Development Priorities for the Nile Basin Countries: What Difference can the Nile Basin Initiative Make?

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Abstract:

This paper is part of a larger project I am currently conducting as my Ph.D. research on the 'Hydropolitics of the Nile Valley: Population Dynamics and Environmental Stress (1952-2002), the Cases of Ethiopia and the Sudan'. The research major concern is to examine the linkages between the Nile and its wider environment (the dynamics taking place in the riparians territory) by focusing on the demographic and climatic factors.

The premise that this paper follows is that the ill-planned inequitable economic development strategies in the Basin have led to severe environmental degradation. The consequent drought of the 1980s had come as the *coup de grace* leading to the collapse of subsistence economies and mass displacement of population. The 'natural' hazards in the Basin have made of population movements a pattern inducing an unprecedented 'urbanisation' that will affect the river waters both quantitatively and qualitatively. The current climatic models suggest that change will persist in the form of drought. Given the current trend of population movements the persistence of drought is more likely to lead to concentration of population along the midstream and upstream parts of the river, hence changing their demographic-political map. Given the rapid increase of population this will add more pressure on governments to adopt alternative strategies for food security, resettlement, equitable development and environmental protection. Addressing the question of drought control, among others, the Nile Basin Initiative (NBI) carries a potential of reversing the prevailing pattern of development in the Basin. This paper questions this potential as it is outlined in the NBI 'Strategic Action Program'. It proceeds on in order to figure out what development priorities would it allow?

1. Introduction: The Nile Basin Initiative: a new condition, a new thinking:

The time of critical ordeals has already flooded the Nile Basin with the germs of conflict. It is only through alternative development imagination and a radical filtering of politics from the burden of history of suspicion and mistrust that the plants of conflict resolution, co-operation and an ever-increasing integration could grow and be irrigated in a sustainable manner. Does the Nile Basin Initiative (NBI) provides for a condition that allows for alternative development and the overcoming of the burden of history of mistrust?

Unlike the previous co-operative initiatives among the Nile co-riparians the NBI is taking place in a different condition characterised by political, environmental and demographic upheavals both at the international and regional levels. The consequences of these upheavals at the international level manifest in the shift in the modalities of the previous condition. Aspects of this shift were observed by many analysts of the Nile hydropolitics who accordingly advocated for reconsidering the previous perceptions that reshape the relationship among the Nile riparians. Yahia Abdel Mageed (1994), a Sudanese international water analyst sees that the condition of the post-cold war politics would bring a new thinking in dealing with the issues of the Nile waters. Ábdelmalik Owda (1999) an Egyptian water analyst reflects on the assertion of the new agenda of environmental protection and the shift in the strategy of international actors towards the Nile Basin. The Ethiopian viewpoint, represented by many analysts (see Tadesse 1998, Omer and Takele 1998, Wolde Amanuel 1993), had already asserted environmental protection while appealing for the principle of equitable water sharing, and change in the old attitude of the riparians. The

environmental stress implicates all the Nile riparians into new problems (see Okidi 1996), therefore, necessitates due consideration for a new formula for sharing the Nile waters. The severity of the environmental stress in Africa has affected the states' behaviour and necessitated inter-state initiatives and finally "led to the establishment of the Permanent Inter-State Committee on Drought Control in the Sahel (CILLS) in Western Africa and the Inter-Governmental Authority for Drought and Development (IGADD) as the East African counterpart." (Okidi 1994: 163). The states that have engaged in such initiatives have already realised the severity of drought; corollary, it has become one agenda that affect their internal and external policies.

The proponents of environmental security see that the current condition is radically different from the previous one. In the viewpoint of these proponents the imperatives of the old geopolitics (with its emphasis on national security) have given way to environmental geopolitics (with its emphasis on environmental security). The superior modality of the Cold War geopolitics with its strategic imperative and military threat was replaced by a less superior modality characterised by the absence of military threat and threat is perceived as environmental one (Porter 1998) that necessitates co-operation at regional and global scales. Under these circumstances, collaboration among states is both considered as a necessity and a better means for achieving their goals. As Nakayama (1998: 184) would argue, states need to collaborate in order to preserve the environment besides achieving other interests. One major factor that is assumed to contribute to development is aid, which the states through co-operation may collectively obtain more than individually. Under this condition sustainable development has become more and more appealing, and, moreover, is determinant to whether states get funds for their hydraulic works or not. This condition assigns a more significant role to international agencies such as the World Bank to play their role of mediation, assistance of riparians in developing and managing water resources and facilitating the implementation of treaties (Nakayama 1998: 185). What qualifies this argument is the viewpoint, which sees that the determinants of geopolitics and their terms of reference were replaced by the 'geo-economic' modality where economic priorities replace the old strategic imperatives (Luttwak 1998).

At the regional level, the NBI also comes at a time when the previous development ambitions started to face critical ordeals. Until before the 1990s the reasonably held anticipation in the Nile riparians was to overcome the condition of underdevelopment, forge ahead and catch up with the advanced societies. The context that gave rise to this anticipation, in my view, was characterised by (1) the prevalence of the development discourse and its promises of steady and uninterrupted development; (2) the abundance of natural resources that justifies the development potential; and (3) the sustenance of subsistence economies that maintains a relatively balanced population distribution. This context has made both Ethiopia and the Sudan to develop great hopes on their abundant resources and to claim to be the breadbaskets for Africa, therefore, the promises of achieving food security were considered highly to become true.

As with regard to the riparians contest for the Nile resources the previous context was characterised by nationalistic assertiveness (Hultin 1995) oriented by unilateral thoughts and actions (Arsano 1997: 35), which at one level appears more as a contest for future shares of the Nile waters than as a real need based on a real feasibility study. That very contest was driven by a sense of insecurity that the then condition cannot maintain. Thus, whereas Egypt and the Sudan, bound by an agreement, founded their contest for the Nile waters on real needs, Ethiopia was driven by the awareness of its future needs and, therefore, it was not ready to risk its unutilised resources (Tilahun 1979). Given the then imperatives the context

was characterised by either engaging in bilateral arrangements for the Nile (as between Egypt and the Sudan) or otherwise by not engaging in such arrangements (as was present in the Ethiopian stand). While Egypt and the Sudan see that their 1959 'Full Utilisation of the Nile Waters' agreement can be the foundation for any future agreement among all riparians, the other riparians, especially Ethiopia, contest for new arrangements. The agreement between Egypt and the Sudan has been a source of tension between these two countries and Ethiopia which sees that the consequence of that bilateral agreement was meant to dismember Ethiopia and establish hegemony over it (Tilahun (1979: 26). In short, it was a context of tension and mistrust maintained by the dynamics and divide of the Cold War where Ethiopia and Egypt had never been in the same camp. That was the old formula of the Nile Basin politics.

Soon after the 1980s encroached the reverse of what characterised the previous condition has taken place and a new formula in the Nile Basin seems to be in the making. The Developmentalist State has discovered the hollowness of its agendas and was faced by the turmoil that questioned its very legitimacy. The development anticipation started to slowdown and shifted from the ambitions of steady development with all its promises to a concern about control and management of the crises created by the process of economic development itself (see Ahmed 1994). Agricultural policies in the Sudan had been disastrous and were best described by a Sudanese political scientist as ‘cultivation of hunger’ (Ali, 1989) and politics in general has been described as an ‘addiction of failure’ (Khalid, 1990). "The 1980 was truly a decade of political turmoil and deepening political conflicts. Increasing foreign dependence, food crisis and social disintegration during the first half of the decade sharpened conflicts and led to collapse of the ruling alliance and a reorganization of the power bloc after 1985" (El-Mekki, 1990, 8).

In Ethiopia the imperial government, in its first and second five years plans had given no attention to agriculture, being the pillar of the Ethiopian economy. Despite the fact that attention was given to agriculture in the third five years plan (1969-1973) with a scope of regional development, the latter did not materialise. Modernisation largely centred on strengthening the ruling land-owning classes and the emerging urban elite in and around Addis Ababa to serve the overriding concern of unifying and consolidating the empire (Gebre 1985: 39). Following the imperial regime, the Dergue policies had radically disturbed the economic, political and social fabric of the Ethiopia peoples mainly because of their focus on ideology and organisation rather than on increasing production (see Stahl 1990: 8). The misguided policy of the regime has resulted in acute retardation of the economy manifested in the decline of per capita income by 0.8 per cent per year between 1974 and 1990 primarily because of the poor performance of the agricultural sector (Asefa and Hussen 1997: 671).

