

# **Livelihood Conflicts: Linking poverty and environment as causes of conflict**

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## Livelihood Conflicts

Without environmental protection, there will be no sustainable development, and no successful poverty reduction. We are gradually beginning to understand how environmental issues are linked to other development issues, and just how decisive the management of environmental resources is for people's livelihoods.

Sida's efforts to promote environmentally sustainable development are based on an increasingly complex analysis of the role of environmental issues in development cooperation.

This type of analysis constantly needs both further refinement and broadening into new areas. What sometimes has been called "*The new security agenda*" constitutes a new area of this kind. In order to contribute towards conflict prevention, we need more knowledge about the mechanisms that link loss of livelihoods, environmental degradation, and resource scarcities to conflicts.

The aim of this publication is to share some thoughts provoked by ongoing research in this field, and to summarise insights gained.

The field of investigation is wide, and does not easily lend itself to summary. Interested readers will find further material in the references. Additional material, can be found in the parallell Sida publication (in Swedish) "Sambanden mellan miljö och konflikter" (The links between environment and conflict).

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## **Contents**

Executive summary .....	3
1. Beyond the poverty – environment controversy .....	4
2. The economic logic of militia livelihoods.....	6
3. Livelihood conflicts created by agricultural failure .....	8
4. The case of Kosovo – loss of livelihoods fuelling extremism.....	12
5. The case of Rwanda – environmental scarcity resulting in genocide ....	13
6. The case of water – the imperative of livelihoods in cities .....	15
7. Livelihoods and the need to liberate social resources .....	17
References.....	19



# Livelihood Conflicts: Linking poverty and environment as causes of conflict

Poverty is increasingly caused by environmental scarcities of arable land and water, resulting in loss of livelihoods. One common denominator of the causes of conflict in many recent civil wars has been the loss of livelihoods which has had the result that young men are no longer able to reach the positions in life earlier generations of men could expect. Policy attempts to break the vicious path to conflict need to address both poverty and environmental issues. Reconstruction of exhausted environmental resources will work towards both these ends.

## **Executive summary**

This piece is built on the – perhaps self-evident – observation that the common denominator of many, if not most, of the civil wars and conflicts which plagued Africa, South Asia, and Latin America during the last decade, is poverty resulting from loss of livelihoods which, in turn, is often caused or exacerbated by environmental degradation.

Empirically, it has been difficult to demonstrate that either poverty *or* environmental factors, in and by themselves, are strong determinants of conflicts. I will argue that the loss of livelihoods often constitutes a missing link in explanations of current conflict patterns, and that an exposition of it will bring out the full salience of both poverty *and* environment. (The elimination of poverty, and environmental reconstruction, needless to say, remain first-order goals *per se*, not requiring further grounds for policy action.)

While poverty may be a near-endemic condition in certain societies, loss of livelihood marks a rapid transition from a previous stable condition of relative welfare into a condition of poverty or destitution. It is the *rapid process of change* resulting in a sudden fall into poverty, more than the endemic condition of poverty, which creates the potential for what here are termed *livelihood conflicts*.

A current common feature of many such livelihood conflicts is that the rank and file of most atrocious militias around the world are filled by large cohorts of young men who have been subjected to a rapid devaluation of their expectations as a result of loss of their family livelihoods, and forced to accept a much more lowly situation in society than their prevalent culture has led them to believe they were entitled to in their position as men.

Young women form a much smaller part, if any part at all, of these militias. Instead, they usually first have to forgo their schooling in order to help out at home as a consequence of loss of family livelihoods; and then later they take on the role of family providers themselves in subsistence agriculture. The loss of livelihoods in subsistence agriculture mainly undermines the social

security of women and their dependants, children and ageing family members. In livelihood conflicts they regularly become the first victims, and the first to lose their livelihoods.

The loss of livelihoods has many causes in the world today. Some of them are amenable to immediate policy changes, while others are not and have to be met by addressing the challenges they pose. Developing countries are, in particular, severely challenged by the social consequences resulting from a scarcity of job opportunities in relation to the number required.

Failures to meet such challenges create opportunities for extremely vile political forces. In Kosovo, both the KLA and Slobodan Milosevic managed to mobilise popular support at a rate that would otherwise have never been possible, if poverty, unemployment, and environmental degradation had not spread at such a rapid rate during the decades preceding the open conflict.

The loss of livelihoods resulting from environmental scarcities of arable land and water form a special case of growing importance. Although roughly half the human population at the turn of the century now live in cities, agriculture is still by far the largest single source of livelihoods and income. The loss of livelihoods as a result of environmental scarcities of arable land and water was demonstrably one of the major factors that enabled the *genocidaires* of Rwanda to mobilise a large part of the population as perpetrators in the first full-blown genocide after the Holocaust, and it remains a driving force for mobilising the foot-soldiers in many, if not most, of the on-going livelihood conflicts.

Agriculture also forms the economic and material base of livelihoods in cities, as well as the main part of poverty elimination policies. Water is a basic productive resource for agriculture, and competition for scarce water resources has been portrayed as a source of international conflict. However, nations and the international system have learnt to manage this threat. There is now a growing consensus that water scarcity will not create wars between nations – but there is also a growing conviction that water scarcity may exacerbate the basic conditions that fuel livelihood conflicts, particularly as countries go through the crucial transition period from dependence on agriculture to a modern society, based on economic growth in cities.

