

**ENVIRONMENTAL IMPACT OF REFUGEES AND INTERNALLY
DISPLACED PERSONS IN SUB-SAHARAN AFRICA**

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INTRODUCTION

This workshop on “Climate Change, Environment and Migration” addresses a trio in the development debate that social scientists, not least students of migration, rarely pay attention to. There are three plausible scenarios in the inter-linkages of the trio: climate change affects the environment which consequently sparks out-migration or displacement; environment causes climate change, initiating migration; and migration influences environment, resulting in climate change. The scenarios could be multiplied but these suffice to drive home the point: that the three phenomena have intricate interrelations that are easily comprehensible. In this keynote address, I wish to explore the environmental impact of displaced persons in sub-Saharan Africa (SSA), a region that has seen untold numbers of internally and extra-territorially displaced persons often referred to as internally displaced persons (IDPs) and refugees respectively. It is important to underscore the fact that the inter-linkages of these phenomena have not been researched in the region and that much of the information we are treated to is at best anecdotal.

Interpretation of the environmental impact of displaced persons often results in both positive and negative nuances. Indeed, state-of-the-art analysis of the environmental impact of population displacement recognises this ambivalence, but acknowledges unanimity on the fact that “little research has been undertaken on long-term negative impact”, and that “no truly comprehensive or scientific study has ever been carried out”; even studies, project documents or related institutions provide information that is either superficial, erratic, exaggerated, or limited with regard to time, sector or geographical area (Bishop and Garnett, 2000: 13). Analysts of forced migrants’ environmental impact represent three schools of thought: negative in some circumstances, positive in others and indeterminate in situations in which other intervening factors are at play.

This paper sheds light on environmental impact of displaced persons – refugees and internally displaced persons (IDPs) – in selected host SSA countries or communities where they reside pending their return to their habitual residence. The paper draws heavily from several sources of information in SSA, notably research, anecdotal evidence and strategic programmes involving certain key stakeholders. It consists of five sections: clarification of conceptual issues in environment as well as refugees and

IDPs; methods employed in assessing forced migrants' environmental impact; selected cases of displaced persons' environmental impact in particular SSA host countries or communities therein; strategies adopted in responding to both sustainable and unsustainable development resulting from environmental impact; and a conclusion underlining future research to inform policy that shape strategies for factoring displaced persons' environmental impact in sustainable development.

CONCEPTUAL ISSUES IN ENVIRONMENT AND FORCED MIGRATION

Several conceptual issues relating to environment and forced migrants generally and in the context of SSA must of necessity be defined from the outset. Clearly, the two concepts are dynamic and ambiguous, which implies how difficult it has been to make conclusive assertions about them without taking other factors into consideration. The term "environmental impact" is also defined to underline what happens when refugees and IDPs inhabit an area of refuge.

Environment: Natural and Human-made components

The *Cambridge Advanced Learner's Dictionary* defines the term *environment* as "the conditions you live or work in and the way they influence how you feel or how effectively you can work", *the environment* consisting of "the air, water and land in or on which people, animals and plants live" (Cambridge University Press, 2003: 409). The term has gained increasing prominence in scholarship and policy circles since the United Nations Conference on the Human Environment (UNCHE) convened in Stockholm, Sweden in June 1972, subsequently leading to establishment of the United Nations Environment Programme (UNEP), based in Nairobi, Kenya. Simply defined, *environment* is "the sum of all external factors, both biotic and non-biotic, to which an organism is exposed. While biotic factors include influences by members of the same and other species on the development and survival of the individual, primary abiotic factors are light, temperature, water, atmospheric gases." Discussions on environmental impact of refugees and IDPs, in some respects, invoke ideas in Thomas' (1956) book, *Man's Role in Changing the Face of the Earth*, published at a time when both population and environment had not occupied centre stage in the development discourse. Among other things, the UNCHE at Stockholm proclaimed that:

Man is both [a] creature and moulder of his environment, which gives him physical sustenance and affords him the opportunity for intellectual, moral, social and spiritual growth. In the long and tortuous evolution of the human race on this planet a stage has been reached when, through the rapid acceleration of science and technology, man has acquired the power to transform his environment in countless ways and on an unprecedented scale. Both aspects of man's environment, the natural and the man-made, are essential to his well-being and to the enjoyment of basic human rights the right to life itself.

