5**  
**Local Self-Governance and Planning**

The Gond adivasi village of Mendha-Lekha, in the state of Maharashtra, with a history of involvement in mass movements against big dams and industrial deforestation, takes decisions involving all its adults. For these decisions it uses information generated by abhyas gats (study circles involving villagers and where necessary, external experts). Decisions are taken only by consensus, creating a high stake in their implementation. All government departments have to seek consent of the gram sabha for their activities. In the last three decades the village has moved towards fulfillment of all basic requirements of food, water, energy and local livelihoods, as also conserved 1800 hectares of forest. There is now the challenge of transferring the values of collective decision-making, and conservation, to new generations. (Pathak and Gour-Broome 2001; Pathak and Taraporewala 2008; <http://www.indianexpress.com/news/gadchiroli-villages-get-rights-to-forests/554714/>)

An attempt at bringing citizens at the urban ward level into the planning process, is the participatory budgeting exercise in a number of cities in India (and many other countries). The idea is for citizens to submit their priorities for spending, which are then converted into project proposals by official agencies or people's representatives; these then go back for citizen voting and then get incorporated into budgets and implementation plans. Amongst the first to initiate this process was Bangalore, followed by Hubli-Dharwad and Pune. This process is still only one step in the direction of deeper democratic urban planning, but a significant one, since funds allocation and use is often the main stronghold of a minority in power. (Menon 2009).

In India, the Constitution mandates governance by panchayats at the village and village cluster level, and by ward committees at the urban ward level. However, these are representative bodies, subject to the same pitfalls that plague representative democracy at higher levels. It is crucial to empower the gram sabha (village assembly) in rural areas, and the area sabha (smaller units within wards) in cities, or other equivalent body where all the adults of the individual

hamlet or village or urban colony are conveniently able to participate in decision-making. All critical decisions relating to local natural resources or environmental issues should be taken at this level, with special provision to facilitate the equal participation of women and other underprivileged sections.

Larger level governance structures need to essentially emanate from these basic units. These would include

### **Box 6** **The Role of Knowledge**

The most relevant knowledge for RED will also be that which disregards the artificial boundaries that western forms of education and learning have created, between the 'physical', 'natural', and 'social' sciences, and between these sciences and the 'arts'. Ecological and human systems are not constituted by such neat boxes, landscapes are not amenable to easy boundaries between the 'wild' and the 'domesticated', the 'natural' and the 'human'. The more we can learn and teach and transmit knowledge in holistic ways, giving respect not only to specialists but also to generalists, the more we can understand nature and our own place in it. In a number of countries, universities (ideally to be renamed 'multiversities') are already experimenting with such inter-disciplinary and trans-disciplinary studies, encouraging students to cut across previously impenetrable boundaries. An even bigger challenge is to integrate modern and traditional knowledges in the institutions of learning, providing respectful places to experts from the latter, sending students out to learn from





*Kerala, Fishing*  
Credit: H. Rosbach,  
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‘ordinary’ folks through new forms of the ancient system of apprenticeship, bringing back oral traditions, and so on. A number of alternative education and learning initiatives attempt to do this: schools like pachaale of the Deccan Development Society, in Andhra Pradesh, and the jeevan shalas (‘life schools’) of the Narmada Bachao Andolan, struggling to save the Narmada valley and its inhabitants from a series of mega-dams; colleges like the Adivasi Academy at Tejgadh, Gujarat; open learning institutions like the Bija Vidyapeeth in Dehradun, Uttarakhand (refs), and others.

<http://www.ddsindia.com/www/psaale.htm>; Suresh Kumar Challa, DDS, pers. comm, Dec. 2009; <http://www.ddsindia.com/www/Education.htm>; <http://www.narmada.org/ALTERNATIVES/jeevanshalas.html> <http://www.narmada.org/nba-press-releases/february-2009/17Feb.html>; <http://www.adivasiacademy.org.in>; <http://www.navdanya.org/earth-university>

clusters or federations of villages with common ecological features, larger landscape level institutions, and others that in some way also relate to the existing administrative and political units of districts and states. Governance across states, and across countries, of course presents special challenges; there are a number of lessons to be learnt from failed or only partially successful initiatives such as river basin authorities (Thakkar 2009b).