The argument put forward below is that a great and growing scarcity of healthy, productive eco-systems in the world today seems to co-exist with an equally great and unused asset made up of all those women and men who lost their livelihood due to environmental destruction or unsustainable agriculture. A combination of these two aspects offers the potential for conflict prevention, poverty elimination *and* environmental reconstruction.

## **1. Beyond the poverty-environment controversy**

The quest for explanatory clarity sometimes creates unwarranted and counterproductive controversies, such as, for example, whether poverty *or*



environmental degradation is *the* major source of conflict. Such disputes arise from a misunderstanding of what the scientific need of studying a limited number of variables at a time entails.

If two studies, each pursuing the search for explanations of conflicts and the causal mechanisms leading up to them from different independent variables (e.g. “poverty” or “environment”), are placed against each other, the resulting controversy may become extremely counterproductive, for at least three reasons: i) explanatory pathways based on “poverty” and “environment”, respectively, are best viewed as complementary rather than conflicting; ii) further studies may very likely reveal that both poverty *and* environmental degradation work together in common or parallel causal mechanisms; iii) if so, the needs of policy-making are ill served by placing the two sets of explanations and causal pathways against each other.

For explanations at a higher level, that would bring two independent variables already studied in detail, such as “poverty” and “environment”, together in a new explanatory pathway, other sets of intervening variables may have to be explored in equal depth. Choosing those variables invariably requires the researcher to step back and take a broader view that is, as yet, not fully substantiated.

In that sense, this piece is very much exploratory. It builds on the supposition that there are important causal mechanisms linking both poverty and environmental factors to conflict. It promotes, as a hypothesis, that “livelihoods” could be a hitherto missing link in formulating such mechanisms.

The argument is based on the concept *environmental scarcity*, and the rich volume of research based on it (Homer-Dixon 1999).<sup>1</sup> The end results of the vicious circle created by growing environmental scarcities are vastly increased social inequalities, a rapid increase in economically marginalised people, and, as a consequence of threatened livelihoods, the involuntary need of those marginalised from that point and onwards to utilise the resource unsustainably. The conflict mechanisms put in motion by the process include relative deprivation and the strengthening of bonds along ethnic, linguistic, national or regional lines prevalent in almost all societies, but not gaining full significance until livelihoods are threatened in rapid, and sometimes dramatic, processes of change.

The concept is uniquely applicable for linking poverty and environmental factors in causal pathways leading to conflict, since it includes economic, environmental and social factors. It is also well suited from a policy-making point of view, since the causal mechanisms leading to conflict predicted by the environmental-scarcity model posit that the state, and, more

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<sup>1</sup> Environmental scarcity denotes the social effects of the combined impacts of i) *environmental degradation* shrinking the total size of an imagined environmental “resource pie”, e.g. arable land or an aquifer; ii) *population increase* shrinking the size of the equitably allotted “slices” of the resource pie; and iii) *unequal resource access* allowing powerful segments of the population to access inequitably large amounts of resource slices in a process of “resource capture”, resulting in ecological marginalisation and loss of livelihoods for large but weaker groups of the population.

precisely, state legitimacy, will be the first target of frustrations created by loss of livelihoods caused by environmental scarcities.<sup>2</sup>

## **2. The economic logic of militia livelihoods**

In the late 1990s the search for the causal mechanisms behind civil wars widened to include frustrated expectations, among excluded élites as well as marginalised segments of the population. In a seminal article, “The Economic Functions of Violence in Civil Wars”, David Keen (1998) maintains that civil wars, pervasive to many parts of the developing world, ought not to be understood as “irrational”. Instead, the chaos created by them is readily exploited for economic purposes by segments of the élite whose aspirations to climb to a powerful position in society have been stymied by competing élites.

Wars, according to Keen, constitute more than a breakdown of the social order. They are also a way of creating new systems for profits, power, and even security of a kind. In areas controlled by warlords, new kinds of war economies are created, each with its own particular logic.

This view provides one explanation for the persistence and longevity of civil wars, since winning, in fact, may not be a goal of the combatants. The objective of wars, such as they have become during the latter part of the last century, may be exactly to attain legitimacy for actions that in peacetime would be considered as crimes. In other words: fuelling civil wars has become a means to an end for criminal activities.

The analysis also throws some light on the immense difficulties facing the international community in bringing these devastating conflicts to an end. A tacit and common understanding underpinning such attempts is that both parties to a civil war share an interest in ending their strife. Keen’s argument is that the warring parties instead may have a common interest in keeping the war going.

This does not preclude meaningful attempts at peace making. The war objectives of the parties to the conflict may turn out to be remarkably similar: survival, power, a life filled with more excitement than a peaceful existence might offer, and, perhaps more important than all of the above, economic advantages. The key to peace making is to build societies where such common goals may be attained by peace rather than by war. Easier said than done, it nevertheless puts the focus squarely on livelihoods, and peacetime sources for livelihoods.