The last sentence of the quote above implies that humankind cannot and does not simply mess with the environment; if anything, circumstances may inadvertently force humankind to damage the environment, but the rule of thumb is for humankind to conserve it for sustained survival. There is a striking contrast between Thomas' (1956) book and the UNCHE proclamation referred to above. While Thomas' (1956) underlined (gender-free) man's environmental impact, the UNCHE underscored their reciprocal relationship. Apparently, both positions did not envisage forced migrants' environmental impact, presumably because the wave of involuntary migration had not appeared on the scene; and when it did in the post-independence SSA, for instance, much attention centred on hosting the victims without taking cognizance of their environmental impact.

Yet the study of the environment stems from a variety of disciplines. Students of the environment and consumers of their work construe the term within their disciplinary province: biological scientists underline the **natural environment**, consisting of biotic and abiotic features; regional scientists and those focusing on urbanisation underpin **settlement**, in which agriculture dominates the rural part as non-agricultural activity typifies the urban component; economists emphasize the **economic milieu**; political scientists emphasize **governance issues**; sociologists underscore **human ecology**; and human security analysts consider **environmental hazards** and **human-induced occurrences** such as wars and ethnic strife. For a term attracting students from a variety of disciplines, it is utopian to expect unanimity in methods, data and analytical approaches of studying it. In the same vein, it is difficult for planners and policy makers and, indeed an array of their development partners, to prescribe straightforward solutions to environmental issues, problems and opportunities that keep changing from time to time.

Internally and Extra-territorially Displaced Persons

Equally attracting analysts from a variety of disciplines is the term “displaced persons”. Seemingly, the better known concepts refugee and internally displaced persons (IDPs) have become too commonplace to require serious attention. Yet it has recently dawned on analysts that there is controversy surrounding the definitions and complexity of these displaced persons. UNHCR (2006:16) collapsed elements both of the United Nations *Convention Relating to the Status of Refugees* of 1951 and the United Nations *Protocol Relating to the Status of Refugees* of 1967, to define a refugee as any person who:

owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, unwilling to avail himself of protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it.

As that definition applied more to the immediate post-War Europe when much of Africa was still under colonial rule, the Organisation of African Unity – OAU (1969) crafted the *Convention Governing the Specific Aspects of Refugee Problems in Africa*, in which Article 1, recognising the United Nations definition, underlines that the term “refugee” shall also apply to:

Every person who, owing to external aggression, occupation, foreign domination or events seriously disturbing public order in either part or the whole of his country of origin or nationality, is compelled to leave his place of habitual residence in order to seek refuge in another place outside his country of origin or nationality.

Both the United Nations and the OAU positions underscore the human factor and conveniently ignore environmental factors which the definitions excluded or failed to envision. This implies that the victims of environmental hazards do not attract as much attention of the UNHCR and the OAU (AU since 2001) as do conventional refugees and IDPs who have dominated intra- and extra-African migration for several decades (Oucho, 1996, 2002).

With time, concepts such as “environmental refugees” emerged, largely associated with *desertification* — the state of desert-like conditions evolving due to climatic oscillations which caused drought and rendered bare formerly vegetated areas. That refugees have been the responsibility of the United Nations High Commissioner for Refugees (UNHCR) in liaison with the host governments while IDPs have not been, led the UN Secretary-General to appoint his IDP Representative, a move which put the IDP agenda in centre stage. This explains why the UNHCR (???) published the *Framework for Durable Solutions for Refugees and Persons of Concern* and why recent UNHCR reports identify five categories of those under their care, namely “refugees”, “asylum seekers”, “IDPs protected/assisted by UNHCR”, “stateless persons” and “various”. Existing literature and programmes on environmental impact of refugees and IDPs point to ambivalent impact. Thus, it is imprudent to ascertain involuntary migrants’ environmental impact without controlling for other attributes of the environment and indeed all other impinging factors. This may explain why Crisp (2000) employs the generic term *displaced persons* to denote “those who have left their usual place of residence in order to escape from persecution, armed conflict or violence”, excluding “disaster-induced migrants”, “development-induced migrants” or “ecological refugees”, also known as “environmental refugees”. While Crisp’s definition embraces a broad spectrum of displaced persons, both the UNHCR and the AU classifications leave out a large number of those who have been displaced by natural causes – for example, Ethiopians rendered thus by repeated episodes of drought and victims of the El-Nina, as were Mozambicans in the floods of 2000.