The state policies in both countries have resulted in an acute environmental degradation that transformed the abundance of resources and generated a severe condition of vulnerability. It has triggered the shift from a development discourse to other-than-development discourses and pushed the latter (whose ingredients have been structural to the post-WW II state discourse) from the margin of national politics to the stage of domination. The development epic has given way to the ethnic and religious ones to come to the position of dominance. Conflict over resources in the Nile Basin has taken a different trend that questions the post-colonial designs of associating development with a central government responsible for mobilising people around the cause of nation building. The collapse of subsistence economies and displacement of the rural structure, as the climax of the rural impoverishment, has been the major cause behind this divergence. It has transformed the previous balance of population distribution.

Setting development priorities for the Nile Basin countries necessitates figuring out the magnitude of the above changes and the dynamics of the current condition as consequences of the development policies and their effect on existing resources. Moreover, it necessitates figuring out whether the NBI, as a general co-operative framework, provides for an action programme that is aware of the current dynamics, therefore, provides for a condition for setting development priorities in the first place. The Nile water being the prominent resource, at least for the three major contestants (Egypt, Ethiopia and the Sudan), should therefore be seen in relationship to the current socio-economic dynamics taking place in the wider environment comprising the total territory of all riparians.

Thus, in order to see what is new with the NBI this paper elaborates on the current condition (by taking the cases of Ethiopia and the Sudan) as condition that impedes any development plan. The paper moves on to see whether the NBI has overcome the old development imagination that has maintained the old formula of the Nile Basin politics. The major concern of this paper is, thus, to see how the repercussions of the development process, accelerated by drought and land degradation in Ethiopia and the Sudan have affected the Nile water by bringing, in the 1980s, the wider environment (the non-riverine zones) into the Nile's vicinity. Among the many aspects of changes in the old formula of the Nile, this paper will emphasise the change in the demographic formula by illustrating the trend of population movement to the river vicinity and the 'urbanization' process that necessitates using the Nile's waters for catering for the needs of the rapidly growing urban areas. The paper sees that the literature on the Nile has not yet adequately handled this development.

2. Understanding Change in the Nile Basin:

Two broad perspectives on interpreting change in the Nile Basin can be figured out; one emphasises the demographic factor and one appeals to the political economy of a country. The cause of change for the first perspective was attributed to the rapid increase of population and was presented as the cause of water stress and ultimately water scarcity. A more concrete representation of this view is present in Davies'[1] (1984) attempt to understand the current desertification in the Sudan. Davies (1984: 136) gives greater weight to the demographic factor and what was considered, in his analysis, to give credibility to this factor is the fact that for the last 2500 years the climate in both Egypt and the Sudan has been similar or fairly close to the present one. “Thus, though the Nile Valley has seen great changes during the past forty years in environmental, economic, social and political conditions, many of the difficulties and the problems in their present guise are in fact old ones expressed in a new way. Periodic droughts has affected the Sudan down the ages, but *today the new dimension is a much larger rural population on the desert margins than ever before*; the use of the Nile waters to their capacity merely caused the river to present new challenges to the riveraine peoples.” (Davies 1984: 152, italics is added). In the above kind of analysis, man-made desertification or man misuse of land is predominantly attributed to increase in population (see Davies 1984: 135) and not to a political economy that has normalised enforced displacement and overwhelmed the marginal lands. It projects the Nile and the wider environment outside its riverine zone (in this case the desert) as two worlds where the resources of the former are just enough for the riverine population while the poor rural population whose rapid increase has caused degradation remain responsible for what they have caused. This kind of analysis, therefore, treats the two components of the Nile

[1] To be fair for Davies, his paper under focus cannot be taken as representative to his contribution on discussing several issues in the region.

and the desert, to use Dalby's (1998: 197) words "as completely separate in terms of economics" and that "Poverty and affluence are only connected where poverty is seen as a threat to the affluence…". How the riverine people have sustained their system while the rural population failed to do so remains unanswered.

The underlying philosophy behind this analysis is more likely to institutionalise a dichotomous opposition between nature and culture. This philosophy ends up by reifying the climate change and stamping the environmental problems with a naturalistic characterisation (Bush: 1997: 506) that informs the current states' policies of resource use and control. The geographical determinism that preoccupies this analysis establishes for a spatial exclusion (Dalby 1998: 202). It sees economic problems of a country as one of merely geography versus demography, therefore, obscures issues of powerlessness and social inequality (Bush: 1997: 506). It ends up increasing existing poverty by dismantling state support for agriculture (Mitchell 1991). This perspective is not adequate for understanding the dynamics in the Nile Basin, therefore, providing solutions to the resultant problems.

A counter perspective would see the dynamics in the Nile Basin differently by attributing it to the modernisation process whose effect does not recognise borders inside a nation. The modernisation process has generated a global imbalance in the use and control of natural resources through restructuring the 'pre-modern' economies and structurally linking them to the modern ones. "The process of restructuring involves a geographical process of 'uneven development', whereby the fortunes of places change rapidly, but within a well-recognized overall structure. Basic to the geographical structuring is a division of the capitalist world into two main zones - a core and a periphery." (Johnston 1996: 30-31). Thus, in the same way as this process generates abundance it generates scarcity and different regions within the nation-state are affected differently. Besides the fact that the restructuring process has resulted in a fragile economy in the periphery relative to that of the core, the economies of the periphery are physically fragile to the penetration of the capitalist mode of production (Johnston 1996: 31, 105).

The effect of this structural relationship is responsible for exacerbating local causes and levels of environmental degradation (FitzSimmons *et al* 1994: 211) where "the processes of uneven development operates at a variety of spatial scales, producing complex maps of economic power and complex movements and profits." (Johnston 1996: 31). The maps of economic power reshape the political ones and determine who will benefit from the exploitation of natural resources and who will bear the burden resulting from that exploitation. "The distribution of the burden of degradation of the environment, like that of any other good or bad produced under capitalism, tends to be very unequal between rich and poor." (FitzSimmons *et al* 1994: (11). Most of the victims to environmental disasters are the rural poor who have been subjected to destitution and mass impoverishment (Mohamed Salih 1999: 4).

Ethiopia and the Sudan have experienced this modernisation though in different degrees. As a result, Ethiopia experienced a whole set of environmental problems due to political conflict and environmental destruction resulting from nomadic herding (Ethiopia 1993, also see Cernea 1990, Markakis 1998). Behind the political cause of environmental problems lie the issues of uneven distribution of national wealth. According to Markakis (1998: 136) it is the stark impoverishment that underlay Tigray political alienation. He states that "Under the imperial regime, precious little investment for economic development went to the old Abyssinian provinces, and to Tigray none at all" (Markakis 1998: 133). With reference to

nomadic herding, it is the state's agricultural policies that had contributed to environmental destruction as the nomadic herding has always been in Ethiopia. In this regard, the introduction of modern agriculture in Ethiopia though limited in scale, has contributed to land degradation. According to Kumar (1987: 21, footnote 28) "Large tracts of good land in the Awash Valley were taken over during 1970-71 by foreign-owned companies for growing commercial crops, particularly cotton and sugar, and this obviously led to a serious reduction in grazing land."

The Nile engineering in the Sudan had contributed to creating regional disparities whereby the river's zone has hosted the major development projects that have enriched its vicinity, while the remote regions were left to negligence. As a result, the concentration of development in the river's vicinity has been a factor of displacing the then traditional farmers and pastoralists who were pushed to (and overwhelmed) other marginal lands. The final consequence of these developments was the degradation of these marginal lands setting at risk the communities that dwell in them. The steady expansion of large-scale agricultural schemes has made of displacement of population a pattern taking different forms. The development of the river has implied the expropriation of land, displacing, dislocating - relocating its dwellers into marginal land or through expropriation and enforced dislocation – relocation. The consequence of these are other forms of displacement created by the economic disparities between the modern and traditional sectors generated by the expansion of large-scale agricultural schemes and the great anomalies in production systems it has created and the environmental hazards it has generated (Abu Sin 1995: 13). Referring to the case of the Sudan, Abu Sin (1995: 15) states that "The traditional sector, which supports more than 70 percent of the population, must scratch at meager and degraded natural resources; hence, it is rapidly losing its means of sustainability. A process accelerated by excessive drought conditions, low technological input, and so on".

In both Ethiopia and the Sudan state policies have contributed to the degradation and unequal distribution of resources as two factors which together with population growth create scarcity and incite conflict (Postel 1996: 35). The idea of unequal distribution implies an institutionalised restriction of access of some actors while maintaining the right to access to others.