### Employment and livelihood

The combination of localization and landscape approaches also provides massive opportunities for livelihood generation, thus tackling one of India's biggest ongoing problems: unemployment. Land and water regeneration, and the resulting increase in productivity, could provide a huge source of employment, and create permanent assets for sustainable

livelihoods. The National Rural Employment Guarantee Act (NREGA), one of the current government's flagship programmes, as also other schemes such as the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), could well be oriented towards such environment-employment combinations. Also important in the new 'green job' deal would be a renewed emphasis on labour-intensive rural industries and infrastructure, including handlooms and handicrafts, local energy projects, rural roads, and others that people can be in control of, building on their own traditional knowledge or with easily acquired new skills.

The United Nations Environment Programme and the International Labour Organisation estimate that there is considerable employment opportunity in 'green jobs', defined



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left  
Farmer, DRC.  
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must be truly astounding. Yet no comprehensive study on this potential has ever been carried out.

### Economic democracy

RED requires not only a fundamental change in political governance, but also in economic relations of production and consumption. Globalized economies tend to emphasise the democratization of consumption (the consumer as ‘king’...though even this hides the fact that in many cases there is only a mirage of choice), but not the democratization of production (Shrivastava 2009). This can only change with a fundamental reversal, towards decentralized production which is in the control of the producer, linked to predominantly local consumption which is in the control of the consumer.

Village-based or ‘cottage’ industry, small-scale and decentralized, has been a Gandhian proposal for decades. Such industry would be oriented to meeting, first and foremost, local needs, and then national or international

as “decent work”<sup>116</sup> that helps to tackle the ecological crises we face. For instance, organic, small-scale farming can employ more people than conventional chemical-based agriculture. Renewable energy generation, and energy efficiency, as yet in its infancy, could provide jobs to tens of millions. (UNEP et al 2008). For both farming and energy (generation and efficiency), as also several other sectors, such as transportation, energy-efficient building, decentralized manufacture, recycling, forestry, and others, the potential in India

<sup>116</sup> Decent work is defined by the International Labour Organisation as opportunities for women and men to obtain dignified and productive work in conditions of freedom, equity, security and human dignity [http://www.ilo.org/global/About\\_the\\_ILO/Mainpillars/WhatisDecentWork/index.htm](http://www.ilo.org/global/About_the_ILO/Mainpillars/WhatisDecentWork/index.htm)

needs. Since this would be a part of a localized economy in which producer-consumer links are primarily (though not only) local, the crucial difference between such production and current capitalist production is that it is for self and others, primarily as a service and not for profits (Kumarappa 1962).

Groups of villages, or villages and towns, could form units to further such economic democracy. In Tamil Nadu, the dalit panchayat head of Kuthambakkam village, Ramaswamy Elango, is organizing

a cluster of 7-8 villages to form a 'free trade zone', in which they will trade goods and services with each other (on mutually beneficial terms) to reduce dependence on the outside market and government. This way, the money stays back in the area for reinvestment in local development, and relations amongst villages get stronger. In Gujarat, the NGO Bhasha is promoting the idea of Green Economic Zones to encompass dozens of tribal villages, based on the "concepts of sustainability, ecological sensitivity, and an ingrained understanding of the cultural roots of a



top  
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bottom  
Gram Sabha  
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people”. The Nowgong Agriculture Producer Company Ltd (NAPCL) in Madhya Pradesh and the Aharam Traditional Crop Producer Company (ATCPC) in Tamil Nadu are examples of farmer-run companies that enable producers directly reach their markets. ([www.goodnewsindia.com/index.php/Magazine/story/elango-kuthambakkam/](http://www.goodnewsindia.com/index.php/Magazine/story/elango-kuthambakkam/); Sigantor 2009; <http://www.bhasharesearch.org.in/Site.html#id=GEZ>; personal observations, November 2009; Avani Mohan Singh, NAPCL Board, pers. comm., 2009; Ghate 2009).