Compiled by the UN Secretary-General’s IDP Representative, *The Guiding Principles on Internal Displacement Persons* (OHCHR, 1998) defines IDPs as:

persons or groups of persons who have been forced or obliged to flee or leave their homes or places of habitual residence, in particular as a result of in order to avoid the effects of armed conflict, situations of generalised violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognised State border.

This definition reveals subtle differences between refugees and IDPs, the main distinction being the crossing of territorial borders by refugees and IDPs’ confinement

to the same territory. However, the boundary issue has come under serious attack, given that the two types of forced migrants bear the same characteristics, including self-residence and living in camps. The Refugee Policy Group (1992) gives a broader enumeration of causes of internal displacement to include civil war, breakdown in civil order, ethnic tension, forced resettlement, demobilisation and refugee repatriation. Apartheid South Africa witnessed forced resettlement or forced removal of the native population (Aspirant, n.d.); and the legacy, which glares at the face of post-apartheid government in the country, might require more durable solutions. That national governments never come out clean in internal displacements of population implies the absence of national programmes to resolve the problem. Cohen (2000) Observes that whereas IDPs may be uprooted from their homes for the same reasons as refugees, unlike refugees they often do not receive minimum food, shelter, medicine or protection because they remain under the jurisdiction of governments which may be unwilling or unable to provide them with security and welfare or there may be no government at all.

The conceptual issues elaborated above help to underline the diversity of displaced persons, better known as “refugees” and “IDPs” who, nonetheless, have diverse backgrounds and experiences of their habitual residence from which they fled to the one which they now inhabit. That displaced persons – some of them victims of environmental hazards and others of human-induced circumstances – fall in different categories, calls for proper understanding of their environmental backgrounds and experiences that have had a bearing on their environmental impact. Theoretically, refugees and IDPs – conventionally defined – are likely to be more callous about their new habitats than environmentally displaced persons who might ensure better conservation of their new habitat, knowing full well that they have few options on where else they could go.

Table 1 Definitions and taxonomies of displaced persons by different analysts

Taxonomy	Thrust of definition	Author
Displaced people	Generic term employed for refugees and IDP fleeing their usual place of residence due to persecution, armed conflict or violence	Crisp (2000)
Refugee	Fleeing fear and persecution from home country Emphasis on crossing an international boundary and consequently protection not provided by country of origin	UNHCR (2006) McGregor (1993)
Environmental refugees Note: Critics (Saunders, 2000; Kibreab, 1994) question separation of overlapping and interrelated categories	Initial applicant of the term which he popularised in the 1970s and gained prominence at a 1984 IIED workshop. People fleeing traditional habitat because of a marked environmental disruption jeopardising their existence and/or seriously affecting the quality of their life Invention by policy-makers in the North to restrict asylum laws and procedures to depoliticise the causes of displacement; originated by UNEP (i.e. El-Hinnawi's work) to place the burden in the UN agency located in the South with primary service to Africa, not the North Victims of environmental catastrophe resulting from climate change, deforestation and desertification	Brown (1970s); IIED (1984) El-Hinnawi (1985), Jacobson (1988) Kibreab(1997:21) Myers (1993abc)
Environmental migrants	Voluntary migrants leaving because of an environmental problem Used to define those <i>environmentally motivated and</i> pre-empting the worst; those <i>environmentally forced</i> to avoid the worst; and <i>environmental refugees</i> fleeing the worst	King (2006) Borgadi (2007)
Environmental refugees versus migrants	Abundant typologies of each with little agreement on what each category really means	Black (2001)
Environmentally displaced persons	Forced by adverse environmental conditions to move out	King (2006)
Event-induced migrants	Disaster-induced and development-induced migrants	Crisp (2000)
Internally displaced persons (IDPs)	Persons forced to flee or leave their homes or habitual residence but who have not crossed an internationally recognised State border	OHCHR (1998)