Having abbreviated on the causes of desertification and land degradation, in Ethiopia and the Sudan, for the rest of the paper I will be concerned with elaborating on (1) the magnitude of drought and desertification and land degradation and their consequences of food insecurity and the resultant new condition of displacement; (2) how they might increase the demand for the Nile waters and affect states' attitudes; and (3) what are the necessary development priorities to overcome the consequences of these together in the light of the NBI Strategic Action Programme.

3. The Magnitude of Drought, Desertification and Land Degradation:

Out of 3257 million hectares of all productive drylands (rangelands, rainfed croplands, and irrigated lands) in the world that is desertified early 1980s, the share of Africa alone adds up to 878 million hectares (26.95 percent of the total). This figure makes up to around 84% of the productive dryland in the continent. The Sudano-Sahelian zone, where both Ethiopia and the Sudan lie, shows the highest percentage of the productive dryland affected by desertification. The total area affected adds up to 473 million hectares, 88% of all productive drylands in this zone. The closest highest percentages are in Mediterranean Africa (83%), Western Asia (82%) and Southern Africa (80%) (see Gleik 1993: 273, also see Williams and Balling Jr 1996: 11). Out of all regions in the world, the Sudano-Sahelian

Africa remains the most critical by all standards. Referring to the Nile, Mageed (1994: 159) states that “in the last two decades many parts of the Basin have been affected by the persistent drought which struck the African continent from the Sahel in the west across the savannah belt in the Sudan and Ethiopia in the east. Even some pockets in the interior of the Basin in the equatorial region could not escape the terrible effects of drought.” Mageed (1994: 159) continues to say “The arid and semi-arid regions of the Basin are now experiencing a serious breakdown of the environmental fabric and the spread of desertification along with the collapse of socio-economic systems.”

At a much concrete level in the Sudan the region that was hardest hit by drought and desertification lies between latitudes 12 and 18 comprising an area of 650,000 km^2, or 25% of the total area of the country (Eltigani 1995: 1). Of significant importance to mention here is that “The region affected by the drought produces 90 percent of the country’s agricultural crops, 95 percent of food crops and oil seeds, and 85 percent of firewood.” (Eltigani 1995: 1-2). Moreover, this region accommodates 80 percent of the livestock in the country (Abu Sin 1995: 16-3). Thus, drought has inflicted severe repercussions on farmers and nomads who make up to 70 percent of the total number of population in the country, whose traditional economy is subject to greater environmental hazards and who are at greater risks of concentration and displacement than those who dwell in the areas of the modern sector (Abu Sin 1995: 15). In terms of environmental degradation the Sudan is an example of how things can get out of hand before anyone realises. Since around 1965 the annual demand for wood had outdistanced supplies and the forest had contracted by a fifth (Whitaker 1988: 140). Writing in 1988, Jennifer Seymour Whitaker continues to state that “in the next twenty years, only an extra ordinary effort at tree planting and family planning can prevent the decimation of the remaining woodlands.” This effort has never taken place partly because of political instability and deteriorating economy.

The effect of environmental problems in Ethiopia is similar to that of the Sudan if not much harsher. Similar to the Sudan, the region that represents the pillar of the Ethiopian economy is witnessing severe environmental degradation. "Ethiopia presents an extreme example of erosion’s progress. In that country’s central highlands, which support about 80 percent of the nation’s people and 70 percent of its cattle, more than a billion tons of topsoil erode each year, contributing to an astounding national erosion rate that is 137 times the world average. The cost of fertilizers to replace nutrients in soil eroded away in one year would be more than $1 billion." (Whitaker 1988: 142) In 1973 the distress of the pastoralists had accentuated by the loss of animals had its causes in drought or displacement from traditional grazing grounds (Kumar 1987: (1). Soil erosion, in Ethiopia, is estimated to mount to a loss of 80,000 hectares per year, a considerable size of land enough to feed 66,000 families (Kumar 1987: 52). According to Fukui (1997: 662) "It was estimated that over [1.285] billion tons of top soil is washed down from the Ethiopian Nile Basin every year. If converted into hectares of sugar cane and priced, the value would be more than 325 million US dollars per year".

The consequences of drought and land degradation surfaced soon after the 1980s decade started, reaching their peak in famines in Ethiopia and the Sudan simultaneously in 1984. These consequences have led/will lead to radical changes in the demographic map in Ethiopia and the Sudan. The effect of these, however, has hit all the Nile riparians in different degrees.

3.1. The consequences of environmental changes:

3.1.1. Food insecurity:

The consequence of environmental changes in the Sudan could be seen in the decline in the yield of the three main crops, i.e., sorghum, wheat, and millet; where the first two are shared by both traditional and modern sectors while the latter is predominantly cultivated in the traditional sector.

> Overall, sorghum's yield per acre decreased by 32.9 percent, and the total area under sorghum cultivation decreased by 10.6 percent. During the drought of 1984-85, the fall of yield per acre can be attributed mainly to the decrease in output. The effect of the drought was more pronounced on millet: despite a 3.3 percent increase in area under cultivation, crop output fell by 49.7 percent, resulting in a 51.3 percent decline [in] yield per acre compared with 1983-84. Wheat's area under cultivation decreased by 67 percent during 1984-85 when compared with the previous year, probably because of the poor rainy season in Ethiopia, which affected the level of the Nile and the amount of water available for irrigation. (Mahran 1995: 63).

The effect of drought on livestock is enormous. If we take the western regions of the Sudan, Kordofan and Darfur, in terms of livestock, it was in 1984/85 that these regions hosted a total herd of 8 million cattle, 7.2 million sheep, 6.2 million goats and 1.46 million camels. This represents respectively 38%, 36.2%, 43% and 48% of the country's total herd indicating the importance of these regions as livestock producing areas of the Sudan. The severity of drought in these two regions is significant where their northern provinces, according to the estimation of the Regional Departments of Animal Resources in 1986, had lost two-thirds to three-quarters of their livestock (Verwey 1989: 323). In combination with failure of crops this had resulted in the famine of 1984 which had tolled the lives of 250,000 people (see Markakis 1998).

The consequences of drought in Ethiopia are tremendous. "A recent study of the vulnerability of the country to the onset of famines makes the astonishing estimate that, between 'two and five million' people died between 1958 and 1977 as a cumulative result of the destitution induced by drought, bad harvests and famine." (Kumar 1987: 6). Like most of the authoritarian regimes the imperial government in Ethiopia had contributed to the spread of famine either because of its discriminating policies or because of its denial of the facts about the famine despite the signs of distress, the peasants demonstration pleading for food and the attempts of the intellectual at Addis Ababa University to rouse the authorities to take action against the spreading famine (Kumar 1987: 10).

If this reflects the dynamics of a feudal society with its fatalistic ideology, it must not be acceptable in the current times whereby the development discourse prevails, orients state's policies and oblige it with responsibilities and entitlements to right to life of its own citizens. A case in point is that these very developments would not allow the continuity of the feudal mentality. The denial of the famine and the subsequent delay of relief "ultimately helped to bring about the fall of the imperial regime." (Kumar 1987: 11, also see Markakis 1998).

Famines have continued to feature in Ethiopia despite the revolutionary change under the Dergue regime. The famine of 1984-85 was likened to the 'Great Famine' where, according to the Rehabilitation and Reconstruction Committee (RRC) report, 7,168,180 people were affected (Kumar 1987: 72). During this time, famine developed to full maturity and killed more than one million peasants and their families, despite the mammoth Ethiopian institutions such as the Relief and Rehabilitation Commission entrusted to prevent the famine (Wolde-Mariam 1991: 5). Many factors had contributed to the loss of harvest such as the dramatic loss of cattle, the sharply reduced availability of seeds, and the continuing erratic behaviour of the weather. In the provinces of Wollo, Tigrai and Eritrea the output was drastically curtailed and declined from normal levels by 70, 60 and 45 per cent respectively. The prime producing areas of Arssi, Gojjam and Shewa had by then undergone

the spread of drought that had wiped out any potential surpluses that may otherwise have been available for distribution elsewhere (Kumar 1987: 34). “The chronic problems of food shortage and starvation which have thrust Ethiopia into the limelight as the most famine-prone country at the end of the twentieth century” (Wolde-Mariam 1991: 4).

3.1.2. Displacement and Population Concentration:

Sudan: The drought of the 1980s, in the Sudan, had come as the *coup de grace* leading to the collapse of subsistence economies and leaving the population of the marginal environment with the option of moving *en masse* towards the river vicinity adding a new burden to its waters. The 1980s and 1990s have already brought the reverse to the Sudan’s claims of being the breadbasket for African and the Middle East and the country has become among the worst cases on world scale in terms of satisfying its own food needs. “Concentration on export crops had put great pressure and practical constraints on the use of human and natural resources to produce food. In the long run, this has led to food shortages and famine and has triggered an unprecedented mass exodus from rural areas to urban centers.” (Hassaballa and Eltigani 1995: 28).