Money may remain an important medium of exchange, but would be much more locally controlled and managed rather than controlled anonymously by international financial institutions and the abstract forces of global capital operating through globally networked financial markets. Considerable local trade could revert to locally designed currencies or barter, and prices of products and services even when expressed in money terms could be decided between givers and receivers rather than by an impersonal, non-controllable distant ‘market’. A huge diversity of local currencies and non-monetary ways of trading and providing/obtaining services are already being used around the world, (Cohen-Mitchell 2005; see also *International Journal of Complementary Currency Systems*, at <http://www.uea.ac.uk/env/ijccr/index.html> The ‘free trade zone’ and the adivasi ‘green economic zone’ men-

tioned above, are just two examples of what locally democratic trade relations could look like).

Financial management itself needs to be radically decentralized, away from the mega-concentrations that today’s banks and financial institutions represent. These globalized institutions and the free rein given to their speculative tendencies, have been at the heart of the latest financial crisis. But simultaneously, across the world a host of localized, community-based banking and financing systems have also cropped up over the last couple of decades (Morrison 1995: 195–97).

Will big industry still have a place? Perhaps, though this will depend on what future societies, far more conscious of the ecological and social impacts of production and consumption, will want to produce. Moreover, the choice of technologies will be a matter of open public discussion and argument, rather than being unilaterally decided by powerful corporations. But even if big industrial units are necessary, they will only be the last resort for products that small-scale industry simply cannot make.

### **The role of the state**

Though communities (rural and urban) will be the fulcrum of the alternative futures, the state will need to retain, or rather strengthen, its welfare role for the weak (human and non-human). It will assist commu-

nities in situations where local capacity is weak, such as in generating resources, providing entitlements, and ensuring tenurial security. It will rein in business elements or others who behave irresponsibly towards the environment or people. It will have to be held accountable to its role as guarantor of the various fundamental rights that each citizen is supposed to enjoy under the Constitution of India, including through appropriate policy measures such as the Right to Information Act the government brought in in 2005. Finally, it will retain a role in larger global relations between peoples and nations.

### International relations

The reversal of economic globalization does not entail the end of global relations! Indeed there has always been a flow of ideas, persons, services and materials across the world, and this has often enriched human societies. RED, with its focus on localized economies and ethical lifestyles, learning from each other, would actually make the meaningful flow of ideas and innovations at global levels much more possible than a situation where everything is dominated by finance and capital.

India needs to build much better relations with neighbouring countries, based on our common ecological, cultural, and historical contexts. Transboundary landscape and seascape management would be an example, including 'peace zones' oriented towards conservation where

there are currently intense conflicts (e.g. the Siachen glacier between India and Pakistan). More globally, strengthening various treaties on peace, rights, and the environment, are a key agenda.

Much more needs to be said about this, but this essay is not focusing on the international dimension as such.

### Is such a transformation possible?

RED entails huge shifts in governance, and will be resisted by today's political and corporate power-centres. But in India, there are many signs that a transformation is possible over the next few decades, including:

1. Growing civil society mobilization to resist elements of the dominant economic growth model. There has been a marked growth in mass movements against destructive development projects, especially amongst communities most impacted by displacement or the degradation of their environment, supported by civil society groups in urban areas (Shiva et al, 1991; Agarwal et al, 1994; Humanscape, special issue on movements, October 2000; Kothari et al, 2003; Oommen, 2008; ICR 2010).

2. Civil society facilitating basic needs: The repeated failure of the state to deliver on many counts, has prompted civil society organizations (community-based, or NGOs) to take on the role of provision of

basic facilities and amenities, and of facilitating local empowerment, as illustrated in examples in this chapter. But care is needed that they do not exempt the state from its roles as described above.

**3.** Policy shifts and reforms: Civil society advocacy and initiatives by progressive individuals from within the state itself, has led to some policy shifts and reforms that are against the general trend of economic globalisation. Three recent legislative measures are examples: the Right to Information Act 2005, the National Rural Employment Guarantee Act

2006, and the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006. Each of these has a base in people's initiatives; e.g. the RTI emerged from grassroots struggles in Rajasthan, Delhi and elsewhere, led by groups like the Mazdoor Kisan Shakti Sangathan (MKSS) demanding access to official records on employment and funding (Kidambi undated; Baviskar 2010; <http://www.mkssindia.org/node/41>).