Environmental Impact and Environmental Impact Assessment

Two distinctive but easily misconstrued concepts – environmental assessment and environment impact assessment – are defined to complete ploughing the conceptual terrain. But first, we define *environmental impact* which denotes simply the process of change that occurs with respect to natural resources such as forests, soil and water, often viewed through negative lens, though “environmental degradation is partly in the eye of the beholder (Jacobsen 1997: 20). Usually, the beholder is the one responsible for or interested in what happens to the environment, even without delving into its conditions before an event construed to have interfered with it. To evaluate the environment, environmentalists often talk of *environmental assessment*, which denotes assessing conditions of the environment at any given time, and could move further to *environmental impact assessment*, that is, assessing environmental conditions in the wake of an occurrence, for example, the presence of refugees and IDPs in an environment. The UNHCR’s (1996) *Environmental Guidelines* are comprehensive enough to provide for environmental impact indicators, their assessment and the parties to be involved in implementing the document. The foregoing definitions and taxonomies provided a meaningful starting point of this keynote address.

ENVIRONMENTAL IMPACT ASSESSMENT OF REFUGEES AND IDPs

The popular media image of the refugee as a “problem”, rather than s “persons with problems” (Harrell-Bond, 1998) underlines the congregation of refugees as a strain on local resources, including the environment, more than does a dispersed population (Black, 1994, quoted in Harrell-Bond, 1998) and as posing a health risk by increasing exposure to disease (Toole and Bhatia, 1994, quoted in Harrel-Bond, 1998). Against this perspective, there are different approaches to assessing the environmental impact of refugees and IDPs on the local host environment or community. Much as some approaches are robust, others are weak and only vaguely suggestive of plausible impact (Table 2).

Table 2 Approaches for studying environmental impact of refugees and IDPs

Method of study	Example	Assessment
Analysis of core set of quantifiable indicators across refugee operations	Widespread	Impact of refugees on the local host society, e.g. Millennium Development Goals (MDGs) to benefit the local community.
National refugee baseline survey	South Africa, 2003	Vital information on refugees: origin; background characteristics; adjustment; employment status; contribution to local development; problems; hawking and piece jobs; future return plans, etc.
Camp survey	Widespread	Interviews with refugees and IDPs during food rations or as appropriately arranged
Analysis of environmental resources and utilisation; changes in utilisation and economic pursuits.	Guinea Ethiopia Tanzania Uganda Sudan	Assessment of deforestation, loss of biodiversity, competition for agricultural land. Increased agricultural production; increased local income; installation of educational, health, and other social services infrastructure as well as water supplies (dams).
Geographic Information System (GIS) and remote sensing	Growing in importance	Location and functioning of refugee camps; monitor the impact of emergency situations, e.g. refugee operations; catalogue natural resources

Rarely are there surveys of refugees and IDPs, either nationally or locally at the camps holding them. In South Africa, for example, a national survey of refugees revealed useful insights into their origins, background characteristics, routine and piecemeal jobs, problems, future aspirations for leaving their current residence and so on. A popular approach is assessment of damage or amelioration of the environment that is already occupied by refugees, a situation which pits them with the local host society.

INSTANCES OF ENVIRONMENTAL IMPACT

This section analyses instances of environmental impact of displaced persons in selected African countries, based on experience gained in different settings. As the UHHCR, inter-governmental, non-governmental agencies and host governments endeavour to support and protect refugees, they have amassed useful information not only on the causes but also on the consequences of refugees in host communities. Virtually every analysis of environmental impact of displaced persons cites negative and positive impacts on flora and fauna, energy and heating sources, water bodies, soil quality, environmental sanitation and a variety of infrastructure among the most

affected environmental issues. With the intervention of humanitarian agencies concerned with the plight of displaced persons, some observed negative impacts are eventually converted into positives, consequently benefiting the host communities as well.

Students of displaced persons' environmental impact define the concept to embrace "the process of change that occurs with respect to forests, soil and water" (Jacobsen, 1997: 20), often underscoring negative impact (Black, 1994b; Hoerz, 1995a; Tamondong-Helin and Helin, 1991, quoted in Jacobsen, 1997: 20). To this end and to capture the various components of environment, it is prudent to categorise forms of impact into four generic categories: biosphere, lithosphere, hydrosphere and atmosphere; other categories that do not fall within any of the four are considered separately. The distinction Jacobsen (1997: 21) makes between refugees who "self-settle" and refugees "who are settled" is important because it determines their contrasting perceptions of, attitudes toward and utilisation of the environment. Western Africa is a classical arena where refugees have impacted negatively on different types of natural resources, as over one million Sierra Leonean and Liberian refugees fled across their borders within the Upper Guinea forest regions of Guinea and Cote d'Ivoire with fabulous tropical rainforest, clearing forests for farmland, felling trees for the construction of refugee camps, logging and mining (Bishop and Garnett, 2000: 8). This is the stereotypical example of refugees' environmental impact everywhere even without empirical research to support it.