Drought that had hit eastern and western Sudan in the 1970s had caused according to Markakis (1998: 90) "heavy losses of livestock, and many impoverished Beja pastoralists were forced to abandon their traditional way of life". Referring to western Sudan, he continues to say "When people began to starve in Dar Fur, their only option was to move to the central *riverine* region, an immense distance." (italics is added). Displacement in the Sudan has taken its serious course in the mid-1980s when the country has faced one of its most severe famines in its post-independence history. “During the drought of 1983-85, the rural societies that had been pushed into fragile ecosystems were the first to starve. As quickly as possible, they moved to the national capital seeking food and shelter and trying to draw attention to their plight.” (Hassaballa and Eltigani 1995: 7 3).

Although drought has affected both modern and subsistence economic sectors, failure in the subsistence economies has been the major cause of displacement. The logic of concentrating economic development in the centre that has been the cause is unlikely to change, according to Markakis (1998: 91) who continues to say that:

> conditions that turn drought into famine have not improved; indeed, they have worsened...Among those at risk of food deprivation were the displaced who congregated in the region of the Three Towns (Khartoum, Khartoum North, Omdurman) since the famine of the mid-1980s. Many of those who made the trek from the far west to escape starvation never returned to their homeland, finding refuge in the sprawling slums that mushroomed around Sudan's principal towns.

The difference between the 1970s and the two decades followed is that the latter indicate a total collapse of subsistence economies and poverty and famine have become the norm. “Despite Sudan’s enormous potential the Sudanese people have been plagued by poverty and, since the early 1980s, by persistent famine.” (Eltigani 1995: 1). The reaction to this situation is the movement of population towards the central riverine regions as stated above. Table (1) shows the percentage of the population in- and out-migration in the three selected (3 out of 4 most populated) regions in the Sudan, to indicate the pattern of movement from non-riverine to riverine zones.

Table 1: in- and out-migration Rates from Selected riverine and non-riverine regions in the Sudan:

Region	In-migration	Out-migration
Khartoum (riverine)	24.0	10.0
Central (riverine)	6.5	2.8

Kordofan (non-riverine)	1.9	5.9

Source: 1983 Census Data, Dept of Statistics, Khartoum.

It was Davies (1984: 133) who observed that within twenty-five years following the signing of the 1959 Nile Waters agreement, the population of the three towns of Khartoum, Khartoum North and Omdurman increased from quarter a million to one million. With urban rate of growth of about 7 percent common in Africa he saw that the urban population will double in ten years time. Should these rates maintain, he predicts that, by the end of the century the three towns would contain nearly four million people. The dynamics of resources on the Nile Basin, particularly in the Sudan, seem to be much faster than complying to Davies predictions. Ten years before the end of the century the population of the three towns of Khartoum, Khartoum North and Omdurman has already been well at four million due to the mass migration between 1983 and 1990 (Hassabala and Eltigani 1995: 33). Table (2) shows the total number and the percentages of the internally displaced persons (IDP) in Khartoum (Khartoum, Khartoum North and Omdurman) between 1988 and 1998.

Table 2: figures of the Internally Displaced Persons in Khartoum.

Year	Total Population (millions)	Number of IDPs (millions)	IDPs as % of population
1988	2,110,000	1,800,000	85
1993	3,512,145	750,000	21
1998	4,372,000	920,000	21

Source: Kawther Bedri 1998.

In the 1980s and 1990s the Sudan has hosted the highest number of internally displaced persons in the world. Available statistics shows that in 1988 the total number of the displaced reached approximately 6.8 million. This figure constituted 29.1 percent of the total population of the Sudan, a very high proportion by all standards. Out of this number those displaced by drought represent 11.2 percent, while those displaced for security reasons represent 17.6 percent (Mahran 1995: 64).

The historical determinism of the Nile to growth of urban areas has been more or less the cause for the current population congestion in these urban areas. “The Nile River cuts across the ecological zones that house all the population engaged in the vulnerable traditional sector. Because of its valuable water and soil resources, it also accommodates modern-sector activities and is the refuge of the surplus population discharged from the traditional sector.” (Abu Sin 1995: 14). Six out of the ten biggest cities in the country (Table 3) are on the Nile or its tributaries. All ten cities have shown a rapid population growth. Apart from a cluster of towns along the river’s banks, by virtue of the majority of big cities being on the river’s banks, it is possible to argue that the population, in general, is increasing along the river’s banks than away from them (see Figure 1).

Table (3) urban growth in the major ten cities in the Sudan.

Year	Khartoum	Medani	Port Sudan	Kassala	El Obeid	Wau	Malakal	Juba	Fasher	Atbara
1955	260599	50171	54676	39784	5 7922	8580	11264	11352	28145	36536
1964	459977	66358	86123	68108	63831	------	------	------	41312	49924
1973	782940	106715	132632	99652	90073	52750	34894	56737	51932	66116
1983	1343007	144802	205028	140493	130023	91010	31737	85168	84298	72919
1993	2831384*	218714	305385	234270	228096	82262**	70840	114980	141777	89280

Source: Ahmed, M.El Jack (1997: 15).

*Apparently this figure does not include the displaced in that year, the reason that it is not matching with the one in Table (5).

**Wau is showing a negative growth in population mainly for the high insecurity because of civil war.

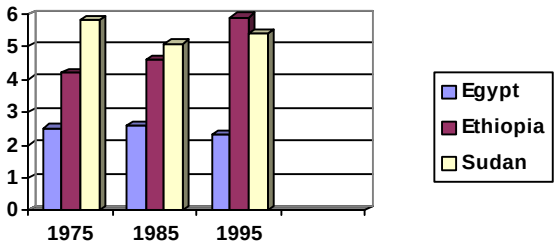
Figure (1) Receiving areas for displaced population in the Sudan.

((map of the Sudan))

Source: M.E. Abu Sin (1995).

The high rate of urban population growth in the Sudan (see Chart 1) and the growth of these cities, in particular, suggests that the bulk of the population within the next few decades will be living in these riverine cities. The former demographic formula is radically transforming from a contrast between Egypt concentrated population along the Nile and the Sudan relatively pronounced dispersed population (Waterbury 1979: 9) to a rather similar situation in both countries given that the population movements will maintain.

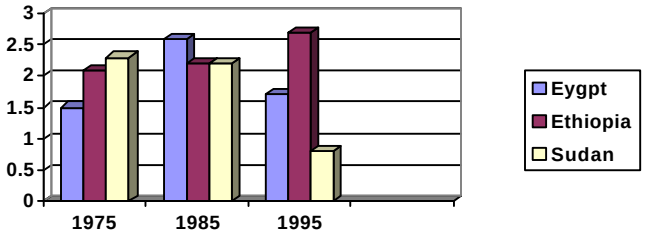
Chart (1) Annual Urban Population Growth Rate in Egypt, Ethiopia and the Sudan



Source: adopted from tables on Egypt, Ethiopia and the Sudan, UN, Department of Social and Economic Affairs, Population Unit 1998.

Chart (2) shows the decreasing rate of population growth in rural areas as compared to the other two major riparians. Discussion on the effect of drought, thus, should give way to discussion on the Sudan as the midstream of the Nile River system – a transforming environment featured with the collapse of pastoralism, subsistence farming, change in crop policies and crop cycle in government schemes, etc. The Sudan case, in this regard, will both give an understanding of the past of Egypt and a forecast for the future of the upstream, particularly Ethiopia.

Chart (2): Annual Rural Population Growth in Egypt, Ethiopia and the Sudan



Source: adopted from tables on Egypt, Ethiopia and the Sudan, UN, Department of Social and Economic Affairs, Population Unit 1998.