**4.** Technological shifts: Many technological innovations are making human life not only less dreary



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but also more ecologically sensitive, in industrial and agricultural production, energy, housing and construction, transportation, household equipment. There is also growing appreciation of the continued relevance of many traditional technologies, e.g. in agriculture, textiles and other manufacturing, and other fields. Countries in a 'developing' stage, have the unprecedented opportunity to leapfrog directly from some of the most wasteful industrial, energy, and transportation technologies, into super-efficient ones, provided they are given the opportunity and support to do so by the industrialized world.

**5.** Financial measures: A range of reforms in macro-economic and fiscal policies have been suggested to

move towards greater sustainability. Shifting subsidies from ecologically destructive practices such as chemical-heavy agriculture, to truly sustainable ones like organic farming, are one powerful set of changes that a number of civil society groups have demanded in India. Taxes that reflect something of the true value of natural resources being used by urban and industrial-scale consumers, discourage ecologically destructive practices including consumerism, and reduce income disparities, would also contribute substantially.

**6.** Awareness, education, capacity: Ecological and social awareness and the capacity to deal with associated problems has risen exponentially in the last 2-3 decades. Yet amongst decision-makers, and business elites,

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it remains particularly poor. A transition to RED will require a massive campaign to spread awareness about the multiple crises we face and their root causes, and build capacity to spread meaningful solutions.

India is perhaps uniquely placed to achieve the transformation to RED. This is for a variety of reasons: its thousands of years of history and adaptation (including ancient democratic practices that perhaps pre-date even the famed Greek republics), its ecological and cultural diversity, its resilience in the face of multiple crises, the continued existence of myriad

lifestyles and worldviews including of ecosystem people who still tread the most lightly on earth, the powerful legacy of Buddha, Gandhi, and other progressive thinkers, the adoption of revolutionary thinking from others like Marx, zealously guarded practices of democracy and civil society activism, and the very many peoples' movements of resistance and reconstruction. But of course it cannot do this alone, it will need to convince, teach, and learn from, other countries and peoples...which too it has done for many centuries, but now in an entirely new and far more challenging context.



*Students*  
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### REFERENCES

Agarwal, A., D. D'Monte, and U. Samarth (1994). *The Fight for Survival*. Delhi: Centre for Science and Environment.

Agarwal, A., and S. Narain (1997). *Dying Wisdom: Rise, Fall and Potential of India's Traditional Water Harvesting Systems*. 4th State of India's Environment Report. Delhi: Centre for Science and Environment.

Anand, N. (Undated). *Hivare Bazaar: community stewardship of water resources*. In Planning Commission and Lokayan, *Seeds of Hope*, [http://planningcommission.nic.in/reports/sereport/ser/seeds/seed\\_watr.pdf](http://planningcommission.nic.in/reports/sereport/ser/seeds/seed_watr.pdf)

Asher, M. 2009. *The inheritors of loss*. Tehelka, 28 August. [www.tehelka.com/story\\_main42.asp?filename=Ws050909The\\_Inheritors.asp](http://www.tehelka.com/story_main42.asp?filename=Ws050909The_Inheritors.asp)

Baviskar, A. (2010). *Winning the right to information in India: Is knowledge power?* In John Gaventa and R. McGee, *Citizen Action and National Policy: Making Change Happen*, London/New York: Zed Books, pp.129-151.

Bhatta, R. 2002. *Impact of globalization on the marine exports of India*. Foreign Trade Review. New Delhi: Indian Institute of Foreign Trade.

Bhushan, C., Hazra, M.Z., and Banerjee, S. 2008. *Rich Lands Poor People: Is Sustainable Mining Possible?* State of Environment, 6th Citizens' Report. Delhi: Centre for Science and Environment.

Bidwai, P. 2009. *An India That Can Say Yes*. Delhi: Heinrich Boll Foundation.

CEE (2002). *Towards Sustainability: Learnings from the Past, Innovating for the Future: Stories from India*. Ahmedabad: Centre for Environment Education and Ministry of Environment and Forests, Government of India.

Cohen-Mitchell, T. (2005). *Community currencies at a crossroads: New ways forward*. New Village Issue 2: Community Scale Economics. <http://www.newvillage.net/journal/issue2/2commcurrencies.html>, accessed 28.9.2009.

FAO. 2009. *State of Food Insecurity in the World 2009*. Rome: Food and Agriculture Organisation. <ftp://ftp.fao.org/docrep/fao/012/i0876e/i0876e.pdf>

EQUATIONS. 2007. *SE(i)Zing India through Tourism*. EQUATIONS, Bangalore.