Keen’s analysis would seem to be amply born out by an analysis of the role of diamonds in the civil wars in Angola, Sierra Leone and Liberia; the role of narcotics in countries as far apart as Afghanistan and Colombia; and the role of mineral wealth in the “seven-nation war” in DR Congo. Although none of this would, at first sight, seem to have any bearing whatsoever on the

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<sup>2</sup> A number of cases from the literature, citing environmental scarcities as a cause of conflict, are reviewed in an accompanying Sida paper in Swedish, “Sambanden mellan miljö och konflikter” (Ohlsson 1998).

environmental scarcities of renewable resources – rather the opposite, since the internal wars in developing countries, if anything, seem to be about non-renewable resources – there is a very important link which does not become visible until loss of livelihoods is brought into the picture.

The missing link is found by looking for the factors that make it possible to mobilise such large numbers of foot soldiers in the militias of the warlords of this world. No presumptive warlord, however charismatic or ruthless, could ever hope to gain a substantive following of the necessary number of foot soldiers, unless there are a sufficiently large number of not only poor, but also fairly recently deprived, young men in society. There is no larger single source of such deprivation in the world today than the scarcity of arable land which forces young men to migrate to cities in search of a living.

Unemployed young men, in cities as well as in rural areas, become easy targets for hate-propaganda directed towards easily identifiable ethnic, linguistic, national or regional cleavages in a particular society. From there it is but a short step to accept the promise of a salary – and the prospect of looting – held out by joining one or another militia under a powerful emerging leader. In Rwanda, employment in the state administration, in the army, or – at the end – in the murdering militias was virtually the only way for young men to fulfil their expectations. The price they had to pay was undivided loyalty to the instigators of genocide. Similarly, on the West Bank and in Gaza, fully a quarter of the available jobs are provided by the Palestinian authority, and half of these are in the security or police forces.

Young women may be equally susceptible to hate propaganda. However, their gendered role rather prescribes that they should abandon all expectations of even starting to improve their lives. As an example, in the West Bank and Gaza employment rates are a low 66 per cent for men, but an excruciatingly low – even for the region – 12 per cent for women.

In rural areas, young women are the first to be forced out of school when the livelihood of their family requires that they help out at home, carrying water, chopping wood or tilling the soil. Very soon, they will find themselves in charge of providing not only for a husband who has migrated to the nearest city, but also a growing number of children, in addition to ageing parents and in-laws. When conflict breaks out, they will be the first to find themselves robbed of the fruit of their toil, frequently abused and abducted, and finally forced to find refuge for themselves and their dependants in the camps among a growing number of internally displaced persons.

Against this backdrop, there would seem to be few more pressing issues than finding the means to stem this vicious circle of conflict and violence by making attempts to safeguard as much as possible of peace-time livelihoods, and the environmental resources on which they build, in poor countries that still have high rates of population increase. There is no such source more important than agriculture, which is crucially dependent on healthy ecosystems and undepleted environmental resources of arable land and water.

### 3. Livelihood conflicts created by agricultural failure

The link between loss of peacetime livelihoods and conflict is made by de Soysa & Gleditsch et al. in their (1999) article, “To Cultivate Peace: Agriculture in a World of Conflict”. Reviewing the research into links between environment and conflict, they arrive at a common denominator of the intra-state wars of the 1990s:

Most of the armed conflicts, whether domestic or international, are concentrated in regions heavily dependent on agriculture, such as South Asia, Central Africa, and parts of Latin America. In countries that have a low dependence on agriculture [...], we find only a handful of conflicts. Indeed, only five out of 63 states who exhibit a low dependence on agriculture have suffered armed conflict after the Cold War.”

(de Soysa & Gleditsch et al. 1999, p. 17)

The authors cite several cases in Africa, South Asia, South and Central America, the Middle East and elsewhere, where a conflict analysis reveals clear links between issues related to agriculture and the origin of an armed conflict. In spite of such clear links in some cases, the authors are very careful not to infer an overall causal link between heavy dependence on agriculture and the incidence of armed conflict.

Instead they argue strongly that the missing link is *poverty*, defined as “the lack of physical, human, and social capital”. The lack of these factors generates conditions which are unfavourable for development, and hence for peace:

“The conflict-producing conditions that may emanate from agricultural and rural issues, such as land tenure conflicts, are manifestations of the incapacity of social and political systems to handle such crises. Moreover, capricious politics are likely to create conditions of underdevelopment such as low economic growth and simultaneously cause the extreme grievances that drive individuals and groups to take up arms.”

(ibid. p. 18)

I would argue that the authors have indeed found a missing link, but that the missing link connecting poverty to conflicts is best captured, not by simply designating it as poverty *per se*, but by a slightly more elaborate approach aimed at capturing certain aspects of the considerable processes of change going on in the world. A three-step delineation of this type of “livelihood conflicts” approach might have the following appearance:

- 1) On the basis of de Soysa & Gleditsch et al., the hypothesis would be that poverty indeed is an important conflict-generating factor; not however as much the *state* of poverty, as the *rapid falling into poverty*.

Rapid processes of pauperisation, in turn, may be identified in the widely acknowledged trend of rapidly *increasing inequalities*, both within and between countries. For analytical purposes this trend may be dissociated into i) an unprecedented and welcome gain in welfare for larger groups of people than ever, but also ii) equally rapid and deleterious processes of *deprivation* and *marginalisation*.