Evidence of Environmental Impact in a Rain Forest Area

Four West African Guinea Forest countries — Liberia, Sierra Leone, Cote d'Ivoire and Guinea — provide cursory evidence of environmental impact of refugees and internally displaced persons in a forested area with all the natural resources, agricultural produce and other attributes that the area has (Table 3). The table is based on a "West Africa Trip Report" by a USAID team (Bishop and Garnett, 2000), which naturally only glosses more salient features. Negative impacts range from deforestation to water pollution, health hazards, declining agricultural land and production, timber and fuel wood shortages and loss of biodiversity; on apposite note, skills transfer between refugees and host populations and the inhabitants'

increased consciousness of their responses to environmental conditions are likely to rehabilitate the once devastated environment.

Table 3 Negative and positive environmental impacts of refugees and IDPs due to conflict in the Guinea Forest countries of West Africa¹

Environmental impact
A. Negative
Clearing of large tracts of land for settlement causing a decrease in tree and particular tree species (e.g. for timber and oil palm); causing soil erosion (by sun, wind and water), resulting in physical degradation of the top soil
Disturbing natural water resources and pollution
Health hazards
Dumping waste, mineral extraction and sand mining
Pit sawing and hunting
Decline in agricultural land and production hence food shortages and poor nutrition
Decrease in the quantity of wood for building and energy
Loss of biodiversity (esp. natural medicines and traditional domestic products)
B. Positive
Transfer of swampland development and cultivation skills from refugees to host populations
Importation of improved plant materials from Sierra Leone
Exchange of plantation management skills for perennial crops) between refugees and host populations
Transfer of entrepreneurial skills from refugees to host populations
People's increased consciousness

Note: ¹Liberia, Sierra Leone, Cote d'Ivoire and Guinea all of which experienced conflict and exchanged refugees and shared environmental impact outcomes.

Source: Based on Bishop and Garnet (2000).

Impact on the Earth's Spheres

The earth consists of four spheres where environmental impact of displaced persons manifests itself in various ways. Sometimes the impact cuts across all spheres, and at other times is limited to particular spheres.

Impact on the biosphere: The biosphere consists of flora and fauna that are exploited by refugees and IDPs wherever they have been settled. Diverse forms of impact have been observed.

Analysis of the subject should not dwell on the presence of refugees or IDPs per se as exerting environmental impact. Rather, it should incorporate the size and ratio of displaced persons to the local population, the relationship between the displaced

persons and the local people and the adequacy and appropriateness of international assistance provided to refugees, local people and host governments (Black, 1994a; Kibreab, 1991b; McGregor, 1993, quoted in Jacobsen, 1997: 20), which matter in the whole equation. Displaced persons exert impact on forestry and other vegetation which in turn impact on local communities; their engagement in deforestation is due to two main reasons: to meet their own survival needs for lumber to build shelter or for firewood, and to earn money through selling wood and charcoal in the local markets (Languy, 1995, quoted in Kalpers, 2001).

Some SSA case studies verify the nature and magnitude of the impact. In the two years 1994-96, Rwandan refugees from the camps plundered Virunga National Park in the Democratic Republic of Congo (DRC), cutting down about 36,000 million trees within the park boundary; between 410 and 770 tons of forest products (mainly wood for fuel) were removed daily; in Kivu Province in the same country, almost 38 square kilometres of forest were lost within three weeks of the arrival of refugees (UNEP, 2002, quoting UNHCR, 2001); in Ethiopia, surveys of firewood intake for household energy, camp market, stove utilisation and catering depleted forest cover; refugee camps in Kenya have been stripped clean of trees and vegetation; and Malawi's over one million refugees deforested their habitat to acquire farmland, firewood and timber for construction (Lynch, 2002: 20-21). Deforestation had grave consequences for the local population and refugees' long-walks for fuel wood and reduced cooking time risked their nutritional status (World Food Programme, 1998:6). A similar situation obtained in Gambela region of Ethiopia which witnessed massive deforestation at the hands of 200,000 settlers and refugees from Sudan (Kurimoto, 2005). A UNEP rapid assessment of the impacts of refugees on the environment in Guinea, through interviews, field visits and available reviewed materials reported over-exploitation and consequent degradation of natural resources and the disruption of traditional practices in refugee-hosting areas, with the depleted vegetation cover used for the housing construction, firewood and charcoal, both for domestic use and cash generation (UNEP, 2000: 2). A study of the Senegal River Valley found changes in vegetation and land cover, which depicted declining stands of vegetation in all ecological zones along the river (Black and Sessay, 1996: 61-64).

