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# Have We Solved Poverty?

## A look at the current state of microfinance

Raphael Calel<sup>1</sup>

Since the announcement of the Nobel Laureate for Peace last year, the issue of microfinance has been on everyone's lips. Many times have I heard the following sentence uttered: "Professor Yunus could equally have won the prize for economics." This seems to be motivated by the fact that poverty is one of the most difficult economic problems, combined with the belief that Professor Yunus' contribution in microfinance has resulted in a solution to this problem. In the public eye, it appears as if Professor Yunus may have created a universal solution for poverty overnight. I do not wish to take away any of the plentiful tribute that Professor Yunus deserves for his tremendous efforts in bringing a well of previously untapped entrepreneurial drive and talent to financial services. Rather, I hope that in providing a brief exposition on the topic we will see that there are still many theoretical and practical shortcomings of microfinance. Our optimism cannot be unconditional. If your interest for microfinance has been sparked by the recent attention, but not yet ignited, I beg you to read on.

We begin with a concise introduction of the topic. Microfinance, as the name suggests, is the practice of providing financial services on a micro level, to those who generally do not qualify to enter the formal financial sector. It can be anything from providing a \$20 loan to a woman who sells flowers, allowing her to buy flowers in bulk (a micro enterprise), to the provision of savings accounts without a lower limit for poor farmers. Saving in microfinance institutions reduces risk and enables the accumulation of savings far beyond what storing unsold perishable output could. This allows for longer-term planning for these farmers, such as investing in new technologies or sending their children to school. Over the last 30 years these financial services to the poor have raised millions of people above the poverty line (in fact, it was for these successes that the Grameen Bank, a micro credit provider, and Yunus received the Nobel Prize for Peace). Several important ideas have arisen from this work, such as the use of self-selection in loan provision (i.e. offering loans to small groups of people, and conditioning future loans on repayment. Although the bank does not have access to information on the creditworthiness of these individuals, they are likely to self-select into reliable groups since they have information about each other. This resolves an important information asymmetry). The success has been

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unmistakable, with millions of borrowers around the globe and near 100% repayment rates<sup>2</sup>. This success relies on building self-sustaining institutions instead of temporary poverty relief funded by economic aid. These microfinance banks are based on principles similar to any other bank, where their own profitability allows for continued existence. Microfinance has thus been hailed as the *solution to poverty* by the most optimistic.

However, through the examination of three crucial issues in micro-credit, this prevailing image can be challenged, which hopefully gives the opportunity to think about microfinance in a more realistic fashion than as *The Answer to all things poverty-related*. Firstly, a discussion of how *freedom* in various forms is of fundamental, practical and theoretical importance for the microfinance movement. Secondly, considering that the past 50 years of development policies have emanated from more developed countries (MDCs), we need to look at the real *intentions* of these policies. Thirdly, and finally, we conclude with a simple reflection of the explicit *purpose of microfinance* itself.

We begin with the issue of freedom. In the haste of hailing microfinance as *The Answer* to eradicating poverty, it seems that an elementary caveat has been marginalised. The success of microfinance initiatives across the world rests on the ability for free enterprise to exist. Essentially, the mere existence of micro-credit is insufficient, as it must also be accompanied by adequate opportunities for access and use.

For instance, when microfinance is said to provide a way out of poverty for the 4 billion people who live on less than \$2 a day (Prahalad 2006), we seem to neglect that armed conflict unfortunately exists in many developing countries. Armed conflict poses serious limitations for microfinance. Since microfinance is based on the idea of self-sustaining institutions, or even *inclusive capitalism* promoted by self-interested entrepreneurs, it requires an environment in which these economic actors would be motivated to enter. Conflict ridden regions usually do not fall into this category.

Such conflict stricken regions as Darfur are often our first association with crippling poverty and morally inadmissible conditions for human life. However, in the context of relieving poverty these circumstances are seldom the first image that comes to mind. The primary issue in these regions is conflict resolution. Only afterwards can hopes of poverty-alleviation be realised.

However, one need not go to such extremes to make this point. Some much less extreme scenarios should hamper our optimism as well. Consider the many examples of populist governments on the rise: in Bolivia, Venezuela, Ecuador, and the threat of a return to interest rate caps in Rwanda. In order for microfinance to be viable, something as simple as freely determined interest rates must be permitted. Interest rate earnings must cover three types of costs for any bank: (1) the opportunity cost of having put that money to this use, (2) the risk of losses from default, and (3) the transactions cost of administering that loan. The opportunity cost should be similar for all banks, and thus not put micro-credit initiatives at great disadvantage. The default risk facing micro-lending institutions has proven small, as we have noted. Both of these costs are proportional to the size of the loan, and therefore they do not appear to justify a significant interest rate discrepancy between micro-lending institutions and commercial banks. Transaction costs, however, are not proportional to the

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<sup>2</sup> ACCION International advertises a historical repayment rate of 97% between 1996-2005, a period in which they served 3.97 million customers (<http://www.accion.org/>). Similarly, an average repayment rate near 97% for the Grameen Bank for 1983-2001 can be calculated from a time-series provided on their website (<http://www.grameen-info.org>).

loan. The cost of meeting with the borrower, processing loans, and monitoring repayment is similar for loans of all sizes. However, this cost will amount to a much greater proportion of a micro-loan than of a normal loan provided by a commercial bank. It is therefore clear that micro-lenders will have to charge higher interest rates to be economically self-sufficient. If interest rate caps are set at levels close to (or below) those charged by commercial banks, it is clear to see that micro-lending institutions would have to rely on economic aid to cover their costs. Hence, threats on the free determination of interest rates in these countries jeopardises the viability of microfinance. Though these threats may seem mild in comparison to Darfur, an economic environment with interest rate caps would be devastating for the future of microfinance. Therefore, it is apparent that far less extreme circumstances than armed conflict can be crippling for the feasibility of microfinance and that the realm that is beyond the help of microfinance initiatives is thus more substantial than we might have initially thought. The question is then if we are still justified in maintaining the extraordinary optimism of the potential of microfinance if we exclude such a large chunk of the world's poor from its benefits?

There are two answers to this question. One argument is that the obstacles that prevent the use of microfinance tools are, of course, important to remove. But once they have been removed, microfinance solutions can serve an important function in building wealthy societies where conflict has previously occurred. However, this reply underscores the fact that the effectiveness of microfinance as a tool for poverty relief is not unconditional. By recognising conflict resolution as a precondition in many cases, we are attributing at least equal importance to this aspect of poverty-alleviation.

The second answer is that if microfinance can help many of those living in poverty, it would have single-handedly provided more people with a higher quality of life than any other poverty relief policy. If microfinance realises a fraction of its hyped promise, has it not deserved this hype? Or rather, can we still call this *hype* if such fantastic results are in fact achieved? When considering this response carefully, we realise that at the very outset it is recognised that there are situations in which microfinance is not a suitable solution.

These two answers do not contradict each other, nor do they provide any arguments against microfinance solutions. They are both cause for optimism, but at the same time concede a more reasonable view of the potential of microfinance, by making explicit some of its key limitations.

Moving on to the second issue, one must consider the intentions of MDCs (More Developed Countries). For over 50 years these nations have helped shape the development agenda. Many forms of economic aid, disaster relief and policy prescriptions are just some solutions that have come out of this five-decade process. Evidently, these have not solved the problem of poverty. While this opens up an uncomfortable line of inquiry, one is obligated to ask the following two questions: (1) to what degree has the objective of development policies been to relieve poverty? And (2) can we attribute some of the reason for failure of development policies to the degree to which the underlying objective has diverged from poverty-alleviation?

To imagine that the goal of development policies has not been development may be of great concern and unrest to many. While in most cases development has probably been the goal, we look at international labour standards (ILS) as an illustration of what other motives *might* be in play, and how this affects the outcome of such policies.

ILS have been an important component of development policies. For example, there has been much pressure from MDCs to end child labour, to give workers fair wages and provide the right to unionise. Superficially this is an admirable agenda, and it may

be considered a noble achievement even if it was pursued for the wrong reasons. However, if these *wrong reasons* prevented their realisation, then we would be less forgiving. A cynic may argue that ILS is merely an attempt by MDCs to remove some of the low-cost competition from the less developed countries (LDCs). If LDCs take this view, this would make them very sceptical of implementing these policy recommendations. Although it may be in their long run interest to do so, the process is greatly slowed down because of this distrust. So we can see that the mere perception of a divergence between the outward and inward agenda of a particular development policy may be enough to halt its successful implementation.

We are forced then to think about microfinance in this context. Microfinance is not a policy developed by MDCs, and therefore does not raise the same suspicions. Furthermore, it directly serves the purposes of both development, and hypothesised economic interests such as removing low-cost competition by raising living standards. Thus, microfinance provides joint motivation for LDCs and MDCs in a way that prior development policies perhaps could not. This is a fairly unique characteristic, and we are therefore justified in being optimistic about microfinance solutions in a way that perhaps has not been warranted by earlier propositions.

The third and final discussion pertains to the intentions of microfinance itself. It is perhaps here that we are most clearly able to appreciate the enormous potential, but also the inherent limitations of microfinance. It is perhaps in highlighting this question that Professor Yunus deserves most praise (although media seemed less concerned with exploring this issue).

Microfinance embodies a bottom-up participatory approach to development, which aims to create wealth at the bottom of the income pyramid. We can imagine many other economic sectors where this approach is severely lacking, such as infrastructure and healthcare. Nevertheless, proponents of microfinance have not claimed that microfinance institutions have the capability of creating *all* the tools necessary for a society to develop. It is but one manifestation of the participatory approach. *Social enterprises*, as Yunus refers to them, are another. 'Large-scale-by-necessity' components of development are difficult for a micro enterprise to provide. Traditionally they have been provided via simple top-down policies, but the participatory approach of social enterprises provides the opportunity to combine bottom-up and top-down strategies into a single solution. By employing local resources, the top-down provided financing would fall into the hands of the people it aims to help, while at the same time providing the large-scale solutions that micro enterprises cannot.

Here we see that the pure bottom-up approach of microfinance solutions is inadequate. However, as a complement to the top-down approach, the potential of the participatory approach is greatly amplified. This only diminishes praise for microfinance to the extent that we realise that it is not a complete model for alleviating poverty. Instead, it is only by looking at the principles that have made microfinance so successful, and adapting them to the realities of the developing world, that substantive progress can be made.

In summary, I have dealt with three important, and often overlooked aspects of microfinance. While there is great potential for microfinance solutions, this potential needs to be qualified. Its utilisation is not unconditional, its application is not universal, and its use does not suit all problems. Our opinions on microfinance must take account of all of these issues, and hopefully this will help us in developing even more successful microfinance initiatives in the future.