EQUATIONS. 2008. *The 'Privatisation of Governance': Natural resources, peoples rights and tourism in India*. EQUATIONS, Bangalore.

EQUATIONS. 2009. *Tourism, trade and globalization: Impacts on biodiversity – A one act play*. EQUATIONS, Bangalore.

FICCI. 2009. *Task Force Report on National Security and Terrorism*. Delhi: Federation of Indian Chambers of Commerce and Industry. <http://www.ficci.com/SPdocument/20032/terrorism-report.pdf>

- Gandhi, M. 2008. *India of My Dreams*. Ahmedabad: Navjeevan Trust.
- GFN. 2008. *India's Ecological Footprint: A business perspective*. Global Footprint Initiative and Confederation of Indian Industries. [http://www.footprintnetwork.org/en/index.php/GFN/blog/indias\\_demand\\_on\\_nature\\_approaching\\_critical\\_limits](http://www.footprintnetwork.org/en/index.php/GFN/blog/indias_demand_on_nature_approaching_critical_limits)
- Ghate, U. 2009. *Prosumer model and 'glocalisation' in Tamil Nadu and Orissa*. Durg, Chhattisgarh: Covenant Centre for Development. Unpublished.
- GOI. 2009a. *National Action Plan on Climate Change*. Delhi: Prime Minister's Council on Climate Change, Government of India. <http://pmindia.nic.in/Pg01-52.pdf>
- GOI. 2009b. *Economic Survey 2008-09*. Delhi: Department of Economic Affairs, Ministry of Finance, Government of India.
- Greenpeace India. 2007. *Hiding Behind the Poor*. Bangalore: Greenpeace India Society. [www.greenpeace.org/india/press/reports/hiding-behind-the-poor](http://www.greenpeace.org/india/press/reports/hiding-behind-the-poor)
- Greenpeace India. 2009. *Still Waiting: A report on energy injustice*. Bangalore: Greenpeace India Society. <http://www.greenpeace.org/raw/content/india/press/reports/stillwaiting.pdf>
- Hasnat, S.M. (2005). *Arvari sansad: The farmers' parliament*. LEISA India, December. [http://india.leisa.info/index.php?url=getblob.php&o\\_id=82240&a\\_id=211&a\\_seq=0](http://india.leisa.info/index.php?url=getblob.php&o_id=82240&a_id=211&a_seq=0)
- Hirst, P. (1994). *Associative Democracy: New Forms of Economic and Social Governance*. Amherst: University of Massachusetts Press. Cited in Roy Morrison, 1995, *Ecological Democracy*, Boston: South End Press.
- ICR. 2010. *A Calendar of Resistance: A resource book*. Delhi: Intercultural Resources.
- Jayal, N.G., A. Prakash, and P.K. Sharma (eds). (2006). *Local Governance in India: Decentralisation and Beyond*. New Delhi: Oxford University Press.
- James, C.M. and Kitto, M.R. 2008. *Marine fish farming in India – Failed expectations?* *Current Science*, 94(12): 1550, 25 June 2008.
- Kandhari, R. 2009. *Plastic shakeout*. *Down to Earth*, 18(15), December 14, 2009. [http://www.downtoearth.org.in/full6.asp?foldername=20091231&filename=news&sec\\_id=4&sid=1](http://www.downtoearth.org.in/full6.asp?foldername=20091231&filename=news&sec_id=4&sid=1)
- Kasturi, K. 2008. *India's coast up for grabs*. *InfoChange India News and Features*, August. [http://infochangeindia.org/index2.php?option=com\\_content&task=view&id=7259&pop=1&page=0&Itemid=52](http://infochangeindia.org/index2.php?option=com_content&task=view&id=7259&pop=1&page=0&Itemid=52)
- Kidambi, S. (undated). *Mazdoor Kisan Shakti Sangathan: Championing the Right to Information in rural India*. SAMAR (South Asia Magazine for Action and Reflection), No. 16. [www.samarmagazine.org/archive/article.php?id=128](http://www.samarmagazine.org/archive/article.php?id=128)

Kohli, K. and Menon, M. 2005. *Eleven Years of the Environment Impact Assessment Notification, 1994: How effective has it been?* Delhi: Kalpavriksh, Just Environment Trust, and Environment Justice Initiative.