Fuel wood for energy and heating, which is a consequence of deforestation and degradation of land cover, is one area in which refugees and IDPs exert a negative impact. In western Tanzania, unhealthy competition between refugees and local hosts impacted adversely on the firewood usage: refugees used more firewood than their local hosts, they rarely put out fires between meals for lack of matches and their food was cooked for a much longer time because dried food rations took longer to cook than fresh crops (Whitaker, 1999).

Impact on the lithosphere: Land, in particular its utilisation for farming and other uses, has an important place in displaced persons' survival strategies. Where land is a source of contestation between agriculturists and livestock keepers or between refugees or IDPs and the local population, it has generated heightened tension, often resulting in skirmishes or even precipitating civil war. As the tendency is to locate refugee camps in semi-arid or ecologically fragile regions, most camps are overpopulated, resulting in rapid land degradation. Jacobsen (1997) observes that the resulting soil degradation triggers overuse of resources, including cultivated fields that have to suffer shorter than usual fallow period, overgrazing by refugees' livestock and long-term soil fertility or degraded rangelands became things of the past. In western Tanzania, the same trend took place and land usage rights arose as refugees farmed the land without rotation which the locals had observed before the refugees came (Whitaker, 1999).

Impact on the hydrosphere: Displaced persons have a major impact on surface and ground water bodies, water being a necessity in human life. Poor sanitation infrastructure led to waste dumps all over villages in Guinea and lack of pit latrines led to cholera and meningitis epidemics, which induced UNHCR, UNICEF and the European Union to develop potable water for villages adjacent to refugee camps (UNEP, 2000: 14-5), thereby benefiting both refugees and the local population. As relief camps are constructed under emergency conditions where haste rather than careful planning matters, wells are dug before the capacity of the aquifer feeding them is assessed, resulting in rapid depletion rates and/or decline in water quality (Hoerz, 1995a, quoted in Jacobsen, 1997: 25). There have been instances where refugees competed for scarce water resources, depleting the water sources and forcing the diversion of river courses to the camps, away from the villages (Whitaker (1999: 6).

Impact on the Atmosphere: Several activities by refugees result in interference with the equilibrium of atmospheric conditions. Unfortunately, this is a topic yearning for research, especially in SSA where the possibility of such research is rather remote given the divide that persists between natural and social scientists in the region.

The most often cited cause of climate change is deforestation which results in the escape of greenhouse gases on which trees rely. Conventional wisdom has underlined the point that increased levels of Carbon dioxide (CO²) allowed rainforests to grow more quickly, locking away extra carbon in wood or soil mulch. However, recent evidence from the Smithsonian Tropical Research Institute on Barro Colorado Island in the United States, suggests the opposite: that the tropical forests or the so-called “lungs of the planet”, are starting to grow more slowly, which implies that they may already be suffering from climate change and might not be able to lock away our CO² (Fox, 2007: 42). Thus research is not conclusive on what the past literature has underscored as conventional wisdom and further research might provide even more

The burning of forests and bushes, to provide room for settlement or farming results in the emission of gases that are harmful to human life. In the case of refugees and IDPs, it can be a great health threat as these displaced persons often live in crowded settlements. Moreover, in the absence of viable waste disposal facilities or carefully designed dumping sites, mountains of waste are a risk to environmental sanitation and a health hazard.