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Grameen Bank Annual Reports. Key statistics available at [www.grameen-info.org](http://www.grameen-info.org)

CGAP. [www.cgap.org](http://www.cgap.org)

# The Failure of Economic Development in Zimbabwe

Joseph D. DiSilvio<sup>1</sup>

Zimbabwe's position in development studies is an anomalous one. Comparing its economic prospects for development following independence to its position today as one of the most 'underdeveloped' countries in the world presents challenges to understanding how such a drastic decline in its development status could occur. At the time of independence in 1980, Zimbabwe had a much more developed economy than most other nations in Sub-Saharan Africa due to the great diversity and quantity of natural resources. Other than South Africa, Zimbabwe had the most developed capital market in all of Africa, leading one scholar in 1983 to proclaim, "Independent Zimbabwe is a success"(Davidow 1982). President Robert Mugabe successfully implemented a series of social welfare programs to help the poor during the 1980's as well. In stark contrast, the Zimbabwe of the present day finds 85 per cent of the population living in poverty, an 80 percent unemployment rate, and an uncontrollable 2,000 per cent inflation rate (Howden 2006). Why has Zimbabwe regressed from one of the most promising cases for 'developed' status among African states to one of the most underdeveloped countries in the world in a matter of only 25 years?

Most news articles and less scholarly works credit President Mugabe's corruption as the reason for economic collapse. I will argue, however, that it is reductionist to simply say that the only reason for collapse is the autocratic government without accounting for other external factors such as foreign aid and Structural Adjustment Policies (SAPs). We must couple our discussion of Mugabe's corruption within these specific domestic and international factors, analyzing both the effects of these international forces on enhancing corruption and the effect of corruption on the implementation of certain policies. While the issue is highly complex and many factors have played contributing roles, I argue that there are three major factors that have led to the failure of the economy and welfare state in Zimbabwe: the corruption of Mugabe and other elites (including misappropriation of foreign aid as a result of corruption), Structural Adjustment Programs themselves that have hurt

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certain sectors of the economy and facilitated a deeper consolidation of power in the government elite, and most recently Mugabe's reckless land redistribution plan that has both dried up any further aid and destroyed the country's economic infrastructure.

This land redistribution policy, which hastily pushed whites off their land, is indicative of President Mugabe's autocratic ways, and usually receives the most attention in explaining Zimbabwe's economic collapse. To make an effective and comprehensive argument, however, I contend that paying attention to the historical and external factors in addition to the very important factor of land reform is essential. Accordingly, I will first trace the historical developments of Mugabe's consolidation of power, specifically in relation to foreign bilateral aid and its role in facilitating corruption. This discussion hinges on both the importance of aid to sustaining social welfare programs for the poor, and, conversely, aid's role in governmental corruption. Second, I will discuss the role of the World Bank and its implementation of SAPs in de-industrializing certain economic sectors. Finally, I detail Mugabe's devastating land redistribution policies beginning in the late 1990's that exhibit the full consolidation of Mugabe's power and corruption as well as the major cause for the present condition of Zimbabwe.

### **Internal Corruption and Misuse of Bilateral Donor Aid**

At the time of Zimbabwean independence, the major challenge for the first black government in power following British rule was relations between the economically powerful white minority and the historically repressed black majority. Black Zimbabweans took control of the political sphere for the first time in 1980, but allowed the most productive sectors of the economy, composed of white landowners, to remain in tact. In this way, the government looked at other ways of bridging the large historical inequalities between whites and blacks in a calculated way that would not disrupt the country's economic base (Dashwood 2000). As a consequence of colonialism, much of the agricultural land was owned by a white minority at the time of independence, and even in 2000 approximately 70 percent of the nation's best farmland was owned by whites, who only amounted to one percent of the population (2000a). For this reason, land reform has always been an important element in Zimbabwean development policy.

The Zimbabwean government recognized the importance of the white minority in the country's economy and sought ways to accommodate land redistribution issues without undermining this important infrastructure. For this reason, the economy had a relatively strong base despite its links to historical racism. Although many observers considered Zimbabwe's economy quite strong relative to other African states at the time of independence, it still received both food and monetary aid from foreign governments. Early

on in the 1980's, Mugabe had extensive social welfare programs, which "targeted poor as the direct beneficiaries" in an attempt to empower the black majority that had been marginalized during the long period of British colonial rule (Dashwood 2000). These programs poured money into improving education, healthcare, and land redistribution, but were largely dependent on foreign aid to set up infrastructure and maintain these entitlements. In 1980 the government's per capita expenditures for health care were the fourth highest in Sub-Saharan Africa and even exceeded those of China and Indonesia (Bank 1992). Mugabe also doled out aid in way of money, equipment, and food for farmers affected by drought and other natural disasters (Jenkins 1997). The success of these early policies can be seen in the decline in infant mortality rates from 63.7 per 1,000 live births in 1978 to 52.7 per 1,000 in 1988 (Greiner and Tagwireyi 1994).

In spite of these early successes in mainstream development indicators, Mugabe increasingly consolidated power in his ZANU-PF party when opportunities arose. By the late 1980's and early 1990's, an increasingly corrupt elite coalesced in Mugabe's administration as more black Zimbabweans gained access to government jobs. With meager pay from the government, many looked toward corruption as a means to increase social status in relation to the historically dominant white minority (Jenkins 1997). Increased cronyism and corruption followed, especially in relation to the misuse of foreign aid. It was in the allocation of money for the purpose of land reform that misuse of foreign aid was most pronounced. In 1992, the Land Acquisition Act was created, which aimed to help redistribute land from white to black Zimbabweans. However, aid allocated for implementing this plan was often embezzled or misallocated (Dashwood 2000).

Britain provided approximately 44 million pounds in aid to help in redistribution during the late eighties and early nineties. However, some 400,000 hectares of land that foreign donors intended for reallocation to poor black farmers was instead given to supporters of Mugabe and his regime. This land not only was misappropriated, but it also has been harmful to the overall economy because the supporters of Mugabe given the land have had little farming experience; they have often left this land fallow, where productive farms once stood (2000b). Since two-thirds of Zimbabwe's domestic economy relies upon agriculture, this represents an important factor in stalling policies to fuel development (2000c).

The above example of Mugabe's misallocation of foreign aid points to a larger and more general problem discussed in development studies: because bilateral aid is distributed between governments, the ruling elite are often able to use (or misuse) the aid money as they see fit (Bauer 1991). In this way, corruption as a result of foreign aid often is commonplace, as evidenced in Zimbabwe. Importantly, the increased corruption and misuse of aid in Zimbabwe caused foreign lenders to "deservedly" cut off foreign aid, including multilateral aid (Monbiot 2005). This loss in foreign aid was devastating to social welfare programs since most of the early successes in social welfarism received funding from foreign sources (Dashwood 2000). While funding for health care and other social welfare programs increased

during the 1980's, it was also increasingly funded from foreign aid. When this aid dropped off, these programs were sent into disarray. To illustrate its importance, foreign aid was responsible for up to 75 percent of health care expenditures in the late 1980's (ibid 58).

As shown in the table below (ibid 72), foreign aid increased in 1992 when the land acquisition act first began, however by 1994 when the international donors learned of Mugabe's corrupt practices in allocating the funds, their aid soon dropped off drastically. Also, after 1996 when land reform became even more corrupt, this aid decreased even more sharply. As of today, most foreign governments refuse to give aid to Zimbabwe due to corruption and human rights concerns. Mugabe has protracted the situation by rejecting food aid, even in times of famine, on the grounds that foreign governments hold the sole responsibility for the country's economic woes (Calvert 2007).

**Table 1- Gross Official Development Assistance from OECD and OPEC Areas (US\$ m)**

|                 | 1984  | 1986  | 1988  | 1990  | <b>1992</b> | <b>1994</b> | 1996  |
|-----------------|-------|-------|-------|-------|-------------|-------------|-------|
| Bilateral:      | 244.7 | 193.8 | 238.2 | 334.5 | 551.6       | 280.3       | 280.7 |
| of which:       |       |       |       |       |             |             |       |
| (West)          | 26.6  | 41.8  | 42.1  | 52.1  | 63.6        | 25.9        | 30.5  |
| Germany         |       |       |       |       |             |             |       |
| Canada          | 9.6   | 11.2  | 15.7  | 50.4  | 27.2        | 13.4        | 9.4   |
| Sweden          | 19.4  | 20.9  | 23.1  | 36.4  | 64.6        | 34          | 35.9  |
| UK              | 17    | 15.7  | 31.2  | 25.9  | 78.2        | 37.8        | 25.2  |
| Japan           | 17.6  | 4.3   | 26.1  | 25.8  | 51.5        | 25.7        | 25.3  |
| US              | --    | --    | --    | 15    | 91          | 34          | 17    |
| Multilateral    | 53.3  | 36.2  | 46.5  | 40.1  | 266.6       | 284         | 96.1  |
| Total           | 298.1 | 229.9 | 284.7 | 385   | 819         | 561.7       | 374.2 |
| Of which grants | 217.3 | 160.4 | 224.4 | 302.4 | 526.6       | 380.2       | 319.9 |

Source: Dashwood 2000, 72

### **Multilateral donors and the negative effects of SAP's**

Since the 1980's, neoliberal ideology has come to dominate the policies of development institutions. These policies generally emphasize deregulation, privatization of state-owned industries, liberalization of trade, and trust in market forces to drive economic development. When institutions like the International Monetary Fund (IMF) and World Bank give financial aid and assistance to 'Third World' states, they come with conditionalities that are encoded in Structural Adjustment Programs (SAPs). These programs seek to

institute the neoliberal policies mentioned above to free up trade and ‘develop’ poor countries (Slater 2004).

A wide variety of criticism has arisen in academic literature concerning several aspects of such policies. First, the ‘discourse of development’ that these development institutions operate in assumes the West is more advanced and superior to the ‘underdeveloped’ states, such as Zimbabwe (Jarosz 1992). In this way, the policies implemented by these organizations “display remarkable disinterest in geographical diversity,” and are mostly implemented in a top-down fashion (Chase 2002). Since the discourse inherently assumes that the West’s model for development is a universal one, the IMF and World Bank often implement generalized policies disregarding differences between particular contexts.

Structural Adjustment Programs have produced very few positive results in practice, especially in many African countries. As a result of Zimbabwe’s relatively strong and varied economy, however, the World Bank considered it a place where they could implement SAPs more effectively and easily compared to other African countries (Carmody 1998). Based on the World Bank’s universal methodology for ‘developing’ Third World countries, it liberalized and deregulated Zimbabwe, focusing on creating an export-driven economy (ibid 323). The World Bank promoted export growth through monetary incentives to companies for developing export industries, and by devaluing the Zimbabwean dollar to make exports more inexpensive on the world market (Dashwood 2000). They also removed protectionist barriers as a way to encourage exports (Zimbabwe 1990).

The results in Zimbabwe, as in many other contexts, failed to achieve the World Bank’s goals. In fact, Zimbabwe suffered negative effects, what some have termed “de-industrialization,” in several key manufacturing sectors, like textiles, which saw a 61 percent contraction from 1990, when structural adjustment was implemented, to 1995 (Carmody 1998). These programs also prioritized market forces over government expenditures for social services to the poor. Indeed, health care expenditures dropped 30 percent with the implementation of the SAPs (ibid 325). In this way, the poor have suffered disproportionately. Dependency theorists, like Andre Gunder Frank, hold that the policies of the World Bank and IMF that work to increase global integration of trade also work to the advantage of the rich states at the expense of the poor. While this theory’s policy prescriptions, which encourage withdrawal from the global market, have largely failed in practice, its analysis of the dominant Western-driven paradigm for development is important in understanding some of the ways in which these SAPs fail.