Kohli, K. and Menon, M. with Das, S. and Badami, D. 2009. *Calling the Bluff: Revealing the state of Monitoring and Compliance of Environmental Clearance Conditions.* Delhi/Pune: Kalpavriksh.

Kothari, A. (2009). 'Radical ecological democracy: Escaping India's globalisation trap'. *Development*, Vol. 52(3), September: 401-09.

Kothari, S., I. Ahmed, and H. Reifeld (eds). (2003). *The Value of Nature: Ecological politics in India.* NOIDA, Uttar Pradesh: Konrad Adenauer Stiftung and Rainbow Publishers.

Kumarappa, J.C. 1962. *Gandhian Economic Thought.* Varanasi, India: Sarva Seva Sangh Prakashan.

Kurien, J. 1995. *Impact of joint ventures on fish economy.* *Economic and Political Weekly*, 30(6): 300-302, February 11.

Kurien, J. 1999. *State and shrimp: A preliminary analysis of economic and ecological consequence of India's fishery policies.* In *FAO, Papers Presented at the Bangkok FAO Technical Consultation on Policies for Sustainable Shrimp Culture, Bangkok, Thailand, 8-11 December 1997*, Rome.

Lele, S., Dubash, N. and Dixit, S. 2010. *A structure for environmental governance: A perspective.* *Economic and Political Weekly*, XLV(6): 13-16, Feb. 6.

Markovic, M. (1994). 'Radical democracy', in L.H. Legters, J.P. Burke, and A. DiQuattro (eds), *Critical Perspectives in Democracy*, Lanham MD: Rowman and Littlefield.

Matthew, S. 2003. *Trade in fisheries and human development: Country case study India.* Asia Pacific Regional Initiative on Trade, Economic Governance, and Human Development, UNDP.

Menon, M. and Kohli, K. 2008. 'Re-Engineering' the Legal and Policy Regimes on Environment. *Economic and Political Weekly*, Vol. 43(23), June 7-13:14-17.

Menon, M. and Kohli, K. 2009. *Environmental confessions.* *Mint*, 17 November 2009. <http://www.livemint.com/2009/11/16230530/Environmental-confessions.html>

Menon, M., Rodriguez, S. and Sridhar, A. 2007. *Coastal Zone Management Notification '07: Better or Bitter Fare? Produced for the Post-Tsunami Environment Initiative Project.* Bangalore: ATREE.

Menon, S. (2009). *Participatory budgeting.* <http://www.desd.org/efc/Participatory%20Budgeting.htm>

Ministry of Mines. 2010. *Aerial survey for exploration of mines.* Press Information Bureau, Government of India, 19 January 2010. [http://www.pib.nic.in/release/rel\\_print\\_page1.asp?relid=57039](http://www.pib.nic.in/release/rel_print_page1.asp?relid=57039), accessed 20 February 2010.

Misra, P.K. and Prabhakar, N. 2002. *Non-pastoral nomads and biodiversity. Subthematic paper for the National Biodiversity Strategy and Action Plan process, Ministry of Environment and Forests, Government of India. In TPCG and Kalpavriksh 2005.*

Mitchell, R.E. (2006). *Building an empirical case for ecological democracy. Nature and Culture, Vol. 1(2), Autumn: 149-156.*

Morrison, R. (1995). *Ecological Democracy. Boston: South End Press.*

Muhlberger, S. (1998). *Democracy in ancient India. World History of Democracy site, <http://www.nipissingu.ca/department/history/muhlberger/histdem/indiadem.htm>. Accessed 5.10.2009.*

MoEF. 2009. *State of Environment Report India 2009. Delhi: Ministry of Environment and Forests, Government of India. <http://moef.nic.in/downloads/home/home-SoE-Report-2009.pdf>*

MoT. 2009. *Annual Report 2008-09. Delhi: Ministry of Tourism, Government of India. <http://tourism.gov.in/annualreportE08-09.pdf>*

NEERI. 1995a. *Impacts of aquaculture farming and remedial measures in ecologically fragile coastal areas of India (Investigation Report submitted to Supreme Court of India). Nagpur, India: National Environmental Engineering Research Institute.*

NEERI. 1995b. *Impacts of aquaculture farming and remedial measures in ecologically fragile coastal areas in the states of Andhra Pradesh and Tamil Nadu (Investigation report submitted to Supreme Court of India). Nagpur, India: National Environmental Engineering Research Institute.*

Oommen, T.K. (2008). 'Protest against displacement by development projects: The Indian case.' In *India Social Development Report 2008: Development and Displacement*, Delhi: Council for Social Development and Oxford University Press.