Ethiopia: The most significant feature of the Ethiopian landscape that can have the potential effect on the Nile waters is related to land reforms in this country. It was argued that "By the 1960s it had become clear that the existing land tenure systems were the single greatest obstacle to agricultural development."(Subramanian 1998: 169). Land Reform Act

of 1975 had brought this to an end by eliminating many of the basic problems inherent in the pre-revolutionary agricultural system where all private ownership of land by individuals and organizations was prohibited. Tenancy was abolished and peasants were set free from all obligations to landowners and those who were willing to farm were to be given land. The newly established peasants associations had to allocate 19 hectares to each household with the right to use land and not to fully own it nor employ other people to work on it for them (Jemma 1997: 164, also see Kumar 1987: 3). Land reforms raised the expectation that the development potential of Ethiopia will become a reality and that the life of its rural population be substantially improved. In line with these reforms it was anticipated that the peasants through the medium of their institutions would exert a significant influence on both local and national decision-making processes that affect peasants lives and rural development (Jemma 1997: 163, also see Subramanian 1998: 169). Subramanian (1998: 174) observed that "The distribution of land established in the land reforms since 1974 has great potential for agricultural growth if the governments build upon it effectively" observed it. In reality, the situation in Ethiopia went different and instead series of food problems had taken place. Drought has played a significant role in accelerating these problems and famine had hit Ethiopia despite the hopes of overcoming it through reforms. The state, to combat environmental problem as causes of famine had engaged in a programme of relocating masses of population.

Figure (2) Ethiopia's Resettlement Programme

((map of Ethiopia))

Source: Gopalakrishna Kumar (1987: 54).

Similar to the pattern of population movement in the Sudan, the Ethiopian scene in 1980s showed movement of population from degraded lands to new opportunity niches. The difference is that while in the case of the Sudan displacement had come as the people decision to move due to hardship, in the case of Ethiopia it was mainly through the government interference with an apparent geography versus demography orientation. Facing the obstacles of land degradation the government resorted to an approach of encouraging a controversial resettlement programme which involved moving the affected population away from the wasted agricultural regions to areas in the south and south west where the drought impact has been much less severe (Kumar 1987: 53).

> In October 1984, an acceleration of the resettlement programme was announced, involving one and a half million people from Tigrai, Wollo and Shewa being relocated in Wollega, Illubabor and Kefa...There is, at one level, a socio-ecological justification for this policy…: its proponents argue also that it will reduce vulnerability to famine in the highlands by reducing population pressure and improving the environment. But it is the political dimension of the move that has attracted the most attention, and it has even been alleged that the main motive was to empty rebel niches of potential recruits by forcibly removing the population in the guise of resettlement (Kumar 1987: 53).

What had been considered a politically controversial move from the Dergue regime in Ethiopia to relocate population would be unjustifiable without taking into consideration the condition of drought. Omitting it as a depopulation policy would not help understanding the real dynamics. The then real problems of food insecurity would really matter, at least as a justification for a repressive policy that might not otherwise be justifiable. "During the 1984-1985 famine, the government launched a campaign for the construction of large dams for irrigation purposes, as well as small river diversions for micro-irrigation" (Stahl 1990: 4).

What is significant to this paper is both the process of villagisation (relocating people on a local level) which implies changes in the economic activity and the pattern of population settlements that are more likely to take the form of urbanisation, and the direction of the movement of population for resettlement (relocating people on a regional and national level) (see Stahl 1990: 3) which implies the disturbance of the social system where peasants most likely to migrate to cities after fleeing the settlements. The rapid increase in urbanisation rate in Ethiopia (see Chart 1) in the decade following 1985 could be attributed to this factor. The direction of the population movement was mainly taking place inside the Nile Basin and particularly to areas close to the Nile tributaries more than outside it. The then resettlement policies of Ethiopia showed an increasing population concentration in the area close to the Baro river whose contribution to the Nile waters mounts to 14% of the total discharge while a low concentration had taken place in other areas inside the Basin (see Figure 2).

The above condition still implicates Ethiopia's policies. What the current government is facing is the legacy of bankrupt economy and social problems passed to it by the Dergue which is aggravated by about 300,000 demobilised soldiers, about one million displaced persons and thousands dislocated from former resettlement sites (Asefa and Hussen 1997: 671).

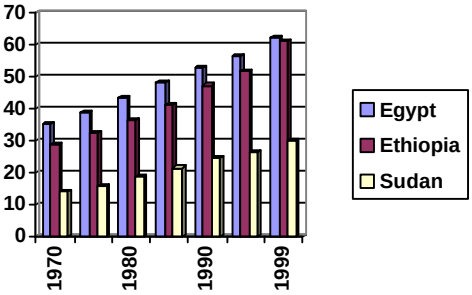
The population movements, under the current circumstances, are affected by the rapid increase of population. The population of the Nile is increasing rapidly with a rate of growth that ranges between 2.4% to 3.6% (Shapland 1997: 82) (see Table 3). Six out of the top 20 countries in the world in terms of population increments in 1991 were Nile riparians. This category includes the three major contestants (Egypt, Ethiopia and the Sudan) together with Zaire, Tanzania and Kenya (Population Crisis Committee 1992). The world record in fertility rate was preserved for a Nile riparian - Kenya in the 1970 census with an average of 7.9 births per woman whose consequence is a five-fold increase in population between 1948 and 1990 (Markakis 1998: 7-8). Ethiopia and the Sudan were recorded 7.7 and 7.5 births per woman with the projected size of the population in the year 2050 of 148 and 82 million respectively (Markakis 1998: 8-9). The population of the three major contestants together is projected to increase from 150 million today to 340 million in 2050 (BBC World Service, 11.10.1999 - 16:55 GMT 17:55 UK). Ethiopia and the Sudan maintain about the third of the total population of the riparians. If the trend of population movement in these two countries maintains it is definitely going to lead to severe shortage of water in the Basin.

Table 3: Population Growth in the Nile Basin

	Population in 1992 (mid-year estimates, x 1,000)	Rate of growth (% p.a)	Population in 2025 (x 1,000)
Egypt	54,842	2.4	93,536
Sudan	26,656	2.9	60,602
Ethiopia and Eritrea	52,981	2.9	130,674
Uganda	18,674	3.1	45,933
Kenya	25,230	3.4	63,826
Tanzania	27,829	3.4	74,172
Zaire	39,882	3.3	104,530
Rwanda	7,526	3.3	20,595
Burundi	5,823	2.9	13,392

Source: (Shapland 1997: 83).

Chart (3) below shows the total growth of population in the three countries where all three are showing steady growth of population. The rates of population growth are deemed to persist or even accelerate. Linking this to population pressure on available resources and technology of subsistence production, Markakis (1998: 15) observes that while the first will keep increasing the latter is unlikely to change in the near future. He continues to say that "there is a real problem involved in rapid population growth. 'When a population is growing faster than food production and overall standards of living are falling one cannot pretend that a population problem does not exist by referring to unused resources and agricultural potential'".



Source: Figures for this chart are provided in World Bank, SATRS Database 1993.

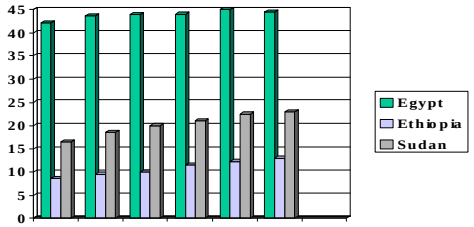
The climatic and demographic factors, as the above discussion implies, affect each other and accelerate the water use. "Population growth not only reduces water availability per person but stresses the entire environmental system." (Pimentel et al 1997: 1). Likewise, aridity becomes a cause for congesting population along the river zone and increases their demand for water (see Williams and Balling Jr 1996: 11). Writing about the Nile in early 1980s, Dickinson and Wedgewood (1984: 35), observed that "Population growth has led to increasing demand for water for agriculture".

Growth of the population, in the literature about the Nile Basin, is treated *temporarily* not *spatially* - it is growth in total numbers, but not as concentration of population in the river vicinity or growth of urban riparian cities, nor the processes that lead to this concentration. What makes difference is to look at population growth in relation to the space of livelihood; or to delineate the spatial dimension of population growth in relation to the opportunity niches (see Dietz 1993) that induces population movements. Referring to the Horn of Africa, Markakis (1998: 13) states that "If the past is any guide, *population growth* would lead to increased *movement of population* within and across states borders...such movement is an integral part of the regional political economy, and is itself often the cause of conflict" (italics is added).

What is more significant to this paper is that the population growth in the Nile Basin, though rapidly increasing in all riparian states, it is uneven both at regional and national levels. Omar and Takele (1998: 2) see that "though *population growth* is quite high in both downstream and upstream countries of the Nile, *in the latter group* is much higher. High population growth in the upstream riparians (see Table 3) means increased demands for water resources to be used in consumption, irrigation, and industrial expansion." At the national level in the Sudan, for instance, where the urban population growth is unprecedented, as we discussed above, the regional capital cities are likely to become primate cities of their regions (see Table 3). In Ethiopia the rate of growth of population in urban areas is 5.4% compared to 3.2% in rural areas (Ethiopia: 199 3). Chart (4) below

shows the growth of urban areas in Egypt, Ethiopia and the Sudan. Relating this to Charts (1) and (2), thus, what really matters is this distribution of population rather than the size of population.