Finally, SAPs indirectly contributed to Mugabe’s consolidation of power and increased the ability for elites to abuse their power. This stems from a paradoxical situation inherent in the structure of many SAPs, such as the one implemented in Zimbabwe. Because the conditionalities require a weakening of state power in many areas, but also require a strong state to implement SAPs, the financial leaders in the government actually increase power in government decision-making (Kohl 453). Such a situation allows for the central

government to increase its power and, in this case, make corruption more viable through government policy. This is evident in the above discussion about the Land Acquisition Act of 1992. In the Zimbabwean document outlining the liberalization measures, the government recognizes this contradictory nature of the state by emphasizing, “the liberalization programme will need to be actively managed for its successful implementation” (Zimbabwe 1990).

SAPs were implemented at the request of the ruling elite in Zimbabwe, and these leaders utilized the liberalization reforms to help consolidate power and work to their own benefit (Dashwood 2000). In these ways, SAPs exacerbated corruption, and domestic industry was hurt as a result both of this corruption and the SAP itself. The misappropriation of foreign aid mentioned above and the SAPs in the early 1990’s led to increased consolidation of power and a lessening of economic viability. Next, I turn to the most critical factor in Zimbabwe’s decline: land reform in the late 1990’s.

### **Forced Land Redistribution and Economic Collapse**

Mugabe’s misappropriation of foreign aid, and the subsequent cutoff due to this corruption led to cuts in social services and hurt Zimbabwe’s agricultural sector due to misuse of farmland. The Structural Adjustment Policies implemented also hurt Zimbabwe’s industrial sector and facilitated increased corruption. In order to attract support from the rural poor by distracting them from the poor economic situation, in the late 1990’s Mugabe started an illegal redistribution of land by forcibly removing whites of their property without any compensation (MacLean 2002). This forced land seizure has devastated agricultural production by disrupting the very basis of the economy, making it increasingly more difficult to find work (Matthews 2002). Since 1998, Mugabe has seized 3,000 farms, including some of the most productive in the country, and has given these lands chiefly to party loyalists, and not the poor (2000a).

However, unlike most news stories would suggest, this autocratic push did not suddenly emerge from nowhere. The consolidation of power was accomplished over the course of several years as outlined above. Despite the fact that the loss of foreign aid was almost wholly Mugabe’s fault, he began acting on many of the problems that resulted from it by blaming whites and the past racist institutions of the colonial government for the country’s current problems. As time went on, he became completely autocratic. Beginning in 1998, the government confiscated 25,000 square miles of farmland owned by whites. As of 2003, only 600 of the former 4500 white farmers remained (Wines 2003). This undermined much of the productive capacity of Zimbabwe’s economy, since white-owned farms had some of the most established infrastructure. Indeed, since 1999 Zimbabwe’s total economic output has shrunk by 50 percent (Howden 2006). Once known as the breadbasket

of Africa, the agricultural sector has diminished by 75 percent from 1999-2003 (Robinson 2002). It is a sad irony that as a direct result of these land reform policies, nearly 300,000 black farm workers, have been uprooted. Most are now unemployed and many of the farms lie fallow (Wines 2003). Unemployment levels now hover around 80 percent (Howden 2006).

The effects of this land reform, as seen, have brought Zimbabwe to a point of extreme underdevelopment. In 2006, 85 per cent of the population was living in poverty and there were 90 per cent HIV infection rates in the army. Inflation rates have reached 2,000 per cent (Howden 2006), but some experts have put the real figure up to 4,000 per cent (Bloomfield 2006). The life expectancy for women is now only 34 years, down from 65 a decade ago and the infant mortality rate has grown to 120/1000 from 61/1000 in the 1990s (Howden 2006). While social welfare programs no longer exist, the secret police receive a great deal of funding to quiet opposition, rig elections, and force remaining white farmers out (Howden 2006). Foreign governments still refuse to lend, and any meaningful solution to the economic collapse seems highly unlikely while Mugabe is in power. As the above data suggests, the UNDP Human Development Index has steadily shown Zimbabwe moving markedly lower in terms of its human development status since the implementation of SAPs, the increase in corruption, and the devastation caused by Mugabe's land reform program. Zimbabwe is currently ranked number 151 out of the 177 countries evaluated in the 2006 Human Development Report.

## **Conclusion**

Explaining Zimbabwe's decline from one of the most promising states in Africa to one of the most underdeveloped states in the world requires a detailed analysis concerning several factors discussed in contemporary development studies. First, President Mugabe misused foreign aid to benefit political allies and to consolidate his power. This had a twofold effect; in giving land bought with aid money to his cronies, Mugabe undermined some of the productive capabilities of the agricultural sector. Additionally, foreign aid donors withdrew their aid in response, which limited funding for social welfare programs including health care. Secondly, the Structural Adjustment Programs implemented in 1990 undermined several key industrial sectors as trade liberalization affected adversely domestic industry, while also increasing opportunities for corruption. Finally, Mugabe's violent and hasty land redistribution plan in the late 1990's undermined the country's agricultural sector by leaving the country's most economically productive farmland unused and, in the process, destroying job opportunities. The situation becomes increasingly dire as Mugabe holds complete control. Despite the contentious nature of the term 'development,' it is fair to say

Zimbabwe has failed in its prospects to becoming economically viable and providing for the basic needs of its citizens.

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# The Cost of Economic Stability: The Role of Drugs in the Colombian Economy

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## Introduction

When considering Colombia today, discussion usually turns first to the powerful drug industry operating within the nation and the appalling levels of violence that result from this illicit trade. Narco-trafficking, guerrilla and paramilitary operations, and the related violence have had dramatic social, political, and economic effects on the country as a whole throughout the many decades in which they have pervaded Colombian society. Notably however, while the social and political effects of the drug industry have clearly been negative, it is possible that the illegal drug industry in fact played a positive role in the economic development of Colombia.

While the rest of Latin America struggled with a major debt crisis and economic decline in the 1980s, the nation of Colombia managed to perform relatively well, maintaining positive growth throughout the period. Many economists attribute this relative success to conservative macroeconomic policies on the part of the government combined with good luck. However, it has also been suggested that the illicit drug trade and the underground economy it perpetuated played an essential role in fueling Colombia's relative economic stability. In exploring these two theories, this paper will examine not only where and how the underground economy intersected the legal one, but also the feasibility of Colombia's economic performance in the absence of the illegal drug trade.

## The Debt Crisis in Latin America

On August 12, 1982, Mexico announced publicly that it could no longer pay the interest on its international debts and had to declare bankruptcy, triggering a debt crisis and subsequent recession in Latin America throughout the 1980s. Flush with 'petrodollars' from oil rich OPEC countries, foreign banks (primarily Western European and American) invested heavily in Latin America during the years leading up to the Mexican debt crisis, specially in the 1970s. Stagflation in developed countries and high interest rates in Latin American nations attempting to industrialize triggered a lending frenzy known as the 'Recycling Process.' According to Yergin and Stanislaw, "Between 1975 and 1982, Latin America's long-term debt almost quadrupled, from \$45.2 billion to \$176.4 billion" (236).

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However, rising interest rates resulted in recession in industrialized countries, thus contracting the markets, lowering demand for Latin American exports, and decreasing revenues. This was exacerbated by inefficient and/or poorly thought out government projects combined with pervasive corruption, leaving countries without the means to repay debts.

While other nations suffered from drastic economic decline and gradual recovery, Colombia managed to remain relatively stable during the early 1980s. Brian McBeth notes, "In the 1980s Colombia's cumulative economic growth of 33.4 per cent was the highest in Latin America, where the average was 14.2 per cent" (143). The Economist, in an article titled "Colombia: The Drug Economy" published figures which clearly illustrated Colombia's relative success during that decade ("Colombia..." 63). Similarly, figures from Urrutia's paper "Twenty-Five Years of Economic Growth and Social Progress, 1960-1985" illustrate how although Colombia did suffer a decline in the early 1980s, it was the only major South American nation to maintain a positive rate of growth of GDP per capita during this period (Urrutia 1991 24). Colombia also managed to avoid having to reschedule its foreign debt, showed a decline in inequality, as indicated by the Gini coefficient, and reduced poverty nationwide (Edwards 27).

## **Economic Policies in Colombia**

Looking only at Colombia's economic policies, a number of factors contributed to the nation's relative stability as discussed above. One of the most important factors was the institution of a 'crawling peg' exchange rate in March 1967, virtually eliminating the traumatic devaluations that had plagued countries using fixed peg systems. As Linda Kamas explains, "The exchange rate is pegged to the dollar, but devalued every few days in small increments in order to offset the effect of Colombia's inflation" (1180). By devaluing the exchange rate gradually, Colombia was able to use the stabilizing influence of the crawling peg system to maintain the competitiveness of its exports, minimize the misallocation of resources, and prevent balance of payments difficulties (McBeth 143). Interestingly, Francisco Thoumi, author of Political Economy and Illegal Drugs in Colombia, notes that the crawling peg system was implemented only after "an acrimonious argument with the IMF" and was "used by the government to demonstrate its independence from the multilateral lending agencies" (1995, 40).

Another important factor in Colombia's unusual economic performance was its enormous success in managing its coffee industry. As the world's second largest coffee producer in the world (after Brazil), an average of 44% of Colombia's total real commodity export earnings came from coffee between 1970 and 1983 (García-García 17). In June 1975, a frost destroyed a significant portion of Brazil's coffee crop, reducing that country's exports by a third and sparking a major coffee boom that lasted through 1979. Coffee prices in 1976 and 1977 were twice their 1975 levels and by 1979, Colombian coffee exports increased by more than 50% compared to the 1974-5 period (García-García 52). The national government carefully used this lengthy windfall to build up international reserves, cushioning the economic downturn in the 1980s (Thoumi 1995, 46-47). Further, price stabilization schemes for many key exports (including coffee) were negotiated during the 1970s and "It was largely thanks to the success of the coffee agreement that world coffee prices did not plummet in the 1980s" (Lord and Boye, 125).

Importantly, while the rise in real incomes caused by the coffee boom produced inflationary pressures, it was the Colombian Government's concerns with precisely these pressures that led it to act cautiously when managing its external debt (Thoumi 1995, 46-7). As can be seen in Table 1 (see appendix), Colombia's Ratio of Debt to GDP not only remained among the lowest in Latin America and the Caribbean between 1975 and 1983, but was also one of the most stable. A 1995 country report by The Economist Intelligence Unit confirms:

The influx of dollars from the coffee bonanza of the 1970s was largely sterilized and runaway inflation avoided. Colombia did not join in the scramble for recycled petrodollars after the first oil price shock in the mid 1970s and thus, alone among Latin American Countries, avoided a crippling debt crisis in the early 1980s (11).

Throughout this period, careful policy making prevented the major economic shocks that plagued the rest of the region.