Building on this, conflict-generating mechanisms therefore should be sought in processes that i) *rapidly make* people poor; and/or ii) result in *increased inequality* in a society or community.

- 2) The overall and almost self-evident reason *why* people are becoming impoverished at an unprecedented rate is that they lose or are unable to obtain *livelihoods*.

In order to understand the magnitude and character of the challenges for policy-making, the research effort arguably therefore ought to be directed at describing in detail the major *reasons* why so many people are losing or finding themselves unable to obtain livelihoods.

- 3) Agriculture traditionally has been the *single largest source of livelihoods*. The present difficulties of agriculture in sustaining this role therefore should be described and researched. Two levels of investigation may be identified:
  - i) The failure of agriculture as an economic sector to *absorb still growing populations*, which instead increasingly have to search for livelihoods in urban areas; and the social consequences of this failure, including risks of conflict.
  - ii) The part of the reason why agriculture can no longer fulfil its traditional role that stems from *environmental factors*, such as degeneration of arable land and ecosystems in general as a result of unsustainable practices, and the social consequences of these factors.

The concept *livelihood conflicts* would thus include, but would not be restricted to, what has previously been investigated as “environmental conflicts” (environmental conflicts, in fact, could be regarded as a special case of livelihood conflicts).

The core concept in the approach is *livelihoods*; the process in focus is *loss of livelihoods*; the delimitation is to study loss of livelihoods in *agriculture* (with specialised studies carried out with a further sub-limitation, namely the loss of livelihoods in agriculture due to *environmental factors*); and the final goal of the approach is to identify and describe the *mechanisms* whereby loss of livelihoods in agriculture could lead to *livelihood conflicts*, as demonstrated by past or present cases.

From a policy point of view a particular task would be to identify, from such research and other sources of knowledge, the role that the *reconstruction of environmental assets* could play in *creating and sustaining livelihoods*, in order to avoid the vicious circle of loss of livelihoods, poverty, environmental degradation, and the ensuing risks of livelihood conflicts.

Much of the rationale for a livelihood conflicts approach is well captured by de Soysa & Gleditsch et al. Compare their description of the conflicts in West Africa:

“The wars in Liberia and Sierra Leone, for example, can be viewed as emanating from subsistence crises. Indeed, many of the state failures emanate from the inability of these weak states to provide the basic needs of people. High numbers of unemployed youth [sic!] in the cities and the countryside are ready combatants within various criminal insurgency groups that form to battle over the control of resources and whatever state power is left intact.”

(ibid. p. 19)

Here, a remark is necessary – the ungendered identification of unemployed “youth” as the main culprits is seriously misleading. Young women and girls are not found in “high numbers” among the “various criminal insurgency groups”. Those that are found have generally been brought there by abduction, and they are forced to accept roles as carriers, cooks, servants for militias, and sex-slaves for militia commanders.

The “ready combatants” that “battle over the control of resources and whatever state power is left intact” are first and foremost young men and boys, some of which tragically also have been abducted and forced to join the growing ranks of child soldiers in the world, but others have joined readily at the promise of looting and plundering, as a direct result of loss of livelihoods:

“The new conflicts may be traced to the loss of livelihood, the hopelessness of surviving at the margins, and the alternative life of crime and banditry. The bulk of the rural population seems to be non-participant victims rather than the active and passive supporters of utopian revolution. [...] Ironically, the foot soldiers of much of the armed violence today might just be trying to stay alive.”

(ibid. p 19)

Here, without making the connection explicitly, the authors in fact provide material salient to the controversy touched upon earlier: whether the apparent focus of many on-going livelihood conflicts on non-renewable resources, such as gold and diamonds, and illegal activities, such as drug-trading, does not in fact constitute a refutation of the hypothesis that renewable resources and environmental factors play an important role in conflict-creating mechanisms. This controversy is sometimes captioned “need or greed”: Is the main reason for the present pattern of conflict destitution and poverty, or is it the opportunity to enrich oneself by, for example, illegal diamond trading?

In a livelihood conflicts approach the apparent contradiction between the two parts of the question would be transcended. Young men do not (at least not in significant numbers) regularly seek immediate rewards in illegal activities and looting, as long as the society they live in can provide livelihoods (usually based on agriculture, renewable resources, and depending on healthy ecosystems) and a social position that they have been culturally taught to expect as men in their society.

When such expectations are frustrated, however, young men *in particular* (since their gendered roles have taught them to expect more of life as their birthright) become easy targets for the attempts made by political forces serving their own purposes to mobilise them for extremely violent actions, in pursuit of easy gains (often based on control over and exploitation of non-renewable resources and illegal trade).

Young women, on the other hand, have most often had their expectations of a better life stymied from the start, by having been obliged to leave school early (or not attending at all) as a result of having to assist in sustaining the family livelihood, or by a culturally prescribed role as providers (in subsistence agriculture), not only of their own new and growing family, but also of a husband who may have migrated to the nearest city, as well as of elderly dependants. As a consequence, they are particularly vulnerable to environmental effects degrading their main source of livelihood, agriculture.