Chart (4) Percentage of Urban Population growth in Egypt, Ethiopia and the Sudan:



Source: Figures in this chart are provided in World Bank, SATRS Database 1993.

Urbanisation and population concentration will increase the demand for the Nile waters. The old formula of uninterrupted outflow of the Nile waters to downstream was sustaining basically because the countries did not face what they are witnessing now - rapid population growth and severe climatic changes. Under this condition the risk of conflict among the users of water (states, states alliances, local communities, cross-regional communities, etc.) and different sectoral uses of water (farming, grazing, industry, domestic etc.) become more pronounced.

Drought has a supply dimension, i.e., it affects the yield of the Nile. But most significantly it induces a demand dimension, i.e., increasing the demand for water by pushing more people from the non-riverine zones that are affected by it to the river zone. Therefore, it has a political potential of either enticing international conflicts (thus, maintaining one aspect of the old formula), or compelling the co-riparians to reasonably consider the changes brought up by the new formula and seek co-operation and an ever-increasing integration.

4. Change in the States' Old Attitudes:

In the light of the above, Ethiopia enters the scene of the Nile waters because of its population growth that had already divided its national pie into much smaller slices, and moreover, because of the consequences of drought that have decreased the size of this pie resulting in an increasing insecurity on the food front. The significance of the Ethiopian position stems from the fact that it is the source of the bulk of the Nile waters, but, at the same time, as one that faces serious environmental problems which radically change its previous attitude. The current government in Ethiopia is serious about achieving self-dependence in food crops in order to prevent any recurrence of the 1970s and 1980s famines. The minister of water resources in Ethiopia has confirmed that food self-dependence and security is the major goal of the government and the government has no option other than the Nile waters for increasing the agricultural output (Swaine 1993). Accompanied this is “a tendency in government to associate higher productivity with ‘modern’, large-scale agriculture, and to ignore the potential in smallholder agriculture for more efficient and profitable farming.” (Subramanian 1998: 172). Ethiopia has around 3.7 million hectares of potentially irrigible land. Should half of this land be irrigated it will reduce the Nile flow to the downstream by some 9 billion cubic meters per year - equivalent to 16 percent of Egypt’s current annual supply from the Nile waters. In addition to that

Ethiopia plans to expand hydropower production where some 80 percent of future schemes located on Nile tributaries (Postel 1996: 39-40).

There is reason to claim that the changes brought up by the current government in Ethiopia will have radical effect on the previous relationship between the government and the peasants. Decentralisation and democratisation would voice out what has been silenced during the imperial and Dergue governments. A contrast in population and resources policies is likely to happen between the fatalistic and indifferent attitudes of those two regimes and the current one.

The Sudan enters the scene as the country that hosts the highest number of IDPs in the world where food insecurity is becoming more acute. It is also the environment where the major projected scheme for increasing water supply will take place, but also as the midstream that is undergoing persistent environmental and political instability driven by resource competition that have repercussions on the Nile regime. The Nile major components for the Sudan in the light of our above discussion are sustaining the current share of 18.5 k^3 (for irrigation and hydropower sustainability) in the short-run, and demanding more water to meet programs for food security, rehabilitation and environmental protection in the long-run.

In response to the 1990s developments, the Sudanese government has designed a complete national strategy for upgrading water resources including the Atbara River, the Blue Nile, and the main Nile. The strategy includes expanding the capacity of the Roseries Dam from 3 to 7.7 billion m^3 as well as building two dams (El Satit and El Remila) on the Atbara River (Arabnews.com) to add to the Hammadab and Kajbar dams. The strategy will benefit from the currently unused 4.5 billion cubic metres of its total share of 18.5 billion m^3 of the waters, in addition to the water 'lost' in the Sudd region in southern Sudan (SUNA 06.11.1999).

At the background to these strategies are the demands of the displaced. The current regime in the Sudan has raised the slogan: "*na'kul min ma nazrá u nalbas min ma nasná*" which translates to "we eat from what we cultivate and clothe from what we fabricate". Though the slogan was hardly translated to a reality it shows the worries about food insecurity and corollary appeals to the zones of hunger around the big cities. Thus, the Sudan, like Egypt and Ethiopia, will need more water. In this regard, the Sudan seems to be the most potential to change in the old formula in the Nile Basin. While the effect of population movements, at the national level, can be seen in the increase in demand for water, change in crop policies, and privatisation of agricultural schemes, at the international level it has led to change in the behaviour of Ethiopia and the Sudan. Thus, there is reason to claim that drought, and its consequences, in both countries has affected their behaviour as concerning the Nile waters. Ethiopia started to involve in bilateral relations by signing agreements with the Sudan (1991) and Egypt (1993) and the Sudan walked away from the united front with Egypt. Drought, in this sense, contributes to changing the old Nile formula, generating conflict or otherwise co-operation.

The agreement that Ethiopia and the Sudan signed in 1991 is committing the two countries to the principle of equitable utilization of the waters of the Blue Nile and Atbara rivers. The two states established a technical joint committee to exchange data and to explore co-operation (Dellapenna 1997: 132-3). By so doing the Sudan has already moved away from the ‘united front’ which binds it with Egypt where the two countries in the 1959 Nile Waters Agreement committed themselves to act as a 'united front' with regard to the upstream demands for waters. The alliance between the two countries was a serious one to

the extent that it has led to the adoption of policies for economic and political integration (Dellapenna 1997: 132, also see Collin 1990). Along with Ruchdi Saeed, Abdelmalik Owda (1999: 64) sees that the Sudan has the idea of building an alliance with Ethiopia for mutually benefiting from water; and that this alliance should widen to include the states of East Africa. The foreign comments on the agreement between the Sudan and Ethiopia, according to him, indicate that had these agreements been implemented they would have threatened what has been reached in the 1959 agreement (Owda 1999: 58).

Given the fact that the Sudan has maintained this 'united front' with Egypt for three decades without interruption, despite periods of serious conflict between the two countries, the recent move could be considered the first significant diversion from the norms that govern the relationship between the two countries over the Nile waters. The conditions that gave rise to this move are harsh enough to jeopardise the historical alliance with Egypt. We believe that the major development that has led to this move is the severity of drought and desertification and their repercussions in the Sudan in the 1980s and 1990s.

The seriousness of the agreement between the Sudan and Ethiopia in changing the old formula is seen in its strengthening Ethiopia's position in its contest with Egypt. Shapland (1997: 82) sees that the agreement that Ethiopia signed with the Sudan appears to concede more to Ethiopia's position, which appeals to equitable entitlement, as the guiding principle in international law of shared rivers. As for Egypt, the Sudan started to, partly, be similar to Ethiopia (the historical source of threat to the Nile flow) in Egypt's image and reaction and a tense atmosphere had taken place (see Bleier 1997: 116). But soon after that another move by Ethiopia and Egypt has cooled down this tension when the two countries have signed a 'Framework for General Cooperation' in July 1993 which included reference to the Nile. The two sides specified that neither of them would do anything with the Nile that causes 'appreciable harm' to the other. The two countries went further to agreeing to consult and co-operate in projects of mutual advantages such as projects that would enhance the volume of flow and decrease the loss of water through a comprehensive and integrated development schemes (Shapland 1997: 81). According to Shapland (1997: 81) the agreement between Egypt and Ethiopia "safeguards Egypt's supply of the Nile from Ethiopia by giving prominence to the principle of the avoidance of appreciable harm: the Egyptians would almost certainly argue that any reduction of flow in the Blue Nile caused by works in Ethiopia would constitute such harm. The concomitant gain for Ethiopia is Egyptian cooperation in developing the Blue Nile Basin for Ethiopia's benefit as well as for Egypt's."

While reading these two agreements in the light of the old formula would provide for a potential conflict among the three major riparians, reading them in the light of the new condition would give a different interpretation as it is clear that there is a new reasoning that the states in the Basin are overcoming the emotional ideological reactions and complying to a rationality of safeguarding their interests through appreciating what they really face.

5. Does the NBI represent a response to the new condition?

When competition reaches the stage of being a crisis that the likely win-lose balance turns into a lose-lose balance situation, the contestants are likely to co-operate in order to surpass the ordeal (see Wolf 1995). Developments in the Nile Basin politics in the last half of 1999 indicate that the co-Basin states have already reached the situation indicated above. Unlike the first half of the 1990s of national assertiveness and unilateral approaches to utilisation of the Nile waters, the co-Basins have now a new initiative, with the Technical Advisory Committee as its technical arm. The objective of the initiative is reaching a solution through

the equitable use of the Nile waters (The Nation 07.09.1999). The conference of the Nile riparians in Addis Ababa in May 1999 had stepped further in this direction where the Nile co-riparians have emphasised the sustainable development of the river. Thus, already the issues of equitable water use have been expressed together with the issues of sustainability. "The meeting of the Technical Advisory Committee in Entebbe considered priority projects including sufficient water use for agricultural production, opportunities for power generation and trade in the Nile Basin region and water resources planning and management." (The Nation 07.09.1999).