### **The Drug Trade in Colombia**

When examining statistics related to the illegal drug industry, it is always important to note the difficulty inherent in finding useful data on this area. The issue is very politically sensitive due to the high amount of international aid being spent on the drug war and most estimates are guesses at best. As the size of the underground economy in Colombia grows (due to drugs, other contraband, etc.), it becomes even harder for the government to find and use high quality data. Moreover, the long tradition of smuggling and money laundering in Colombia further exacerbates efforts to measure these activities.

Compared to Peru and Bolivia, Colombia ranked a somewhat distant third among major Latin American coca producers in the 1970s-80s (Gunter 365). Rather, Colombians have defined a distinctive role as the middle-men between coca producers and cocaine consumers, processing and/or trafficking nearly 75% of Latin American cocaine exported to the U.S. in the 1980s (Ibid). Similar to coffee, the cocaine industry underwent significant growth in the mid 1970s and 1980s as processing and trafficking techniques were refined and drug money allowed those involved to infiltrate the government and other parts of society (García-García 12-13). Thoumi explains Colombia's comparative advantage in fostering the illegal drug industry by citing the gradual 'delegitimation' of the government regime as the major enabling factor (1995, 173-4). This characteristic manifests in and has been fueled by, among other things: the enormous amounts of violence that eroded government control since *la violencia* in the late 1940s; the long tradition of contraband in Colombia; and the geographic isolation of many rural regions which has allowed traffickers to operate unattended. Thoumi also cites Colombian migration (both legal and illegal) to the U.S. as essential to the development of distribution channels for illegal exports (Ibid).

Despite the lack of reliable data, there are estimates available on the size of the drug trade in Colombia that can still be useful. By comparing street prices of cocaine to production guesstimates, *The Economist* estimated that Colombian traffickers earned approximately \$1.5 billion dollars in 1987. The same article predicted that only half of that value made it back to Colombia itself resulting in about \$750 million in cocaine exports ("The Cocaine Economies" 22). As Thoumi explains, the large difference in retail price

versus wholesale price of cocaine "...is a reflection of the high risk involved in smuggling and transporting the cocaine in the United States" (1995, 135). Other estimates of the value of the drug trade are above \$4 billion (The Economist Intelligence Unit 1996-7) but multiple sources agree that over time, income from the drug trade returning to Colombia has been roughly equivalent to 2% of the nation's GDP (McBeth 145; "The Cocaine Economies" 22). With regards to cocaine revenues actually returning to Colombia, narcotics account for approximately 10-20% of Colombia's legal exports in 1987 (Lee 89; "The Cocaine Economies" 22).

## Drugs and the Economy

Duncan Green writes "The Colombian economy is something of a paradox. Whereas the country is best known for its unstable political cocktail of drugs, guerilla wars, and human rights abuses, the economy was the most stable in Latin America during the 1980s" (236). While clearly suffering from a major social crisis, it is possible Colombia's illegal drug trade played a major role in sustaining this stability. *The Economist* notes that despite a 40% drop in world coffee prices in 1987, Colombia maintained a steady growth of 5.6% ("Colombia" 62). Similarly, *The New York Times* claimed in 1990 that although Colombia enjoyed an extremely unusual increase in per capita income in the 1980s, "[Colombia's] economy is skewed by its principal exports, cocaine and marijuana" (Rohter 1990).<sup>3</sup> The economic effects of the drug trade, like the trade itself, appear to be both pervasive and multi-faceted within Colombian society.

One of the most common explanations of positive effects from the illegal drug industry on the economy is that much repatriated drug money is reinvested in legitimate enterprises within Colombia. Although, (as noted above) the majority of revenues from illegal drug activities remained abroad, large sums of money were repatriated to Colombia and spent on real estate, land, and legitimate businesses. For some, the cocaine industry offered a route to wealth and power in a society dominated by established elites and foreign capital (Lee 91). Cali drug lord Gilberto Rodríguez Orejuela built up an extensive commercial empire with his earnings that included a car dealership, a construction firm, real estate companies, a major bank, and more (Lee 90). Likewise, famed drug kingpin Pablo Escobar Gavira developed a property empire estimated at around \$2 billion ("The Cocaine Economies" 22). *The Economist* summarizes "The drug traffickers have put their money into the sorts of things criminals have favoured down the ages: luxury houses, tracts of land, ... businesses rich in cash-flow and import opportunities, status symbols like football teams, and 'human capital' (i.e. buying off politicians)" ("Colombia" 63).

Despite heavy spending by drug traffickers, it is unclear that all of these investments had positive effects on the Colombian economy. Rensselear Lee III, in his article "Dimensions of the South American Cocaine Industry," notes that in the city of Medellín, money from the cocaine trade "paralleled and to some extent compensated for the deterioration of Medellín's industrial base...in the 1970s," generating thousands of new jobs

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<sup>3</sup> Please note: Although this claim clearly differs from the statistics stated earlier in this paper, this evidence is included in order to demonstrate the *perception* of the drug industry's effect on the Colombian economy, not to provide specific data about Colombian exports.

in commerce, industry, services, and the informal economy through the 1980s (90-91). Alternatively, in The Colombian Economy: Issues of Trade and Development, David Whynes cautions that high wages from the profitable cocaine industry can result in endemic and dramatic localized inflation (336). While he insists that the drug trade was “partially responsible for Colombia’s economic growth in the 1970s and 1980s,” Brian McBeth does note in his case study report on Colombia’s political economy that the role of the drug trade in the country’s growth led to the disproportionate development of property and construction companies. These industries demonstrated an unusual capacity to absorb and launder large amounts of dirty money (143). In turn, this trend in sector growth resulted in frequently inefficient and unproductive ventures because many investments were simply money laundering schemes, “influenced by the varying ability of investments to launder ‘dirty’ capital, rather than yield the highest returns” (Thoumi 1995, 247).

Related to reinvestment by drug traffickers are concerns about capital flight. It has been suggested that cracking down on the drug trade will hurt the Colombian economy because it will end the reverse flows that offset problems of capital flight (Gunter 372). However, it is important to note that the drug trade and capital flight are in fact closely related. The uncertainty and violence associated with the drug trade (as well as the Colombian guerrilla groups that frequently benefit from it) have led to established entrepreneurs reinvesting their ‘clean’ capital in more secure international markets (Ibid). Because the drug trade seriously deteriorates the environment for foreign investment in Colombia and propagates the flight of ‘clean capital’, the elimination of the drug trade would likely be compensated for by ‘clean’ sources of funds, possibly resulting in only mild recession (Thoumi 1995, 249).

### **Government Response to the Illegal Drug Industry**

It is important to note the Colombian Government’s policies in response to the influx of funds from the illicit drug trade. Beginning in 1974, the Colombian tax system underwent reforms with some frequency as successive government administrations attempted to increase tax collections. A notable feature of these reforms was the high number of tax amnesty programs offered since the 1970s. Designed to generate income from illegal tax revenues, amnesties were offered for those who had hidden assets to avoid taxes and forgave interest owed on unpaid income taxes. As Richard Craig notes in his examination of the role of narcotics on U.S.-Colombia relations, “Millions of tax dollars are lost annually from illegal sales of coffee, sugar, cattle, cement, cigarettes, electronic appliances, emeralds, and even decals of Walt Disney characters”—completely separate from narco-trafficking revenues (247).

Not surprisingly, these measures quickly produced a distinct trend of tax collection increases followed by swift declines as Colombians waited for the next amnesty (Thoumi 1995, 53). Essentially, these tax amnesties made tax evasion a socially acceptable practice in Colombia. As the *Wall Street Journal* lamented in 1989, “past tax amnesties have favored both traffickers and the state’s coffers. Colombians fight the drug gangs with one hand while, with the other, they accept their cash” (Nares). Moreover, taxing the informal economy in fact penalizes legitimate economic activity (Thoumi 1995, 246). This results in the erosion of the regular tax base and hurts government efforts to increase tax revenues in the long run.

Regardless of whether the perceived importance of the drug trade to the economy is valid or not, it is highly possible that the perceived income from illegal activities has deterred

the Colombian government from cracking down on the drug trade. Thoumi explains that drug control was not a serious issue on the Colombian policy agenda in the mid 1970s because, “in a country...that recognized foreign exchange scarcity as one of the most, if not the most, important continuous economic growth constraint, it was very difficult to muster enough support against an industry that was generating large amounts of foreign exchange” (1995, 204). Despite the obvious negative social consequences of ignoring the drug trade, it was not until the late 1980s that violence from the wars against drugs and guerrillas generated enough widespread concern that institutional reforms were made to Colombia’s economic policy (Urrutia 1998, 239).

### **Longer Term Economic Effects**

While the revenues from the drug trade could better serve the Colombian economy if spent on infrastructure rather than bribes and luxury goods, there remains a strong perception that “drug money has lubricated Colombia’s economic engine” (“Colombia” 63). *The Wall Street Journal* echoed these sentiments in 1989, reporting that the drug money entering Colombia annually “is sufficient to tilt the balance-of accounts favorably, but scarcely enough to drive the economy” (Nares). Alternatively, Lee suggests: “If the South American cocaine industry disappeared today, the result would be catastrophic: evaporation of hard currency reserves, massive unemployment, increase in crime and subversion in rural areas, a flood of new migrants to the cities, and so on” (101).

While Colombia’s economic crisis in the 1980s was relatively mild, the social crisis that pervaded the country (and continues today), has the potential for much more serious repercussions. Economic growth and pervasive violence appear to not be mutually exclusive in the short-run but the long term effects of illegal drugs on the economy are much more difficult to judge. From a strictly economic standpoint, McBeth suggests that: “In the long term, illegal drug money is a potential source of instability because it tends to encourage a process of ‘dollarisation’ in the economy that could seriously curtail the efficacy of stabilization policies in the future” (145).

More importantly perhaps, is Thoumi’s argument that: “the [drug] industry acted as a catalyst that accelerated a process of ‘delegitimation of the regime’ that has contributed to the country’s stagnation” (2003, 191). This ‘delegitimation’ in particular, is supported by the success of the cocaine processing and trafficking industry in Colombia, and the increased tax evasion resulting from Colombian tax amnesties.<sup>4</sup> One can also note the increase in private security forces and private protection services within Colombia today, a clear erosion of one of the government’s most important and vital functions. Interestingly, legitimacy problems relating to the drug trade were acknowledged as early as 1980 by Colombian policy makers. Describing the serious negative effects of narco-trafficking to members of the U.S. House of Representatives, Colombian President Julio César Turbay Ayala discussed an anti-drug campaign in the badly underdeveloped region of Guajira. According to a House report, Turbay reported in 1980 that: “the campaign was a necessary step in establishing both the presence and credibility of the Colombian Government in that region” (Walker 194).

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<sup>4</sup> Both of these concepts were explained in more detail above.