The authors cite many cases of present or past conflicts (e.g. Somalia, Uganda, DR Congo, Malawi, Rep. Congo, and others), which would merit being fleshed out into full-blown case studies based on a livelihood conflicts approach. In addition, one or several null cases (where large-scale open conflict has not yet broken out, despite widespread loss of livelihoods and/or ravaging environmental degradation) would be needed for methodological strictness.

The case of India would seem to be such a case. It is commonly noted that in India poverty seems to have been compatible with relative stability for a long time. India therefore is often discussed as an example of culture's mitigating role: the social ability of creating a culture of "spreading poverty equally" (although this "equal spreading" of course never applied to the extremely rich in India).

The crucial test for the validity of the approach in the case of India would be to apply it to developments in the immediate decade to come, when successful economic growth has created a whole new prosperous middle class – and a rapid increase in inequalities – while environmental destruction still is rampant.

According to the livelihood conflicts approach, the critical factor would not necessarily be increased inequalities as such, but the point when increased inequalities and/or environmental degradation lead to the further marginalisation of large segments of the populations, whether this is caused by loss of their present livelihoods, or by new generations being unable to obtain livelihoods in the first place. If the Indian society manages to avoid this pitfall, the conflict potential, according to the hypothesis, might still be kept within

bounds. If further rapid marginalisation occurs, the conflict potential would increase.

Below, three further sketches are provided of how livelihood conflicts could be portrayed. The order is chosen to form a progression from loss of livelihoods making ethnic cleavages more salient (Kosovo); via scarcity of agricultural land creating conditions that ultimately facilitated genocide (Rwanda); to the imperative of creating jobs in cities experienced by water-scarce societies (Egypt).

#### **4. The case of Kosovo – loss of livelihoods fuelling extremism**

In 1976 the per-capita income in the province of Kosovo was 86 per cent of Yugoslavia's average with a positive trend. Even the most remote villages were connected to the power-grid and enjoyed piped water. 95 per cent of children in Kosovo were enrolled in elementary schools. Life expectancy had gone up to 68 years, due mainly to the number of doctors having increased to one per 2,009 people, up from one per 8,527 in 1952.<sup>3</sup>

The rapid population increase which is to be expected from such benign development, in addition to an excessively great dependence on heavy industry, and in combination with increasing land scarcity and land degradation, led to rapidly increasing unemployment. The unemployment rate rose from 19 per cent in 1971 to 28 per cent in 1981, 56 per cent in 1989, and 70 per cent in 1995.

In 1999 there were 2 million people in Kosovo, twice as many as in 1960. The rate of annual population growth was 2.1 per cent, which exceeded economic growth. It was also a higher rate than that in many developing countries.

The biological productivity of Kosovo's 10,000 square kilometres has been much higher previously than it is today. Forests have been cut down as a result of land scarcity. Cities have great problems with waste management. A large part of the persistent environmental problems have their origin in the out-dated heavy industry infrastructure. (The closure of the Mitrovica smelter for environmental reasons by the UNMIK forces is a good example here.)

Kaufmann (1999) argues convincingly that environmental destruction in Kosovo was used by the Kosovo-Albanians as an argument against Yugoslav rule (although other parts of Yugoslavia were equally polluted). In other aspects as well, his main argument runs parallel to the livelihood conflict approach.

The discontent that finally led to open conflict was created by poverty, which in turn was caused by unemployment due to industrial decline. Other sources of new livelihoods were limited by land scarcity and degradation, which in turn created conflicts over land-rights. The discontent caused by poverty led to increased politicisation of relations between the two main ethnic groups. This, in turn, enabled both the KLA and Slobodan Milosevic to mobilise

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<sup>3</sup> All data from Kaufmann (1999).



support for their extreme policies to a degree they would never have been able to do otherwise.

In traditional analyses, the ethnic aspect of conflicts is often highlighted. Conveniently forgotten here is the fact the two or more ethnic groups may lead perfectly harmonious lives together for long periods – as long as society is able to satisfy the welfare demands of all citizens. When this was no longer possible in Kosovo, traditional analyses concentrate on the “apartheid” system of job redistribution created by the Serbs. Conveniently forgotten in this case is the fact that internal population increase was responsible for the greater part of unemployment.

A livelihood conflict approach thus would highlight the causal contributions of demographic, as well as environmental, degradation and resource scarcities. Conventional analyses tend to shirk from these issues – understandably so, since the challenges posed by these large and rapid processes of change are very difficult to deal with at the policy level. And yet, there is no getting away from them, in the Balkans, or in the rest of the world.

## **5. The case of Rwanda – environmental scarcity resulting in genocide**

Nowhere were these pressures greater than in Rwanda at the beginning of the 1990s. And no person may have been better placed at the time to judge the severity of the situation than James Gasana, Minister of Agriculture, Livestock and Environment (1990–92), and Minister of Defence (1992–93) in the Rwandan government at the time.<sup>4</sup>

The case of Rwanda is crucial to the validity of a livelihood conflicts approach in two ways: firstly since it constitutes the first full-blown genocide after the Holocaust, and secondly since Rwanda was exhibiting widespread poverty and loss of livelihoods as a result of environmental scarcity, among other hardships.

Gasana (2001 forthcoming) demonstrates how environmental scarcities became acute in the 1980s as an effect of soil degradation, continuing high population pressures, and inequitable land distribution (i.e. the text-book definition of environmental scarcity, as defined by Homer-Dixon, 1999). The resulting scarcity of arable land led to a high rate of rural unemployment, leading to dissatisfaction among the poor peasantry, mostly in the southern region.