Impact on Biodiversity

Poaching by refugees led to loss of biodiversity. In Tanzania, both refugees and profit-seekers poached game in the game reserves, selling game meat in the camps; in some reserves, nearly 30 per cent of the pre-refugee game population was poached (Whitaker, 1999). Game-poaching is probably a greater problem than imagined in many countries because refugees are usually settled in marginal, highly fragile areas only habited by wild game. In Guinea, deforestation destroyed the ecosystem, resulting in the loss of indigenous plant and animal species (UNEP, 2000: 12). Where poachers target rare wildlife, as they did for the eastern plain gorilla (*Gorilla graueri graueri*) in the Kahuzi-Biega National Park, DRC, they decimated the animal

population (Kasereka Bishikwabo, 200 quoted in Kalpers, 200: 9), including the roan antelope (*Hippotragus equinus*) and the eland (*Taurotragus oryx*) Williams and Ntayombya, 1999, quoted in Kalpers, 2001: 9).

Other forms of Impact

Refugees are settled in several possible ways, but there are two most preferred: first, “self-settlement” or spontaneous settlement amongst the local community where they remain unregistered and depend on unofficial assistance from the local people; and second, “camp settlement” either voluntarily or relying on the support of the host government and relief agencies where they are registered, receiving official assistance (Zetter, 1995, quoted in Jacobsen, 1997: 21). The impact of spontaneously settled refugees is different from those formally settled because their responses in the environment are different. Jacobsen (1997: 23-26) observes that camp settlement precipitates environmental problems, initially with “start-up” costs of bulldozing to clear land for the camp and thereby destroying the resources in site; insatiable basic need of the camp population that depends on resources in the vicinity; the difficulty of satisfying the day-to-day operation of camps through the control of disease-carrying vectors (rats, mosquitoes and other parasites), using insecticides and pesticides that contaminate the soil and water for human beings and animals(Gurman, 1991, quoted in Jacobsen, 1997: 24); and water accessibility constrained by poorly planned supply sources.

Arrival of refugees adversely impacts infrastructure and development resources. A case in point is western Tanzania where the refugee influx forced refugees to sleep in the classrooms of border-area schools, burning desks as firewood, filling the available latrines and overstressing local health facilities (Whitaker, 1999). As people in dire need of help which often arrives late, refugees help themselves to anything that would make them survive, even if precariously.

The presence of refugees has been associated with an influx of diseases, as in western Tanzania where there were outbreaks of measles, high-fever malaria and intense dysentery, skin disease like scabies and worms and sexually transmitted diseases (STDs) including HIV/AIDS after refugees arrived (Whitaker, 1999). However, such associations could be spurious, especially because the area had epidemics of these

diseases before refugees moved in. Like all other migrants, refugees bear the blame about things for which they are hardly responsible.

Pollution is another environmental problem occasioned by displaced persons. Determined to subsist at any cost, displaced persons deliberately or inadvertently pollute surface water, in the process giving rise to infectious diseases that threaten both human life and wildlife (Kalpers, 2001;6).

Beneficial Impacts of Displaced Persons

Rarely do most policy-makers and programme implementers view the environmental impact of displaced persons in a positive light. A number of cases suggest that the intervention of donor agencies, host governments and the displaced persons themselves invariably impacts positively on the environment, and not least, economic, social and political aspects of the local community.

Self-settled refugees are often in constant contact with their hosts and in the process develop a strong modicum of co-existence in a variety of ways. In western Tanzania, refugees became a source of cheap agricultural labour for the villages thereby increasing the food base; their presence enhanced economic activity which provided new economic opportunities; the increased value of trees gave rise to reforestation by the host local population; the formerly sleepy district headquarters became beehives of economic activity and local trade increased substantially; and the new economic impulse created employment opportunities for the local people (Whitaker, 1999). In agricultural settlements in northern Uganda, refugees and locals not only intermarried but also engaged in livestock and land negotiations (Hoerz, 1996, quoted in Jacobsen, 1997: 26). Ethiopian and Eritrean refugees in Sudan had tremendous economic benefits for both themselves and their hosts (Harrel-Bond, 1986, quoted in Whitaker, 1999). These positive outcomes both for refugees and their hosts suggest that the presence of refugees in a host community is by no means retrogressive; invariably, it spurs socio-economic activities thereby benefiting both parties. These benefits are likely to be replicated in different host communities of refugees in sub-Saharan Africa, especially where there is ethnic affinity between refugees and the hosts, as is the case with ethnic groups divided by a common international border, to belong to different countries.