## Conclusions

Despite perceptions that the drug trade made significant contributions to maintaining economic stability in Colombia during the 1980s, it is impossible to describe the overall effect of the narco-trafficking on the country's economy as positive. While drug trafficking may have led to an influx of foreign exchange and even investment in legitimate industries, available data strongly suggests that the value of these reserves was relatively small and they were often invested poorly, indicating that the absence of the foreign exchange flows would not have affected Colombia's economy significantly. Rather, careful macroeconomic management of exchange rates and legal foreign exchange reserves combined with the simple good luck of a sustained coffee boom in the late 1970s, were the major factors contributing to Colombia's relative economic success in the 1980s. Moreover, the illegal drug industry and the Colombian Government's response to it have played major roles in some of the obstacles to economic development that Colombia has been faced with since the 1980s. The enormous social crisis presented by the pervasive violence in Colombian society has led to institutional changes in the attitudes of Colombian policymakers. Still, the best efforts at the eradication of the drug trade from the supply side not only have serious limitations in their potential for success, but are also likely to lead to increased violence within Colombia. Instead, Colombia must continue to work with those nations where illegal drugs are consumed and profits from the drug trade are laundered to reduce the demand and profitability of these products.

## Appendix:

**Table 1 - Ratio of debt to GDP**

| <i>Country</i>      | <i>1975</i> | <i>1980</i> | <i>1983</i> |
|---------------------|-------------|-------------|-------------|
| Argentina           | 0.15        | 0.35        | 0.44        |
| Bolivia             | 0.5         | 0.88        | 1.4         |
| Brazil              | 0.19        | 0.3         | 0.48        |
| Chile               | 0.66        | 0.44        | 0.91        |
| Colombia            | 0.21        | 0.21        | 0.29        |
| Costa Rica          | 0.35        | 0.57        | 1.33        |
| Dominican Republic  | 0.19        | 0.3         | 0.43        |
| Ecuador             | 0.16        | 0.51        | 0.72        |
| El Salvador         | 0.23        | 0.26        | 0.48        |
| Guatemala           | 0.07        | 0.15        | 0.2         |
| Guyana              | 0.61        | 1.34        | 2.47        |
| Haiti               | 0.1         | 0.21        | 0.35        |
| Honduras            | 0.34        | 0.58        | 0.69        |
| Jamaica             | 0.56        | 0.71        | 1.06        |
| Mexico              | 0.17        | 0.3         | 0.62        |
| Nicaragua           | 0.39        | 1.05        | 1.47        |
| Panama              | 0.43        | 0.84        | 1           |
| Paraguay            | 0.15        | 0.21        | 0.25        |
| Peru                | 0.31        | 0.45        | 0.59        |
| Trinidad and Tobago | 0.06        | 0.13        | 0.18        |
| Uruguay             | 0.22        | 0.17        | 0.65        |
| Venezuela           | 0.05        | 0.42        | 0.47        |
| <b>Average</b>      | <b>0.19</b> | <b>0.32</b> | <b>0.54</b> |

Source: Edwards 1995: 2-3

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# How to cope with new problems of collective action?

## Possibilities and limits of economic theory

Catherine Herfeld<sup>1</sup>

### Introduction

In today's economies we observe market failures in the sense that social welfare is not maximised<sup>5</sup>. These market failures are caused by information asymmetries, transaction costs, externalities, and often also occur in the context of the provision of public goods. This paper will focus on the latter. Prime examples of public goods include national defence and the oft-cited example of lighthouses (Martimort et al. 2005: 149). Public forests, parks, and clean air can also be considered public goods. Their hybrid forms, i.e. common pool resources and club goods, are of special interest in economic theory. In all of these cases the market mechanism is unable to provide the goods because of what is usually called the "free-rider" problem. The free-rider problem arises from the characteristics of non-exclusivity of public goods, which means that nobody can be excluded (or only at very high costs) from consuming or using these goods and thus everybody benefits from their provision. From the perspective of an individual user, the rational solution would be to benefit from the public good provision without participating in the cost sharing. This behaviour, however, ultimately prevents the provision of the public good. The solution for this problem, as economists suggest, is to guide individual behaviour indirectly by changing the given incentive structure. This proposal is based on the main assumption of economic theory, "methodological individualism", which implies that every action can be assigned to a single rational and independent individual strictly following his or her personal preferences. The change of the incentive structure then, some authors claim, can be established by cooperation<sup>6</sup> between the main agents interested in the provision and the use of the public good such as local communities, national governments, businesses and social and private organisations<sup>7</sup>. So called "soft factors" like face-to-face communication, trust and reciprocity are considered to enhance cooperation between the agents involved, thus overcoming non-cooperation

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<sup>5</sup> The main assumption here is that within the free market individual rational action maximises the social welfare of a society.

<sup>6</sup> The term "cooperation" describes collective action between rational agents. Therefore, the terms "cooperation" and "collective action" do not differ in their meaning, as is assumed in economics.

<sup>7</sup> In this paper these agents will be called interest groups.

presented by the “Prisoner’s Dilemma” in game theory. In this paper, I will be addressing the question of why cooperation often fails and to which factors this failure can be attributed. Is it more difficult to achieve cooperation and to provide public goods like “clean air” when the interest groups involved in the process come from different countries and cultural contexts? And if so, what consequences should economic theory draw in order to cope with these new problems of collective action?

I would like to draw attention to the question of whether the previously mentioned soft factors help overcome the problem of free-riding. My first thesis is that in an international context shaped by economic, social, political and cultural diversity as well as complex dependency structures, cooperation is much more difficult to achieve than in a mere national or even local context. This is because soft factors are required to solve the problem of free-riding and achieve cooperation. But if actors are part of complex dependency structures and are confronted with highly diverse environments, it is quite difficult for them to establish relations of mutual trust and reciprocity that can apply in these contexts. Soft factors require an understanding of different cultures and an adequate interpretation of peoples’ behaviour, similarity of values, regularities of a person being in the same position over time, and a space in which agents can develop a personal relationship over a longer time horizon. This is much easier at the local or at least national level. At the international level, these soft factors can hardly carry out their role to overcome free-riding by cooperation regarding the provision of public goods. Even when individuals physically meet and directly communicate with each other, communication can break down, instead of leading to an efficient outcome, because of the different “languages” people speak: people from different social strata or cultural backgrounds speak the language used in their social environment. In more complex constellations this is much less likely to occur. These *new problems of collective action* would challenge the traditional solution of the “Prisoner’s Dilemma game”.

My second thesis in line with the first one, is concerned with the agents themselves, composed as they are of a great number of actors like companies or public authorities. Therefore I will argue that economic theory is mistaken to refer to such actors as rational in its attempts to explain cooperation. There are *new problems of collective action* which cannot be described within the classical concepts of economic science. We have to move beyond the idea of actors as rational actors who come together, acting independently and making their decisions individually. In many contexts of collective action, individuals represent not only their interests but a certain interest group or institutions from a specific social sector such as for example the public sector. They are part of certain social systems that widely determine their actions and choices. Traditional economic theory ignores this complex structure of agents. These new problems of collective action challenge the conception of the methodological individualism.

To address these issues of the arising problems of collective action, I will start by reviewing the discussion of collective action in economics in the context of public good provision. To exemplify different categories of problems of collective action I will present a short summary of a case study I conducted in the Ecuadorian rainforest in 2004. In that case, the public good that was to be provided was “sustainable natural resource management”<sup>8</sup>. I will sum up the results of this case study, which I consider to be a typical example of

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<sup>8</sup> The case study results from some field research I conducted in the region for six months in 2004.

collective public good provision within a global economy. The example shows the limits of economic approaches in covering the complexity of the aforementioned “aggregated” agents and their interactions. Finally, I discuss what consequences economic theory could draw in order to extend its framework. Furthermore, I recommend the Theory of Social Systems as a potential approach for expanding the currently applied framework in economics.

### **Categorizing goods in economic theory and the occurrence of social dilemmas**

Traditional Rational Choice Theory and other economic models of human choice generally focus on one single type of institutional arrangement: the competitive market. But market mechanisms only work well as long as the goods involved are private goods. As long as we are only concerned with private goods for which property rights are well defined,<sup>9</sup> there are no allocation problems<sup>10</sup>. Regardless of the starting basis, an efficient resource allocation will be achieved individually as well as socially. Adam Smith's 'invisible hand' or the perfect market model with its atomistic structure maximises social welfare.

To categorize different types of goods, economists use the scheme illustrated below in Figure 1<sup>11</sup>. Each good can be allocated in one of the four categories.

**Figure 1- Classification of different kinds of goods**

|                       | High level of exclusion                            | Low level of exclusion   |
|-----------------------|--|--|
| High level of rivalry | <b>Private good</b><br>trees, fish, chocolate cake | <b>Common pool good</b><br>forest, pasture, fishery  |
| Low level of rivalry  | <b>Club good</b><br>tennis club                    | <b>Public good</b><br>national defence, lighthouse beams, an environmental sink at a given instant, a given level of public health |

*Source:* Blankart 2003: 66.

The long-term provision of these goods depends on their degree of “rivalry” and “excludability”. A private good has a high level of exclusion. Nobody else can consume a piece of bread if another individual has already eaten it. Public goods differ from these characteristics. Because of their low level of potential exclusion and rivalry, everybody could benefit from consuming the good without being compelled to contribute to the costs of its provision<sup>12</sup>. This is why property rights cannot be defined easily and market mechanisms fail in such instances. This leads to a provision problem which is caused by the so-called “free-

<sup>9</sup> cf. Tab.1: Classification of different kinds of goods on page 3 of this paper.

<sup>10</sup> Assumed is a world without transaction costs following Ronald Coase.

<sup>11</sup> This categorization is well-known in economic science and could be used to carry out a broad characterization of economic goods.

<sup>12</sup> A first rigorous definition is given by Samuelson who claims that a public good is “one in which all enjoy in common in the sense that each individual’s consumption of such a good leads to no subtraction from any other individuals consumption of that good” (Samuelson 1954: 387).

riding” of the users of public goods as described above. Thus the social optimum is not achieved<sup>13</sup>.

New institutional economics calls this situation a “social dilemma”. A social dilemma occurs when the individual rational strategy does not maximise social welfare given the strategy of all other individuals involved. This is an example of when an optimal strategy on the micro-level does not automatically lead to optimal results on the macro-level<sup>14</sup>. This dilemma in the context of public good provision is omnipresent in economic, political and social life. Besides the aforementioned goods, the provision of formal institutions like laws, environmental or defence policy, and any other goods that are used by the society as a whole also have the character of public goods. Action by more than one individual is required to provide them<sup>15</sup>.

To address this dilemma in a formal way, the well-known game-theoretic “Prisoner’s Dilemma game” is generally used in economics. Within the game, given incentive structures lead to defection from a cooperative strategy. Given the pay-off structure, the incentives rational individuals face always lead them to the non-cooperative solution so the socially optimal outcome cannot be achieved. In this case, individual rational choice does not maximise social welfare. Face-to-face communication between the players is considered to be helpful in overcoming this particular social dilemma. It should be noted that in repeated interaction helps agents to reach a cooperative solution to the prisoner’s dilemma when there is no finite horizon to the game and backward induction does not apply. This would lead to a Nash equilibrium solution. However, this modification of the game does not lead to a definite solution of the problems of collective action, as these will reappear independently of whether we have a one-shot or a multiple-shot game. Individuals change permanently, only positions and role remain stable and actors often do not share, and sometimes do not even understand, moves from players from different cultural and social backgrounds.