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<sup>4</sup> Gasana went into exile shortly before the genocide. His analysis of environmental scarcities as a cause of conflict and how it enabled the instigators of genocide in their extreme pursuits, will be published in a 2001 IUCN book on environment and conflict. For this very brief condensation I rely on the author’s manuscript. Researchers eager to get in contact with the author will find his email address in the References.

To my mind, this is without doubt the best and most reliable treatise on the role of environmental scarcities in Rwanda. It is far superior to, for example, Percival & Homer-Dixon’s early study. Gratifyingly, Gasana’s analysis fully corroborates my own attempt (Ohlsson 1999, chapter 4), necessarily built on far less access to privileged knowledge.

The socio-economic crisis converged with power rivalries between different segments of the élite and strengthened the opportunity for internal opposition, threatening the regime's legitimacy. In a series of linked events, the author notes, "environmental scarcities not only influenced the strategies and tactics of political and military actors but also [...] amplified the political violence".

Here is the sequence of events identified by Gasana:

- 1) Following a severe famine in 1988–89, regime legitimacy was severely weakened by the dissatisfaction of the peasantry of southern Rwanda with the weak government response.
- 2) The regime failed to inform the nation of the seriousness of environmental scarcity in general, and of the famine in the south in particular. Lack of free debate on appropriate responses further alienated the southern élite.
- 3) The mounting political dissension distilled into organisations of dissatisfied peasantry.<sup>5</sup>
- 4) Rebel forces of exiled Rwandans in the Ugandan armed forces created the RPF, and seized the opportunity, created by the dissatisfaction of the peasantry and by the regime's decreased legitimacy, to launch an invasion of Rwanda.
- 5) The tyrannical reaction of the regime to war further reduced its legitimacy and strengthened the opposition.
- 6) War in the north against the invading RPF forces caused the displacement of up to 1 million inhabitants, inducing additional resource demand and reducing supply, thus causing sharp grievances and strong anti-rebellion sentiment among the Rwandan people.

These were the conditions that created a situation ripe for ruthless exploitation by segments of the élite. Against the backdrop of extreme poverty and rapid pauperisation, due to loss of livelihoods caused by environmental scarcity over a long period of time, and acutely aggravated by a large part of the population being turned into internally displaced persons as a result of civil war, extremist forces were able to exploit the existing ethnic cleavages and historical animosities between groups in order to mobilise a very large part of the majority group of the population as perpetrators against the minority group in the first full-blown genocide since the Holocaust.<sup>6</sup>

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<sup>5</sup> As Gasana remarks, environmental scarcities thus in fact hastened the move to increased political pluralism, which is one of the peculiarities of this case.

<sup>6</sup> Genocide in Rwanda has many particularities, one of them being that women took part as perpetrators to an unusually high degree. An explanation for this would *not* start out from the extremely subordinated and insecure position of women in Rwanda (which is a fact, but it would not help to explain the collaboration of women in administrative positions and even nuns); but rather the extreme, also in an African context, obedience to and reliance on state authorities among the population at large, including educated persons; and the fact that the organisers of the genocide in the tumultuous sequence of

Gasana is at great pains, however, to underline that at no time was this outcome *determined* by growing environmental scarcities. Scarcities, by way of loss of livelihoods, merely provided an *opportunity* for opportunistic political forces to mobilise people made vulnerable by poverty into atrocious acts. The lesson to remember here is that loss of livelihoods continues to create such opportunities in a growing part of the world.

In the policy sphere, Gasana authoritatively concludes that conserving the environment is essential for long-term poverty reduction, in order to break the vicious circle caused by environmental scarcities.

## **6. The case of water – the imperative of livelihoods in cities**

If a single river, and a single country, were to be chosen to epitomise the challenges posed by and the conflict risks ensuing from water scarcity, the Nile and Egypt certainly comes to mind first. Here, for thousands of years, civilisations have bloomed along the banks of the Nile, providing sustainable livelihoods for hundreds of generations.

Then, in a time-span of just about a single generation, from 1970 to 1990, Egypt as a country regressed from complete self-reliance in food production, to a 70 per cent import dependence. Three factors mainly account for this momentous change:

- 1) The limiting factor for food production in Egypt is not arable land as such, but the area that can be sustainably irrigated by the necessarily limited amount of water flowing into the country through the Nile. No other major renewable source of water exists, since there are virtually no rains.
- 2) The factor that limits increases in productivity on the severely restricted agricultural land beside the Nile is water. Although the period coincided with a great era of increased agricultural productivity through the Green Revolution, the full benefits of these techniques could not be reaped in Egypt, due to the fact that all available water in the Nile was already being utilised.
- 3) When, in a situation such as this, the demands of a still rapidly growing population exceed the productive capacity of the agricultural sector, rapid import dependence will follow, since all additions to the population from then on will have to be fed by imports. Legitimate development expectations on the part of the total population will add further pressure for imports.

Evolving scenarios of this kind have given rise to regularly voiced fears of “water wars” (in the case of Egypt most likely with Ethiopia, which provides 80 per cent of the water that is carried into Egypt by the Nile) in many parts

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events preceding the genocide had seized the position of legitimate government of the country.