Out of these initiatives the shared vision of the NBI cropped up and is meant "to achieve sustainable socio-economic development through the equitable utilization of, and benefit from, the common Nile Basin water resources". The initiative as a comprehensive co-operative framework provides for significant changes in the old formula that would protect the co-riparians from inflicting harm on each other. To my understanding, significant harms always are the consequences of competition while equity and reasonableness can be attained through co-operation. The first is often defined by the ideological and political imperatives while the latter is much into calculating mutual benefits or avoiding mutual losses - the economic imperatives. In this regard, the request of the Nile-COM for the World Bank and its partners to host a consultative group (ICCON) as a forum for seeking funds is a significant move towards emphasising the economic imperatives. While competition over international water can be seen as an exercise of nationalist assertiveness, co-operation on the other hand can be seen as a response necessitated by the nature of the international river and its cross-border imperatives, where many of the problems occur at local, national and regional levels, therefore, imply global scale international co-operation for their solution (Uitto, 1998: 55). It is a move from political relations that essentialise the borders of states to ecological ones that essentialise the river's watershed. Co-operation on international watercourses often crops up as a necessity rather than as an option at the disposal of conflicting riparians. "Cooperation is thus essential not only to avert conflict but to protect the natural systems that underpin regional economies." (Postel 1996: 4 3). By the practical coming of Ethiopia to the scene of debate on legal arrangements the previous tension is likely to cool down and to give way to a conducive condition for co-operation. What qualifies this argument is the development reaching its peak with the NBI accompanied by an increasing awareness among researchers and strategists that the politics of the old formula had already undergone significant changes (see Owda 1999, Tedesse 1998, Mageed 1994).

The emphasis on sustainability is what makes the NBI different from the previous initiatives. Moreover, unlike the previous ones, it is a vision shared by all riparians. It means, in short, that the awareness about the current environmental problems that affect all riparians is finally on its way towards institutionalisation. It is the emphasis on sustainability that gives way to the most new part in the Initiative: the subsidiary action sub-programme. The principle of subsidiary is considered "an important approach to cooperative action within a Basin-wide framework" and is meant "to take decisions at the lowest appropriate level, to facilitate the development of real action on the ground." It is this part which gives place to an alternative development imagination by de-centring the definition-making and decision-making about the Nile waters which has been always the monopoly of central governments, or bodies representing them. Building the pillars of the temple of co-operative framework (confidence building and stakeholders involvement, socio-economic, environment and sectoral analysis, development and investment planning, and applied training) in itself involves a necessary learning process in which different levels will contribute. It, thus,

informs the new priorities to be set for the Nile Basin countries as it translates to "capacity building and human resource development". As well it makes place for priorities depending on the needs and specific problems facing each country or a sub-Basin that combines more that one country. It caters for the communities dwelling in the Basin that would be affected by the grand policies to be launched.

While all the objectives set by the NBI are necessary for building for an atmosphere of conflict resolution, co-operation and an ever-increasing integration, two are of significant relevance to this paper given the new formula discussed above; therefore should be more emphasised in the short-run. These are (a) developing the water resources in a sustainable and equitable way to ensure prosperity, security and peace for all riparians, and (b) targeting poverty eradication and promoting economic integration. They make place for the following priorities.

Priority (1) Rural Development for environmental protection, rehabilitation and resettlement:

Should the NBI be genuine, the multiple billions of U.S. dollars located/to be located by the Basin countries for large-scale hydraulic constructions should partly be located to rural development in the territory of the co-riparians – not necessarily inside the Basin. This is not only because of the destructive environmental repercussions of large hydraulic constructions, but basically because it decreases or maintains the existing demand for water, that otherwise will increase due to population concentration along the river zone. In this regard, Postel (1996: 24) sees that “If the battle on the agricultural water front is to be won, crop output per unit of water input will need to increase not only in *irrigated farming* system, but *in rainfed and water-harvesting* systems as well” (italics is added). It necessitates an equitable sustenance of harvest of rural farmers in their rainfed agriculture (inside or outside the Basin) as for the harvest of the modern sector, which benefits the elite and urban dwellers. Development, in this sense, should become integrated to the system both as equitable *national* economic development for keeping the balance of population distribution between the riverine and non-riverine areas and human development necessary for environmental awareness, therefore, environmental protection and resource management and 'population control' issues. It should be equitable *regional* economic development to assure the balance of population upstream and downstream in order not to harm the downstream by cutting water for satisfying the rapidly growing urban areas in the upstream. Seeing water in these interrelationships provides the necessary clarity that is crucial for preserving the integrity of the system as well as understanding the dynamics it is undergoing. It is a shield for the national river zone not to be overburdened by more demand and a shield for the downstream not to be harmed by the 'natural' hazards-generated needs of the upstream. In this sense it provides for a social community of interest rather than a legal one (see Caponera 1985: 568), a task that needs courage, creativity and commitment from the leadership in the co-riparians. Establishing a social community of interests is genuinely co-operative and can enhance the NBI more than the legal community of interests.

Rural development for resettlement should encompass the spirit of sustainability adopted by the co-riparians. It implies rethinking the relationship between farmers/peasants and the state through seeking their participation in a bottom-up approach (see Jemma 1997: 173). In this sense it serves as tool for bringing the environmentally constructive role of the human being. Appreciating the bottom up approach of the Subsidiary Action Programme it should pay due attention to indigenous knowledge of handling environmental problems. In this sense it can be rehabilitative rural development that would allow for poverty eradication

as one objective of the Strategic Action Programme.

Priority (2) Increasing water supply for agricultural development: Food Security:
Although the demand for the Nile waters is increasing, the supply seems to decrease for quite a long time to come due to climate change. The latter can have a serious effect on the Nile Basin simply because the Basin comprises wide semi-arid areas which, according to Magalháes (1994: 275) are considered more vulnerable. Over the next 20 to 40 years global warming will reduce Nile waters by as much as 25 percent[2] (Bleier 1997: 15). The numerical models of climate suggest that drylands will warm substantially over the next century, particularly in the higher latitudes where their change in temperature on regional scale exceeds that of change in temperature on global scale. Despite uncertainty, these models suggest that most dryland areas will become more arid over this same period the thing that is likely to happen because the broad trends of temperature and aridity over the past century are generally consistent with the predictions of these models (Williams and Balling Jr 1996: 5). The consequence of these will be a profound environmental and political change in the region, which induces serious security implications (Gleik 1991).

On the other hand, there are models which project increase in water availability; the most optimist among them suggests an increase of 22% by the year 2025 (Shapland 1997: 90). However, even if these predictions of increase in water supply will come true they might not develop a sense of security among the co-riparians given the rapid increase of population and the trend of concentration along the river zone. Moreover, the co-riparians are far from providing water efficiency alternatives in the near future. Thus, the development of the river, necessarily sustainable, is an urgent necessity. The increase of water supply in the short-run should be the resumption of the first phase of the Jonglei Canal and continuing with the second one. In this regard, whereas no increase in water supply can be sought from the source in Ethiopia in the short or medium terms (Shapland 1997: 91), it is the stability of the Sudan that represents the most significant guarantee for any future increase of water supply that can be used for satisfying the immediate demand of the three major contestants and catering, in the long-run, for the demands of the other riparians. In other words, what can be taken from the current stream flow of 84 km^3, from the shares of Egypt and the Sudan for the benefit of Ethiopia, as well as satisfying the renewing needs, it is the Sudan, through the Jonglei Canal, the Machar Marsh and the Bahr El Ghazal Basin, that can practically compensate for a considerable part of it. The Machar Marsh and Bahr El Ghazal alone can contribute with 11 billion cube meters (Naff and Matson 1984: 139, also see Shapland 1997: 92).

Increasing water supply at this stage is more of a political than economic or technical character. It is basically continuing with the previous policies, however, with a new development imagination that caters for the need of all riparians, but significantly for the needs of the communities that the river development will affect.

Priority (3) Political Stability:
While ensuring security and peace for all people of the Basin are part of the objectives of the NBI Strategic Action Programme there is no reference for resolving the current conflicts which are likely to impede the programme of action. It sounds like as if the initiative is pre-occupied by an economistic interpretation that sees all solutions to follow from economic development.