The need for expanding the food base induced refugees to cultivate and develop new irrigation schemes with local farmers in a number of villages in the Senegal River Valley, supported by the UNHCR (Black and Sessay, 1997: 64). This suggests that given opportunities to be proactive, refugees can provide impetus for the host-community development.

STRATEGIES FOR ASSISTANCE TO DISPLACED PERSONS

The responsibility of taking charge of refugees' welfare and more recently IDPs has for long rested with the UNHCR, humanitarian agencies, host governments, NGOs and even individuals. In many instances, the strategies of multiple agencies remain uncoordinated and duplication becomes renders them expensive and unsustainable.

The Role of Donor Agencies

Donor agencies tend to develop strategies for handling displaced persons within their own mandates. For example, the World Food Programme draws attention to lessons learned from multi-donor strategies by the Food and Agriculture Organisation (FAO), the International Fund for Agricultural Development (IFAD), UNHCR, the World Bank and development agencies of several developed countries. The eight lessons include: displaced persons as a threat to food security; the need for environmental screening for development to take place; the need for relief agencies to become increasingly subject to environmental review; proper understanding of the food basket items (e.g. type and age) which affect fuel requirements and resource use; the need for stronger inter-agency coordination during relief and recovery; requirement for technical expertise to help avoiding environmental threats; the need for WFP country offices to have guidance on the use and disposal of chemicals; and the need for recycling and green procurement procedures throughout the WFP World Food Programme, 1998). It is not known the extent to which such vital recommendations have ever been implanted through inter-agency arrangements.

Host Country-based Organisations

Displaced Persons' Own Initiatives

The role of donor agencies in taking care of refugees has had positive environmental impact which might have not been realised in the absence of refugees. Donors responded generously to government request for support of refugees in western Tanzania by rehabilitating more than 50 primary schools and 20 dispensaries, expanding four district hospitals and improving or installing 120 water systems; constructing a community centre; and building several teacher resource centres (Whitaker, 1999). In the Senegal River Valley, irrigated farming involving both refugees and the local people emerged with the support of external funding, providing income-generation opportunities for both parties (Black and Sessay, 1996: 64).

CONCLUSION

In spite of probably more negative than positive environmental impact of displaced persons, all manner of environmental problems should not be attributed to them. The positive impact, due largely to displaced persons' service providers, are unsustainable as the sources of support are eventually bound to dry up. As environmental impact assessment needs to be an in-built, rather than a sporadic affair, it should be incorporated in the strategies for handling displaced persons' welfare. In concurrence with the UNEP (2000) position: "There is a need to establish and understand the state of the environment before the arrival of refugees and to initiate a preliminary identification, quantification and location of the most degraded areas in order to prioritise areas in need of assistance". Attributing all environmental woes to refugees and IDPs might in fact amount to blaming the helpless and defenceless even for deteriorating conditions that predate their arrival. Research and policy necessarily become bedfellows in this regard as they endeavour respectively to depict and act upon informed knowledge, including well-tested technological innovations.

The theme of this workshop provides a timely challenge for not only AMA but also its other African counterparts, the AU and NEPAD to sponsor well-designed research on inter-linkages of climate change, environment and migration in sub-Saharan Africa. To this end, AMA should reach out to the Inter-governmental Panel on Climate Change (IPCC) to embark on research, dialogues and workshops on the inter-

linkages. It is a theme which invites multidisciplinary approach to issues that are multidimensional and whose complexity demands ingenious treatment.

It is time that the debate moved away from taxonomic distinction between SSA's refugees and IDPs. That the two groups are fluid and change by dint of occurrences in origin and host countries or communities implies that the term "displaced persons", which embraces temporal and spatial perspectives of forced migration in SSA, depicts a better and more holistic meaning than does the taxonomy that might be a relic of the region's historical past.

We might do well to revisit the definitions and the kind of services rendered to refugees and IDPs in sub-Saharan Africa. It might be more appropriate to use the more embracing concept "displaced persons" and structure services to them and view their environmental and other impacts more broadly than hitherto.

Special attention needs to be drawn to SSA's IDPs because, as Cohen (2000) warns, IDPs in Africa are disadvantaged twice: because they are IDPs and because they are Africa IDPs. African governments ought to monitor their environmental impact, which they need to factor in national development programmes.

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