To avoid free-riding and to assure the provision of public goods, economic theory requires a change in incentive structures by establishing rules (in this context commonly referred to as institutions) that that will facilitate the provision of such goods.. But where are such rules supposed to come from? One solution for this problem consists in cooperation between all groups interested in the provision of the good. In other words: in order to provide a change in incentive structure<sup>16</sup>, cooperation between the important interest groups is needed.

This paper will make an important assumption in order to identify other problems of collective action. It must be pointed out that the provision of a public good is often a public

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<sup>13</sup> The social optimum is achieved when the welfare of a whole society is maximised.

<sup>14</sup> The importance of social dilemmas has often been recognized in political philosophy and social science. Hobbes for example described such a setting as a “war of all against all”. Rousseau specified the problem with his example of the importance of group needing and “all-together-work” to hunt large animals. In economics, Hardin’s article about the “Tragedy of the Commons” and the inherent dilemma in overuse a pasture open to a group of farmers showed that this is a well-known problem.

<sup>15</sup> The European Union as a political union of European countries is only one example for the fact that these activities cannot be provided by a single national state anymore.

<sup>16</sup> Besides cooperation, a solution to the dilemma can be a change in the incentive structure brought about by an external power, i.e. the state to overcome the provision problem in the context of public goods caused by free-rider behaviour.

good itself. For example, political strategies to achieve clean air can be understood as public goods even though the final aim of such policies is the provision of the public good of “clean air”. These policies which can be taken for the provision a public good on the “meta level”, will therefore be referred to as “second order provision” of public goods in the remainder of this paper. It can also be realised through cooperation between interest groups, modelled as rational agents or players.

### **Collective action as a solution to social dilemmas: concepts in economic theory and their limitations**

In experimental game theory and new institutional economics in the case of a public good the problem of market failure can be solved through cooperation between the main interested parties, or groups<sup>17</sup>. According to their argument advanced by these schools of thought, all actors who are directly or indirectly involved in the process of providing public goods can maximise social welfare and achieve socially optimal results<sup>18</sup>.

What does collective action mean in this context? There are no unitary phenomena of collective action that can be described by a simple set of theoretical propositions (Marwell, Oliver 1993: 3). But in general, collective action describes a situation in which people have a mutual interest and, at the same time, the opportunity to gain benefits from coordinated action in the near future.

In practice, collective action often fails on the aforementioned “meta level”. The free-rider problem causes difficulties for cooperation, which is supposed to be the solution of this problem. This paradox is easy to understand as soon as it is clear that cooperation itself is a private good. Since there is neither a way to exclude someone from the results of cooperation, nor rivalry for the outcomes of cooperation, individual free-riding becomes likely to occur.

An important contribution to the problem of collective action is Mancur Olson’s book *The Logic of Collective Action* (1965). Olson argues that in most cases the provision of public goods cannot be achieved by cooperation between individuals<sup>19</sup> since the free-rider problem prevents rational self-interested individuals from acting according to their common or group interests. Therefore, individuals cannot be expected to contribute voluntarily. According to Olson, the provision of the public good fails because free-riding is the only rational response for all members of the group. In other words, since all behaviour is motivated by self-interest, only irrational motives can explain the phenomenon of collective action<sup>20</sup>. From Olson’s perspective, regarding group goals or group interests, one cannot get

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<sup>17</sup> See for example Ostrom (1990) and (2002), also Gibson, McKean and Ostrom (2000).

<sup>18</sup> The social optimum fulfils the current criteria of Pareto-efficiency to assess results of different economic institutions. A given allocation is Pareto-efficient if no individual could be better off without somebody being made worse off (Varian 1999: 14 ff.).

<sup>19</sup> Individuals do not need to have explicit organisations or institutions but a group is understood as being an interest group.

<sup>20</sup> Other scholars consider the possibility that motives like altruism or solidarity play an important role if collective action occurs. For Olson the possibility that these “irrational” motives influence the individual utility function in a positive way is of minor interest.

rid of the problem that individual rationality is not sufficient for collective rationality<sup>21</sup>. Consequently, the public good will not be provided through a group. One finds “dilemmas nested inside dilemmas” (cf. Ostrom 1990) in the context of public good provision.

Under these circumstances, the solution Olson proposes - besides the intervention of an external authority – is to use material and selective incentives to guide individual action: “Only a separate and selective incentive will stimulate a rational individual ... to act in a group-oriented way ... The incentive must be selective so that those who do not join the organisation working for the groups interest ... can be treated differently from those who do” (Olson cf. Marwell, Oliver 1993: 7). Material incentives (such as wages and other monetary incentives) support self-interest motives whereas selective incentives (such as social status, social acceptance and psychological/moral incentives) appeal to solidarity. Both types of incentives are regarded as a possible solution of the problem of how to enforce cooperation between players<sup>22</sup>.

For Elinor Ostrom, as well as for the various game theorists who focus on preconditions “which are conducive to successful collective action” (cf. Sandler 1992: 1), face-to-face communication and other “soft factors” like trust, reciprocity and shared social norms are helpful in supporting communication between actors<sup>23</sup>.

Concerning the impact of soft factors on the communication between divergent interest groups, authors in new institutional economics and game theory have arrived at divergent results<sup>24</sup>. Nevertheless, they widely agree about the general tendency that the more these factors do apply in a certain situation, the greater the chance that the actors will avoid free-riding and solve the provision problem caused by it<sup>25</sup>. Another general observation of experimental game theory is that cooperation between the interest groups is improved by communication. Additionally it becomes more likely for soft factors to play a supportive role if the group of users is relatively small and homogenous.

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<sup>21</sup> Individual rationality is operationally defined by the usual assumptions in economics or axioms of consumer behaviour which require individuals to maximise their utility subject to their income and market data in terms of prices whereas the social optimum contemplates the welfare of the society as a whole.

<sup>22</sup> This is shown by results of repeated games. Individuals can adjust their strategy given the expected strategies of others. In this context social norms can help to stabilise cooperation between individuals in a long-term perspective (Ostrom 2005: 119). It should be noted here that a generally accepted method for representing norms in formal models does not yet exist (Ostrom 2005: 121). Generally, norms do not give a casual explanation of human behaviour which is not consistent with what is predicted by non-cooperative game theory. For a deeper understanding of functions of social norms see Fehr and Gächter (1998), Frey (1997), Bolton and Ockenfels (2000).

<sup>23</sup> These “soft factors” have the character of first-order rules on which other rules can be built upon. They sanction rule-breaking behaviour and ease for each player to create expectations about the strategy of the others.

<sup>24</sup> In very general terms, institutions can be defined as a set of rules and norms including measures to enforce them. The first can be formal or informal (Richter, Furubotn 2003: 7).

<sup>25</sup> For details see Ostrom, Elinor (1990) and (2005).

Besides the free-rider problem, there is another issue that makes cooperation difficult to achieve: complexity of interaction and interconnection with agents representing not themselves but certain interest groups, public or private organisations or nations in today's globalized world. An example of this instance would be that in many cases international summits, notwithstanding their face-to-face character, fail to provide the public good in a satisfactory way<sup>26</sup>.

The task of public good provision becomes even more challenging when one considers cross-national, multinational and/or global public goods. The main actors and important interest groups like multinational companies, organisations and political unions are complex institutional structures, themselves cross-national, multinational and/or global. Thus we can not refer to individual action anymore. The actions of these agents can neither be attributed to individuals nor to a limited geographical area. Cooperation between countries represented by their institutions, between players which are, like organisations, subdivided into different hierarchical levels and between transnational companies, which act within networking structures, differs from the traditional model of cooperation between agents as rational acting individuals. The action of companies, governmental institutions, social and private organisations and enterprises cannot be assigned to a single individual motivated by his or her personal preferences. The action is rather bounded and influenced by large complex structures and hierarchies which the individual represents. For example, the CEO of an organisation acts in the structures of that organisation, and it is the interests of the company that determine his action.

This is important since under such conditions cooperation can no longer be taken as the result of individual action. When public goods cross boundaries and their provision affects multiple interest groups that are active on different social levels, new problems of collective action arise. On one hand, the dependency structure of the agents, and thus the decision or communication processes, become more complex. On the other hand, communication rules and soft factors like norms cannot be taken as shared by the agents.

### **A typical example of new problems of collective action**

In this section I am going to point out the main problems of collective action in practice by means of an example of the provision of a public good in the Amazon rainforest in Ecuador. Complex structures and the character of the agents involved in the process challenge the solutions offered by previous theoretical approaches. As will become clearer later, changes in practice cause problems for economic approaches to describe and explain reality.

During my field research in Ecuador, I investigated the interaction and participation within an organisation active in the context of local resource management. The idea was to manage the Common Pool Resource of the "Biosphere Reserve" in the Amazon rainforest and to provide the public good of "sustainable development" through cooperation between the main interest groups in the region. Because of the richness of natural resources in the Amazon region the forest attracts many interest groups belonging to the private, public and community sectors on the national and the international level. The idea of the organisation

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<sup>26</sup> "To be provided in a sufficient way" in this context means that the fixed aims cannot not be achieved within a certain time horizon.

was to initiate and to support cooperation between these different interest groups with the common interest of sustainable development in this zone.

To demonstrate the new problems of collective action with the chosen example, I will sum up the main results of my study. I consider these results characteristic for problems of collective action in the modern global world. In practice, cooperation failed given the expected result, i.e. public common resource management through cooperation. The question I wanted to answer in my study was whether this outcome was due to accidental circumstances or rooted in the causes I have outlined above. To answer this, I confronted the main features of the aforementioned theoretical approaches with the empirical findings of the case study.

1. The main actors in the field were organisations, represented by individuals. The actions of the latter were determined by their mandate within institutional and/or political structures. They included ministries, multinational companies of the oil and wood industry, local public institutions, developmental organisations, and community-based organisations.
2. The representatives of these organisations, who were expected to cooperate permanently, changed due to the political instability in the region and/or to the institutional character of the actors. The key point to note is that the individuals who had the mandate to participate and to decide in the cooperation process were sent out to represent the interest of their sector, organisation or industry. In addition, the roles couldn't be clearly assigned to an individual, so the assignment of action to individuals was even more difficult.
3. Every individual had his own "language" to communicate, due to his affiliation to a certain sector, culture, nation, society or organisation.
4. Finally – to get back to the theoretical issue – it was also clear that free riding was the typical attitude of actors.

The results of my investigation show that from the beginning the development project was lacking the essential preconditions for effective collective action. Moreover, the free-rider problem as well as other critical factors was not sufficiently addressed. The question was whether this was the problem of only the particular case or an outcome of more general causes.

The case study showed that, with respect to the free-rider problem, Olson was right. Game theory and the prisoner's dilemma provide useful insights into the phenomenon of cooperation between players. Whereas empirical research seems to show the possibility of cooperation in small and homogenous communities<sup>27</sup>, as soon as players or groups differ in their initial conditions and character, their actions and decisions also differ.