Members of the killing militias, however, the *Interahamwe* and the *Impuzamugambi*, were almost exclusively young men, an overwhelming majority of them unemployed, a pattern which conforms to other cases. (My remark, LOh.)

of the world, mainly the Middle East (Israel against several neighbouring countries; Turkey against the downstream states of Syria and Iraq), as well as the Indian sub-continent and South-east Asia.

No such water wars have materialised, in spite of acutely growing water scarcity, and it now appears unlikely that they will. Prompted both by the necessity to cooperate over shared water resources, and by international efforts to promote such cooperation, nations have learned to negotiate their way out of open conflicts over water. A major reason for this success may be that it is very difficult to imagine how such a water war would be waged. It is not that easy to conquer water resources, or to gain control over their usage.

Instead, there is a growing realisation that the most insidious risk of conflict over water scarcity is not the risk of first-order conflicts over water itself, but the risk of *second-order conflicts*, caused by the inability of a society to deal with the social consequences of not being able to acquire a sufficient amount of water for the needs of the agricultural sector in that country.<sup>7</sup>

Here, the focus on agriculture is important, since this sector is the greatest water consumer by far in any society. On a global average, some two-thirds of all water diverted from rivers or aquifers go to agriculture. In countries or regions heavily dependent on agriculture this proportion may be as high as 90 per cent of the total amount of diverted water (whether in desert – but nonetheless industrialised – California, or in a dry-region developing country).

Not being able to allocate a sufficient amount of water to agriculture does not necessarily mean food scarcity. Egypt has managed very well, albeit at a high cost to its foreign currency reserve, to compensate by importing food. What it does mean, however, is immediate problems with livelihoods. New generations in the rural areas of Egypt can no longer expect to make a living from agriculture, as previous generations going all the way back to the Pharaohs, were used to.

Instead, the big cities of Egypt are swelling, as are all cities in developing countries. Cairo and Alexandria are bursting under the pressure of new arrivals from rural areas, unable to find a livelihood in agriculture, and hoping to find one in the city. Political stability depends on the success, not only of Egypt but of the entire region, in creating the necessary number of new jobs in the cities, since unemployed workers regularly move between countries in the region in search of jobs.

Finding jobs for this rapidly growing potential workforce is a formidable challenge, and requires exceptionally strong and rapid economic growth. As an example, the economy of Egypt would have to grow at an annual rate of 7 per cent for at least five years to increase the rate of employment. Similar figures are required for all countries with young and growing populations.

These problems are creating social turmoil, including conflicts, in all countries in the Middle East. Recently, frustrated Egyptian workers created the

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<sup>7</sup> I discuss the concept of first- and second-order conflicts over water in greater depth in Ohlsson 1999, chapter 5.

worst social turmoil in the history of Kuwait. In a relatively prosperous country such as Jordan, the unemployment rate is around 25 per cent, and 300,000 illegal immigrants are competing with the indigenous workforce for largely non-existent jobs.<sup>8</sup>

Thus, in the political hotbeds of big cities, unemployed young men are already forming the potential armies of future livelihood conflicts, all too ready to be mobilised by political extremist leaders. Whether such conflicts will materialise to an even greater extent than they already have (Algeria would be a particularly apt case in comparison to Egypt), is crucially dependent on the capacity of societies to adapt to the challenges posed by the risk of second-order livelihood conflicts.

## **7. Livelihoods and the need to liberate social resources**

With the aid of the livelihood conflicts approach employed so far, I hope to have shown first of all the crucial importance of generating and sustaining livelihoods in order to avoid conflicts. Secondly, the importance of maintaining environmental resources above critical sustainability levels, in order to facilitate the task of sustaining livelihoods, has been stressed. The third and last point to be emphasised is that the necessity of creating livelihoods in cities also has to be underpinned by healthy ecosystems for their immediate and day-to-day survival, as well as to reduce the pressure on creating jobs in cities. Those who can maintain a life in rural areas will not become foot soldiers in the potential armies of unemployed fomenting in the cities.

Against this backdrop, the most recent report from the World Wildlife Fund on the state of the world's ecosystems raises serious alarm. The report (WWF 2000) states that the productivity and resilience of ecosystems have deteriorated by at least 30 per cent during the last thirty years. During the same span of time, human pressure on the environment (the "ecological footprint" of human societies) has increased by some 50 per cent. The report further concludes that sustainability levels of ecosystems as a whole were in fact transgressed as early as during the 1970s.

What these figures imply is that, at the exact period of time when environmental resources are most needed in order to provide livelihoods, they have been depleted below their regenerative ability – ironically to a large degree as a result of the imperative to maintain and create livelihoods. In the future, larger populations will not even have access to the same amounts of environmental services previous generations enjoyed, but less. On a per-capita level, environmental services will, of course, be far less.

The world at present thus seems to have one great scarcity, namely that of renewable resources and healthy ecosystems which form the base of livelihoods; and one potential great affluence, namely the productive capacity of all those women and men rendered powerless and poor by their inability to find an

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<sup>8</sup> *Middle East Economic Survey*, Vol. XLII, No. 46, Nov. 1999. Quoted from *Nytt om befolkning och hälsa*, Nr 3/2000, Sida Health Policy Unit.

opportunity to make a livelihood. However, by combining these two facets there is fortunately the potential for overcoming the glaring discrepancy posed by them.