Pachauri, R.K., and Shridharan, P.V. 1998. *Looking Back to Think Ahead: GREEN India 2047. New Delhi: Tata Energy Research Institute (TERI).*

Pangare, G. and V. Pangare (1992). *From Poverty to Plenty: The story of Ralegan Siddhi. Delhi: INTACH.*

Paranjape, S. and Joy, K.J. Undated. *Co-management of Surface water and Groundwater: The case of the Ozar WUAs in Nashik district. Unpublished study report, study supported by the International Water Management Institute (IWMI), Colombo Sri Lanka (2002-03). Pune: Society for Promoting Participative Ecosystem Management (SOPPECOM). <http://www.soppecom.org/resouces.htm>*

Parker, P. and Vanka, S. 2008. *New rules for seizing land. PRS Legislative Brief. India Together, 19 May. <http://www.indiatogether.org/2008/may/law-land.htm>*

Pathak, N. (ed). (2009). *Community Conserved Areas in India: A Directory. Pune/Delhi: Kalpavriksh.*

Pathak, N. and Gour-Broome, V. (2001). *Tribal Self-Rule and Natural Resource Management: Community Based Conservation at Mendha-Lekha, Maharashtra, India*. Pune/Delhi: Kalpavriksh and International Institute of Environment and Development.

Pathak, N. and Taraporewala, E. (2008). *Towards self-rule and forest conservation in Mendha-Lekha village, Gadchiroli, India: Report of a consultation for a ICCA Consortium and IUCN TILCEPA-TGER project sponsored by GTZ*. Pune/Delhi: Kalpavriksh. [http://www.iccaforum.org/images/media/grd/mendha\\_india\\_report\\_icca\\_grassroots\\_discussions.pdf](http://www.iccaforum.org/images/media/grd/mendha_india_report_icca_grassroots_discussions.pdf)

Planning Commission. 2006. *National Mineral Policy: Report of the high-level committee*. Delhi: Government of India.

Rao, N., Sant, G., Rajan, S.C. 2009. *An Overview of Indian Energy Trends: Low Carbon Growth and Development Challenges*. Pune: Prayas.

Saha-Sinha, S. 2009. *Indian new mineral policy will usher in gloom for adivasis*. Infochange, January. <http://infochangeindia.org/200901077561/Environment/Analysis/India's-new-mineral-policy-will-usher-in-gloom-for-adivasis.html>

Sakhuja, N. 2008. 'A village with 54 millionaires.' *Down to Earth*, January 31.

Saldanha, L., Naik, A., Joshi, A. and S. Sastry, S. 2007. *Green Tapism: A review of the environmental impact assessment notification 2006*, Bangalore: Environment Support Group.

Satheesh, P.V. (2002). *Crops of Truth: Farmers' perception of the agrobiodiversity in the Deccan Region of South India*. Deccan Development Society, Hyderabad.

Sharma, M. (2009). 'Passages from nature to nationalism: Sunderlal Bahuguna and Tehri Dam opposition in Garhwal'. *Economic and Political Weekly*, Vol 44, Feb 21-27. <http://epw.in/epw/user/viewAbstract.jsp>

Sharma, V.P., Kohler-Rollefson, I., and Morton, J. Undated. *Pastoralism in India: A scoping study*. Ahmedabad: Centre for Management in Agriculture (IIM Ahmedabad), League of Pastoral Peoples, and Natural Resources Institute. <http://www.research4development.info/PDF/outputs/ZC0181b.pdf>

Shiva, V., in association with J. Bandyopadhyay, P. Hegde, B.V. Krishnamurthy, J. Kurien, G. Narendranath, V. Ramprasad, and S.T.S. Reddy (1991). *Ecology And The Politics of Survival: conflicts over natural resources in India*. Delhi: Sage Publications and Tokyo: United Nations Publications Press. Shrivastava, A. (2009). *Is there an alternative to development under globalisation?* Infochange News and Features, May. <http://infochangeindia.org/Globalisation-/Rethinking-development/Is-there-an-alternative-to-development-under-globalisation.html>, accessed 5.10.2009.