The concept of collective action, as it is used as a theoretical basis for the aforementioned project, implies the existence of actors as individuals with clearly defined personal aims. These actors are permanently conscious of their preferences, have an overview of the existing norms, rules, and means of their action, and share the insight that cooperation will increase individual benefits for each of them, given their personal preferences. In the case I explored in Ecuador, this did not seem to apply. With the

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<sup>27</sup> For deeper insights see research results from Ostrom 1990, Ostrom, Gardner, Walker 1994 among others.

individuals acting as part of larger structures, new problems of collective action brought into question the supporting role of social norms. Different social organisations with individuals as their representatives have as their main interest to reproduce themselves. The fact that each of these organisations has its internal communication code questioned the supposed role of communication between persons as a means to establish cooperation.

Besides free-riding, the existence of power and hierarchies and of agents organized in networking structures on the national as well as on the global level significantly changes the possibilities and results of cooperation. These factors have to be taken into account by development economics in order to cope with the problems of collective action in the present context. With respect to the complexity of collective action, the individualistic approach still prevailing in development economics has proved inadequate.

As a consequence of this inadequacy, economic theory should try to integrate perspectives or approaches from other disciplines, particularly from social theory. A suitable candidate for a theory that provides a more complex view on the problem of action beyond the prevailing individualism is the Theory of Social Systems developed by Niklas Luhmann. It describes society as a system which is differentiated in subsystems with specific forms of communication<sup>28</sup>. According to Luhmann, communication is the process which establishes a connection between the elements of a system. The system does not base itself on its utility for other systems, but only on its chances to keep up its own existence. From this perspective it becomes clear that the individual elements of the system are restricted to the inherent logic of the respective system, supporting it to reproduce itself and translating every signal from outside into the code of their system<sup>29</sup>.

In the economic approaches described above, the existence of institutions such as rules and social norms is attributed to their utility for the relevant actors. In contrast, in the theory of social systems, the existence of a system can be explained by its ability to reduce complexity (Luhmann 2004: 33). Systems do not have any other purpose than their own reproduction. In this context, institutions are only aspects of the reproduction of systems among other systems (Kaballak et al. 2005: 258).

I claim that the perspective generated by systems theory could be helpful to develop a more comprehensive theoretical perspective to describe the problems of collective action, which is much more complex than traditional “action theory” would lead us to believe. Systems theory could help to realize the specific nature of higher aggregated action, for example the fact that the individuals who act are only elements of one or more subsystems supporting them to reproduce themselves. Individuals are not rational from their individual point of view. They are acting within the boundaries and the hierarchical structure of a subsystem depending on their positions within this system. In such a context soft factors like communication, trust and reciprocity are no solutions for a social dilemma. In an anonymous, complex and globalized world, one could not set up expectations about the behaviour of all other actors involved as it is assumed in game theory as it is difficult to understand what the inherent logic of other subsystems is.

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<sup>28</sup> Not every theory of systems has society as its subject. This paper will focus only on these approaches which are focusing on human society.

<sup>29</sup> In this context, the concept of *autopoiesis*, i.e. self-creation, self-regeneration and self-reference of systems is of great importance (Luhmann 1984, Nitsch 1993: 236 ff.). Autopoiesis is the process by which the system itself reproduces the elements of which it consists.

## Conclusions

Economic approaches such as new institutional economics, Olson's "*Theory of collective action*" and experimental game theory are very useful to achieve insights at the micro level about the actions of individuals within interest groups in a restricted area, for example within a country. Public goods, which are of a global nature and affect multiple actors like countries, enterprises, industries and various interest groups, require a more expanded perspective that includes a different view on society.

From the perspective of the Theory of Social Systems, solutions like shared norms and face-to-face communication no longer provide a real possibility to solve collective action problems. Supporting cooperation between actors in the context mentioned above, these factors cannot be seen as the most important anymore. The role of economic perspectives is limited at this point. Therefore, I claim that the complex network structure that agents find themselves within in modern society should be integrated into scientific research about collective action problems. The theory of systems abstracts from individuals which are elements and part of a system in society. It can help to solve the problems mentioned in context of the second thesis, namely that there is no cooperation between individuals that know each other. There is no regularity anymore in terms of cooperation between individuals known to each other. There is rather cooperation between different positions which have to fulfil a certain role dependent on the social system they are part of. A system has the aim to reproduce itself and individuals do not matter anymore. This holistic view is a contrast to methodological individualism, which is normally assumed in economics and especially game theory. Being bounded by a system, individuals are no longer independent. In this context, I claimed that cooperation between players cannot be enforced and stabilized by communication and by social norms. Additionally, I contend that this wider perspective can explain the results of the case study I have presented in a better way. Different cultural and social backgrounds and modes of personal behaviour can be taken into account in this manner. Communication is limited by the language of each system such that problems of collective action, which I mentioned in the context of the first thesis, become apparent. Therefore, more interdisciplinary work is needed to describe reality, or rather, point out other relevant factors of influence on collective action and the possibility of solving social dilemmas. Such a change of perspectives, of course, requires cooperation between scholars of economics and other social sciences.

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# The Sustainability of Mangroves and the Politics of Compensation and Tradable Development Rights for Shrimp Farming

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Any attempt to preserve threatened or endangered species cannot avoid the entanglements between the pursuits of economic efficiency and political enforcement. An initiative for mangrove conservation provides a useful example. This study explores the over-exploitation of the shrimp industry in the mangrove areas in Thailand, focusing on the period of shrimp market expansion from 1960-2000. The reason to study this case is twofold. First, from 1980-2000, Thailand started moving away from an agriculture-based economy towards the shrimp industry. The emergence of this new industry reflects the push and pull of political power among the government, private shrimp firms, and the local communities in pursuing their own economic profits. Second, the patron-client nature of Thai politics undermines the effectiveness of policy recommendations aimed at achieving environmental sustainability while attaining greater economic efficiency. These policy recommendations include compensation and tradable development rights.

The first section introduces the economic and environmental valuation of shrimp farming and mangrove conservation. The second section analyzes the dysfunction of required compensation in the case of Thai mangrove conservation. The third section discusses the difficulty of tradable development rights in the Thai political context. In sum, I do not argue that these two recommendations (compensations and tradable development rights) are failing policies. In order to ensure the successful implementation of these conservation policies in a developing country like Thailand, however, at least a strong civil society and an accountable political system are required

## Economic and Environmental Valuation of Shrimp Farming Mangroves Conservation

Mangroves are coastal forests that grow predominantly in tropical areas, in the intertidal zone. Mangroves are a form of biologically diverse and highly productive wetland. Many different plants come under the term 'mangrove', including ferns, palms and trees up to thirty meters high. There are 69 recognized species of mangrove plants worldwide (Middleton 2000). Mangroves serve a variety of important functions such as the prevention of coastal erosion by encouraging soil deposition; providing food, shelter and sanctuary to aquatic organisms, birds and animals; supporting



**Figure 1 Young Red Mangrove at Low Tide**  
*Source: Provincetown Center of Coastal Studies*

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important coastal and nearshore fisheries; and supplying herbal medicine, fuelwood and timber to local communities (1980).

There are many threats to mangroves such as agriculture, urbanization, and salt production. Shrimp farming has the greatest adverse impact on mangroves in Thailand (1980). Hopkins et al. identify three main reasons why mangrove forests are chosen as perfect locations for shrimp fishery. First, land costs are low because mangrove areas are not normally used for any other industrial purpose. Second, construction costs are low. Water pumping can easily be done. Shrimp can also reliably feed on natural plankton and fish. Third, natural shoreline contours may minimize the earth-moving requirement to impound large areas of wetland (Hopkins, Sandifer et al.).

Statistics show that shrimp production in Asia and the Western Hemisphere has grown by 790% since 1982 and 25% of the production comes from farming (Iversen and Brown). The current trend shows that a growing proportion of shrimp production is accrued to shrimp farming. Wild-caught shrimp production has declined because of an overexploitation of the other types of fisheries and the movement for turtle protection.<sup>30</sup>

As a consequence of the increase in culture ponds of shrimp and fish, 20-50% of mangroves worldwide have been destroyed (Primavera 1997). In Thailand, around 50% of the total denuded mangrove area of 171,500 ha was converted into shrimp ponds in 1961-1987 (Aksornkae 1988). This was a result of neo-liberal political regimes in the 1990s that encouraged free trade and export-led growth in developing countries. Shrimp culture was supported by the World Bank as part of the drive to use nontraditional exports to repay external debt (Martinez-Alier 2001). However, since the late 1990s, shrimp farming has become a global concern as it has many negative impacts on mangrove habitats such as the reduction of water flow, salinization of soil and surface water supplies, and the depletion of wild fish and shrimp populations (Thornton, Shanahan et al.).

The main topic under debate is whether the value of shrimp output is greater or less than the value of mangrove conservation. For this cost-benefit analysis, Dr. Sathirathai conducted a study that compared the 'net present value (NPV)' of both activities (See Table 1). His study of the situation in Thailand from 1990-2000 showed that the frozen shrimp exports generated around US \$1200 million annually. This accounts for the NPV of \$3734.80 per rai (6.25 rai = 1ha).<sup>31</sup>

Yet, Sathirathai states that it is more difficult to value the mangroves' resources because few of them are marketed. Sathirathai assigns money values to marketable mangrove products such as fuelwood and wood for construction. This 'direct benefit' of mangroves accounts for the NPV of \$666.42 per rai. This is approximately six times less than the NPV of shrimp production per rai (Sathirathai 1999).

It is of interest, however, to examine the 'indirect benefits' of mangroves. When taking into consideration some of the environment-oriented benefits that mangroves provide, such as nurseries for wild fish and barriers against storms and soil erosion, as well as accounting for some external costs such as pollution from shrimp ponds, the NPV of mangroves per rai increases up to \$4,227-\$5771. This increased figure is not likely to be overstated because instead of comparing the two NPVs within the same time span, Sathirathai considers a fifteen year time horizon for mangrove replanting but only a five year time horizon for shrimp farms to discount the impact of pollution. Had the external cost of

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<sup>30</sup> Figures from: Rosenberry, Bob. Shrimp News International. San Diego, 1995.

<sup>31</sup> Ibid., 725.

shrimp farming been evaluated with a fifteen year time horizon, the NPV of shrimp farming would have been much smaller than \$3,734 per rai (Sathirathai 1999).

Table 1: Comparison of the Net Present Value (NPV) of Shrimp Farms and Mangroves in Thailand, 1990-2000

|                              | NPV of Shrimp Farms | NPV of Mangroves | Comparison                 |
|------------------------------|---------------------|------------------|----------------------------|
| Direct Benefits Only         | \$3,734*            | \$666            | NPV shrimp > NPV mangroves |
| Direct and Indirect Benefits | \$3,734             | \$5,771-\$4,227  | NPV shrimp < NPV mangroves |

\*US Dollars per rai

This finding is consistent with Hartwick and Olewiler's explanation that, in terms of natural resources, firms often discount the future at a higher interest rate than society does because they do not take into consideration the indirect benefit of resources (Hartwick and Olewiler 1998). Therefore, the NPV of shrimp farming is higher than the NPV of mangroves when the indirect benefits of mangroves are absent from the calculation as shown in the first row of Table 1.