A new study made by the WorldWatch Institute reports that creating an environmentally sustainable economy has already generated an estimated 14 million jobs worldwide, with the promise of millions more in the century ahead of us. The often-voiced fear of a contradiction between jobs and environmental protection is, in fact, fiction, according to the report. "Jobs are more likely to be at risk where environmental standards are low and where innovation in favour of cleaner technologies is lagging", says author Michael Renner (2000).

Environmental job creation today may be largest in developed countries (e.g. in the wind-power generating sector), while job creation is particularly important in the developing world, where almost all of the growth in population will take place in the coming decades. "The trouble is that human labour appears too expensive, while energy and raw material inputs appear dirt cheap", says Renner. "Businesses have long sought to compete by economizing on their use of labour. To build a sustainable economy, we need to economize on the use of energy and materials instead."

Here lies the greatest challenge ahead. Protecting and regenerating ecosystems and environmental resources to as much as possible of their former wealth will take enormous amounts of the ultimate resource available to humans, namely *social resources*; the capacity to adapt successfully to a changing environment and to new challenges.<sup>9</sup> Fortunately, this ultimate resource is not scarce, but abundant. What it takes to liberate it is insight into the mechanisms that may lead to further deterioration, the will to break away from that path, and the persistence of agencies to change their policies accordingly.

Effective policy measures will be far-reaching if conflict has already set in. In this case, the international community very likely will have to resort to the full gamut of measures increasingly necessitated by the growing number of man-made complex humanitarian emergencies. If, on the other hand, development cooperation is targeted towards the overriding goal of maintaining existing and creating new livelihoods, the vicious path to conflict may be broken.

Policy measures still would have to be multifaceted, however, including environmental reconstruction,<sup>10</sup> support for marginalised people (women first among them), and, ideally, conditionalities requiring national policies limiting or ameliorating the consequences of social inequalities (between social strata, and, not least, between men and women).

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<sup>9</sup> The concept "social resources", as necessitated by growing environmental scarcities, is introduced more fully in Ohlsson (1999). The concept is roughly comparable to what now is vigorously discussed as "social capital" by the World Bank and other multilateral organizations.

<sup>10</sup> For a comprehensive review of policy options, see Segnestam & Sterner 2000.

## References

- Gasana, James K., 2001 (forthcoming), "Natural Resource Scarcity and Violence in Rwanda" (in a IUCN volume of case studies on environment and conflict; author's email: jgasana@intercoop.ch).
- Homer-Dixon, Thomas F., 1999, *Environment, Scarcity, and Violence*, Princeton, M.J.: Princeton University Press.
- Kaufmann, K. H., 1999, "The role of demographics and resource-stress in the Kosovo conflict". [Available at: <http://www.igc.org/desip/StressInKosovo.html> ].
- Keen, David, 1998, *The Economic Functions of Violence in Civil Wars*, Adelphi Paper 320, London: International Institute for Strategic Studies.
- Ohlsson, Leif, 1999, *Environment, Scarcity, and Conflict – A study of Malthusian concerns*, Dept. of Peace and Development Research, University of Göteborg. [Available as pdf-files at <http://www.padrigu.gu.se/ohlsson/files/ESC.html>]
- Ohlsson, Leif, 1998, *Sambanden mellan miljö och konflikter – Hur de snabba förändringsprocesserna till följd av fortsatt högt befolkningsstryck, miljöeffekter och utvecklingsförväntningar kan leda till en ny typ av konflikter*, Sida (Miljöpolicyenheten). [Available as pdf-file at <http://www.padrigu.gu.se/ohlsson/files/SidaMRK.pdf>]
- Percival, Valerie & Thomas Homer-Dixon, 1995, *Environmental Scarcity and Violent Conflict: The Case of Rwanda*, University of Toronto: Occasional Paper for the Project on Environment, Population, and Security.
- Renner, Michael, 2000, *Working for the Environment: A Growing Source of Jobs*, WorldWatch Paper No 152, WorldWatch Institute.
- Segnestam, Mats & Thomas Sterner, 2000, *Fattigdom och miljö* ("Poverty and Environment"), Miljöpolicyenheten, Sida.
- de Soysa, Indra & Nils Petter Gleditsch (with Michael Gibson & Margareta Sollenberg), 1999, "To Cultivate Peace: Agriculture in a World of Conflict", The Woodrow Wilson Center *Environmental Change & Security Project Report*, Issue 5 (Summer 1999), pp. 15–25. [Available as a pdf-file at <http://ecsp.si.edu/pdf/Report5-Sect1.pdf>]
- WWF (World Wildlife Fund), 2000, The Living Planet Report 2000. [Available at: <http://panda.org/livingplanet/lpr00/>]
- Ohlsson, Leif, 2000, *Livelihood Conflicts – Linking poverty and environment as causes of conflict*, Environmental Policy Unit, Sida, SE-105 25 Stockholm, Sweden. [Manuscript available at: <http://www.padrigu.gu.se/ohlsson/files/Livelihoods.html>]









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