Siganporia, H. (2009). *The green world order*. *Tehelka Magazine*, Vol. 6 Issue 25, June 25, 2009. [www.tehelka.com/story\\_main42.asp?filename=cr270609the\\_green.asp](http://www.tehelka.com/story_main42.asp?filename=cr270609the_green.asp)

Singh, Manmohan. 1992. *Environment and the new economic policies*. Foundation Day lecture, 17 June 1992. Delhi: Society for Promotion of Wastelands Development.

Singh, S. Undated. *Third five-year Exim Policy (2002-07): A free trade regime*. Indian Institute of Foreign Trade. [http://www.iift.edu/iift/papers/faculty/exim\\_ss.pdf](http://www.iift.edu/iift/papers/faculty/exim_ss.pdf), accessed 30 November 2009.

TAI-India. 2010. *How Green Will be the Green Tribunal? Delhi: Legal Initiative for Forest and Environment, The Access Initiative, and Envirionics Trust*.

TERI. 1998. *India's Environment Pollution and Protection*. Report No. 97ED57, submitted to Central Research Institute of Electric Power Industry (CRIEPI, Japan). New Delhi: Tata Energy Research Institute.

Thakkar, H. 2009a. *There is Little Hope Here*. Delhi: South Asia Network on Dams, Rivers, and People. [http://www.sandrp.in/CRTITUQE\\_ON\\_INDIA\\_S\\_CLIMATE\\_PLAN-There\\_is\\_Little\\_Hope\\_Here\\_Feb\\_2009.pdf](http://www.sandrp.in/CRTITUQE_ON_INDIA_S_CLIMATE_PLAN-There_is_Little_Hope_Here_Feb_2009.pdf)

Thakkar, H. 2009b. *The zero success of the state in river basin management in India*. *Dams, Rivers & People*, Vol. 6 (12) & Vol. 7 (1-2), Jan-March 2009. [http://www.sandrp.in/drp/Jan\\_March\\_2009.pdf](http://www.sandrp.in/drp/Jan_March_2009.pdf)

Thapar, R. 2002. *Early India: From the origins to AD 1300*. Berkeley: University of California Press.

TPCG and Kalpavriksh. 2005. *Securing India's Future: Final Technical Report of the National Biodiversity Strategy and Action Plan*. Delhi/Pune: Kalpavriksh.

TOI. 2010. *Groundwater in 33% of India undrinkable*. *Times of India*, Pune, 13 March.

UNEP, ILO, UOE, and ITUC. (2008). *Green Jobs: Towards decent work in a sustainable, low-carbon world*. United Nations Environment Programme, International Labour Organisation, International Union of Employers, and International Trade Union Confederation. Nairobi: UNEP. [www.unep.org/civil\\_society/Publications/index.asp](http://www.unep.org/civil_society/Publications/index.asp)

Vagholikar, N. and Moghe, K. with Dutta, R. 2003. *Undermining India: Impacts of Mining in Ecologically Sensitive Areas*. Pune/Delhi: Kalpavriksh.

Vivekanandan, P. Undated. *Pastoral communities and biodiversity conservation*. Subthematic paper for the National Biodiversity Strategy and Action Plan process, Ministry of Environment and Forests, Government of India. In TPCG and Kalpavriksh 2005.

# AROUND THE WORLD



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- Theme on Culture and Conservation (TCC)
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The essays in this issue of Policy Matters analyze how monetary, financial and fiscal policies play a critical role in driving environmental degradation and affecting peoples' livelihoods. They also examine alternative macroeconomic policy options that will blend environmental stewardship and social justice with long-term sustainability. These essays underline the importance of macroeconomic policies as we shift course towards social and environmental sustainability.

CEESP, the IUCN Commission on Environmental, Economic and Social Policy, is an inter-disciplinary network of professionals whose mission is to act as a source of advice on the environmental, economic, social and cultural factors that affect natural resources and biological diversity and to provide guidance and support towards effective policies and practices in environmental conservation and sustainable development.