Sathirathai concluded from this finding that, while the conservation of mangroves into shrimp fisheries is privately profitable, it is not economically viable from a socio-economic aspect. The winners in the shrimp industry are entrepreneurs from Bangkok and other cities, not the local people who rely more on mangroves for their day-to-day survival. His prescription is that in order to provide greater benefits to local people, they should participate in the conservation of mangrove forests.<sup>32</sup> I discuss further the effectiveness of two main conservation policies recommended by Innes et. al. in section II and section III.

### The Myth of Required Compensation for Mangrove Conservation in Thailand

While all types of forests are publicly-owned, coastal mangroves in Thailand are privately-owned through grants from the government (Thamrongnavasavat 1985). For the purpose of conservation, Innes et. al. recommend that the government compensate private landowners when it 'takes away' the property rights of landowners for the purpose of preservation (Innes, Polasky et al. 1998). If the compensation exceeds the value of land and the value of the investment forgone, landowners will refrain from over-investing in their lands. In the two-period model, if the compensation is not given, or is given but less than or equal to the value of lost private property, landowners will over-invest on their lands in the early period because there is no incentive for landowners to believe that their land may turn out to be more valuable for the public use (Blume, Rubinfeld et al. 1984).

An example of a problem arising from the absence of compensations is evident in the US where the Endangered Species Act (ESA) does not serve to enforce government compensation to private land owners during the process of habitat protection. This is

<sup>32</sup> "Costing Coastal Conservation: the Case for Community-Led Mangrove Protection."

despite the fact that the Fifth Amendment of the Constitution states “nor shall private property be taken for public use, without just compensation.” According to Innes et al, the absence of compensation may create incentives for landowners to harm endangered species to avoid the ‘acquisition’ by the government(Meltz 1994).

The Thai Constitution requires compensation to the property owners in a similar manner as that of the US Constitution. Section 49 of the Thai Constitution states that “a fair compensation shall be paid in due time to the owner thereof as well as to all persons having the rights thereto, who suffer loss by such expropriation, as provided by law.” However, the compensation was not awarded in the case of mangrove protection during 1960-1980 due to two reasons. First, there were two main groups of mangrove owners—local communities and private shrimp firms—neither of whom would have an incentive to preserve mangroves in view of the minimal compensation the government would otherwise provide. The local communities were granted the land ownership by the King in 1993 under the King’s Chaipattana Foundation. This project encouraged low-income communities near the shore to improve their standard of living by gaining rights to engage in self-subsistent economic activities (1996). Because the King maintained the highest power in supporting the well-being of Thai citizens, the absence of land titles and the issue of property rights were never problematic. In return, these local communities tended to support mangrove conservation as they relied on income from mangrove resources through small scale fishing and the sales of forest products in the local markets(Ban 2003).

As for the private shrimp firms, their ownership was not permanent. In order to engage in business activities, they must obtain a legal permit issued by the Ministry of Agriculture and Cooperatives. Since they were not permanent owners of the land, mangrove conservation did not concern them. The value of shrimp production would always exceed the compensation that the government would otherwise provide.

Not only did these firms have no incentive for mangrove protection, but the government itself did not see the compensation policy as important compared to the market prosperity during the shrimp market expansion in the mid 1990s. Shrimp business in the southern part of Thailand was encouraged by the government and the Department of Aquaculture. Moreover, getting a permit for shrimp farming was not difficult. Also, research and development on the impact of shrimp farming on the environment were not widely available to remind any parties that over-investment can cause serious damage to the mangrove habitats within a very short period of time.

The losers from this shrimp boom have been the poor families that were forced to move out of the mangrove areas intended for shrimp farming. Private firms had much more authority than local communities as long as they obtained a legal permit from the government. On the other hand, the local people never held legal deeds to their lands. Even when private firms did not obtain legal permits, they used coercion to force local people out of the area (Durongdej). Table 2 shows land use along the shoreline of Thailand in 1994. Shrimp farms occupied more than thirteen times the coastal area than the local communities did.

**Table 2: Land Use Type along the Shoreline of Thailand in 1994**

| Land Use Type    | Area in Rai (1 ha = 6.25 Rai) |
|------------------|-------------------------------|
| Mangrove Forests | 1,054,266                     |
| Shrimp Farming   | 406,198.50                    |

|             |            |
|-------------|------------|
| Communities | 31,007     |
| Other       | 836,328.50 |
| Total       | 2,327,800  |

Source: Office of Environmental Policy and Planning, 1998

In sum, past analysis has shown that required compensation would not have been an appropriate policy during the shrimp market expansion of 1960-2000 and is not likely to be in the future. This is due to the fact that it does not create conservation incentives to any group of mangrove owners in Thailand because they are not permanent owners. The mangrove forests are not likely to be destroyed by the local low-income communities, because their survival relies on them. Thus, maintaining the condition of plants and wildlife will benefit them and future generations (Martinez-Alier 2001). Environmental damage, therefore, comes directly from the over-investment of private shrimp firms. The solution is to improve the process of issuing permits, as Innes et. al. raise as a policy choice. However, effective permits or well-defined property rights, as Innes et. al. suggest, cannot neglect the political push and pull between the government, private shrimp firms, and local communities. This will be discussed in detail in section III.

### **Tradable Development Rights in Thai Political Context**

Innes et. al.'s second policy recommendation is that the government should issue tradable development rights (TDR) to shrimp farmers. The difference between a TDR and a license is that a TDR can be traded among shrimp farmers who know best whether they have efficient capacity to run the farm. Thus, TDR fixes the allocation inefficiency in an open-access market. According to Hartwick and Olewiler's model of sustainable resource use, an open-access market is not economically desirable. Without barriers, more firms enter the open-access market to exploit the remaining stock and to improve the operation until reaching the maximum sustainable yield. According to the model, this is not a socially optimal allocation point. In order to reach the level of socially optimal allocation, firms continue fishing until they cannot do so without making someone worse off. The Thai shrimp market during the 1990s did not reach the socially optimal allocation in Hartwick and Olewiler's model because overly flexible permit issuing created gains to shrimp producers at the expense of local people.

TDR are seen as instruments that ameliorate the problem of information uncertainty. For example, the government may not know the cost and benefit of regulations for individual actors. To avoid inefficiency that may occur from unknown costs or benefits, TDR lets the market re-allocate rights and obligations between actors. The actors will buy or sell rights to the point where the price equals their expected marginal cost of abatement or expected marginal benefit from a right, such as a fishing quota. If a firm does not meet efficiency or produces where price is not equal to marginal cost, because their effort (e.g. machine, fishing technology) is too costly, it is better off by selling the development rights to a more efficient firm (Hartwick and Olewiler 1998).

Historically, the Thai government has issued permits to aquacultural firms. This was meant to follow the idea of TDR. However, because the issuance was so flexible that most firms could obtain permits from the government very easily, the permit did not exclude inefficient firms from the market. For example, many firms did not have water pumping for

waste water management and tended to discharge water into canals or the ocean. Water contamination from poor circulation caused shrimp disease which also reduced the population of wild fish and plankton in the environment.<sup>33</sup> Farmers then tended to apply more antibiotics, disinfectants, or pesticides to cure the disease but the excessive use of these chemical substances caused soil and water salinization in the long run (Naylor 1998).

Improving the function of TDR might require changes in political culture. In Thailand, personalistic politics of patron-client relationships persist. Robertson states in his study on Thai rural politics that the patron-client network makes resource distribution more flexible (Robertson 1996). Any firms (clients) favored by the government or which maintained close relationships with officers were more likely to get permits issued quickly, regardless of their technological efficiency. In some cases, the government officers who were in charge of monitoring quality of technology or harvesting plans were corrupt and lenient on firms that gave them 'additional fees.' These are exogenous factors that are not included in Innes et al's policy recommendation. Not only do patron-client politics discourage firms with better farming efficiency, it also exacerbates the negative spillover of pollution since technology and equipment are not standardized.

Mangrove destruction due to shrimp farming in Thailand does not seem to match with the Coasian solution that "a firm generating externalities will locate where, *ceteris paribus*, it does the least damage if the property rights are well-defined." (Coase 1960) Most shrimp firms in Thailand could get well-defined property rights but still ignore the fact that they should be responsible for the externalities they create. Instead, the future of mangrove protection depends on movements by the affected communities, NGOs, and environmentalist groups domestically and internationally. This practice is consistent with Becker's theory of political competition among interest groups on the grounds that an opposition generated by affected people raises the costs of litigations and regulatory hearings to the firms and will eventually force the firms to locate in the area where the neighborhood value the firms' externalities are the least (Becker 1983). A supporting example of this theory is the pressure from the US in banning the shrimp imported from Thailand due to the concern over antibiotic residues in shrimp (2003). This pressure has drawn the attention of the Thai government to farming standards and the quality of exported shrimp.

In the past few years, attempts to protect the remaining mangroves in Thailand are quite promising. The government has encouraged public participation in environmental management through local government and community-based groups. Moreover, bureaucratic and legislative reforms favor the process of conservation. For example, Article 7 of the 1992 *Environment Act* delegates the work on environmental management to provincial and local authorities, and encourages people's participation through environmental NGOs. Article 56 of the Thai Constitution 1997 recognizes the rights of people to participate in the protection of natural resources and the environment. The government has now banned inland shrimp farming, has established special working groups to educate the remaining shrimp firms regarding the concept of sustainable farming, and punishes firms that violate the regulation.

## Conclusion

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<sup>33</sup> "Fisheries Resources." The Office of Natural Resources and Environmental Policy and Planning. 21 Mar. 2006 <[http://www.onep.go.th/eng/soe1999\\_3.asp](http://www.onep.go.th/eng/soe1999_3.asp)>.

The Thai shrimp business has grown significantly from 1960-2000, replacing rice as the most significant export product. Although shrimp production has generated immense income to the country, it has many negative externalities on mangrove habitats.

To internalize these externalities, Innes et al suggest the government compensate the landowner for (more than) the cost of conservation. However, the Thai shrimp industry is not suited for this recommendation because the private shrimp firms would generate income far greater than the amount of the government's compensation. As for local communities, they have had incentives to protect mangrove forests for their subsistence, but the government would not plan to strengthen their conservation objective through funding because local populations were very small and the government from 1980 to 2000 was enjoying increasing income from shrimp exportation.

Another policy choice, TDR, is more promising; however, it would not function smoothly because of the patron-client nature of Thai politics. Sometimes, TDR is given to shrimp firms that are favored by government officers, allowing less efficient firms to operate. Lower levels of efficiency means that the quality of technology used for farming is below standard. This may create more pollution and negative spillovers to local communities.

Interest groups play significant roles in pressuring the Thai government and private sectors to increase their awareness of the negative impact of shrimp farming. This lobbying is hoped to improve regulations concerning shrimp farming for the future of mangroves forests.

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