[2] Some other models suggest reductions in the Nile flow by 8% to 0.4 by the year 2025 (see Shapland 1997: 90).

There is a prevailing intra- and inter-state mistrust founded on political and ideological reasons that are hard to overcome by economic development. Engaging in efforts to ensure political stability must be one major objective of the Strategic Action Programme. This is because while all other attempts at stabilising the system provide for sufficient conditions it is political stability that represents the necessary condition. The change in the old environmental formula has brought with it radical changes that seems to hamper political stability and threat with unprecedented dangers. It was argued that “the creation of ‘winners and losers,’ as environmental change and degradation affect the economic and political stability of different nation states to differing degrees, will be likely to lead to conflict” (Finger 1998: (28). Homer-Dixon (1998: (03) argues that “severe environmental scarcity can reduce local food production, aggravate poverty of marginal groups, spur large migrations, enrich elites that speculate on resources, and undermine state’s moral authority and capacity to govern. These long-term, tectonic stresses can slowly tear apart a poor society’s fabric, causing chronic popular unrest and violence by boosting grievances and changing the balance of power among contending social groups and the state”. Thus, a shift from the old formula perception of national security to one based on environmental and regional security is a necessary move for creating political stability in the Nile Basin. The environmental changes and the risks they generate have their own political potential that will break open the 'political', therefore, open the political arena for new actors with new regimes of elaboration and definition-making for existing institutions (see Beck 1994). These changes have already taken place in the Nile Basin though their environmental expression, as elsewhere in Africa "transcends 'environment' in the narrow sense and manifests itself in liberation, ethnic, or clan movements and in a variety of livelihood struggles." (Mohamed Salih 1999: 8). Conflict over resources in the Nile Basin takes the form of ethnic and religious discourses. The region in general was the host of radical transformations in human history, in which the miracles always had been the solution to crises and catastrophes. After the collapse of the development epic, the religious and ethnic politics seem to recall these miracles and create their new religious and ethnic epics. Referring to the current situation in the Horn of Africa, Markakis (1996: 474) states that “religion often served as the ideology of social conflict in the Horn, and history seems to be repeating itself”. These religious and ethnic discourses manifest in the policies of minority-favouring regimes whose management of resources repressively ranges between deprivation from resources to genocide, as the Basin had witnessed, and would threat with endless forms of violence.

While political stability is necessary for all the Nile riparians, it is the Sudan's stability that is of most immediate repercussion on increasing the supply of water. The Sudan is the only remaining riparian that maintains long wide-scale civil war, while the other riparians have achieved a relative political stability. The break of the Sudan into two states, under the prevalence of perceptions of the old formula, will have its future repercussions on the Nile hydropolitics in as far as it will establish for a new polarisation, along the upstream - downstream spectrum, induced by the demands for water for development and rehabilitation. In this regard, the Sudan, more than Ethiopia, represents the environment that induces conflict *par excellence*. In late 1970s Waterbury (1979: 209) observed that “As far as the Nile is concerned, Egypt’s stability is relatively meaningless while the Sudan’s instability is of incalculable importance for it is the mid- and not the downstream state.” (Waterbury 1979: (09). Drought and its consequences in the 1980s and 1990s add to this incalculable importance a new dimension that was not counted for in the 1970s: the collapse of subsistence economies and the rise of ethnic and religious discourses to the position of dominance in national politics. Political instability in the Sudan aggravates and the country

is facing the break into two states: northern and southern Sudan. Given that this will take place, southern Sudan will not only asserts its position of developing the swamps region for its own benefit, but significantly because it needs water for rehabilitation and resettlement.

In 1984 Waterbury wrote "Although southern Sudan is not a sovereign state, it is possible in a de facto sense that it might try to lay claim to water in its territory that might otherwise be siphoned off to northern Sudan and Egypt, even though at the present time it may not be able to use that water effectively" (Waterbury 1984: 173, underlined is original). The last 17 years of civil war have made it for southern Sudan, at least, to claim a *de facto* position. Civil war in southern Sudan has already drawn the destiny of the Jonglei Canal project. While politically the unity of the Sudan is crumbling, the ecological, economic, political and ideological factors all hammer against the previous plan of the Jonglei Canal. As for the economic reasoning the implementation of the two phases of the Canal is inevitable while it is unlikely for the political reasoning. It asserts a contradiction between the economic necessities and the political facts. The Jonglei Canal is of significant effect not only because it is one of the major factors that determines the nature of political stability in the midstream, but because it drives all riparians, into a further contest, particularly if its second phase is to be carried out (Waterbury 1979: 172).

Scenarios for overcoming the crisis in the Sudan that have been developed so far are a confederal state, and in the extreme case, the split of the country into northern and southern states. Both scenarios are becoming facts in the current Sudanese political discourse where the National Democratic Alliance, the umbrella of the Sudanese opposition, adopted them in 1995 in its Asmara Declaration as a binding document. The Sudanese government too has guaranteed them in its 1998 constitution. The first scenario is likely to give full right to southern Sudan to develop its water resources for its own rehabilitation. The second would mean, like the upstream states, southern Sudan will consider itself not bound by an agreement signed by the northern Sudan. Facing the collapse of subsistence economies southern Sudan strategies for rehabilitation are likely to maximise the use of the Nile waters as its most potential resource to be developed for irrigation, rehabilitation and environmental protection.

The issue of rehabilitation was taken seriously in the SPLA/SPLM Position Paper For the 4th Round of IGAD Peace Talks on War in the Sudan on the (4th July 1999, addressing a confederal state: northern state and southern state. The paper states:

4. The Interim Government of the Southern confederal state shall establish a special commission for resettlement, rehabilitation, repatriation and reconstruction.

4.1. The Commission shall administer the return and resettlement of refugees in neighbouring countries and the internally displaced people.

4.2. There shall be set up a Special Fund for purposes of repatriation resettlement, reconstruction and rehabilitation in the Southern State, which is affected by war. The Commission in 4. above shall manage this fund.

Rehabilitation in this regard is not only driven by the political will of all the actors; but moreover, it is a security imperative that is necessary for the integrity of the new state in the south as well as for a united Sudan. Like Ethiopia, should it achieve peace and stability, the Sudan would start serious development and rehabilitation strategies. Demand for water will increase for meeting the needs for development and rehabilitation. The existing plan of the Jonglei Canal being wholly in southern Sudan, in a confederal or an independent state, might radically transform. At a minimum level, it implies legal and technical changes which in both cases affects the Nile regime. This potential conflict can be overcome in the light of the Subsidiary Action Programme which would provide for the affected communities in

southern Sudan to benefit from the Canal before northern Sudan and Egypt. At the level of increasing water supply the Canal implies a sub-Basin plan for the eastern Nile. At the level of catering for the ecological integrity it necessitates a sub-Basin plan for the southern Nile.

Enhancing the IGAD efforts for brokering peace in the Sudan should be a major priority. The involvement of other riparians is crucial, therefore, the incorporation of the Egyptian-Libyan initiative for peace in the Sudan in the IGAD initiative is of significant importance. By implication, the political stability in the Sudan is of significant importance to any settlement between the three major contestants for the Nile waters.

Conclusion:

The NBI has come in a time when the old formula of the Nile politics is transforming in several aspects. The most significant change characterising the Nile Basin scene in the 1980s is population displacement from degraded environments inside and outside the proper Basin to the Nile or its tributaries, caused by misguided development policies. Unlike the 1960s and 1970s where population movement to urban areas or other opportunity niches had been determined by the pulling factors in these areas, the 1980s and 1990s have brought population to these areas due to pushing factors in rural areas. The drought of the 1980s had come as the *coup de grace* leading to the collapse of subsistence economies in the Sudan and leaving the population of the marginal environments with the option of moving *en masse* towards the river vicinity as the survival niche. Facing unprecedented land degradation, the government in Ethiopia in the 1980s had engaged in a process of displacing population from degraded lands to areas (mainly) in the vicinity of the Nile tributaries hoping to overcome famine and food insecurity.

As the analysis of the cases of Ethiopia and the Sudan indicates, the 1980s showed a trend of population movement inside the Basin that has changed the old demographic formula. If the causes of population movement maintain, this will lead to further concentration of population along the midstream and upstream parts of the river zone. Thus, besides the fact that the Nile waters are getting more and more scarce due to natural population growth in general and in urban areas in particular, population movements add a new burden on the river's waters by bringing population who otherwise maintained their livelihood in their dispersed rural areas. Corollary, this will lead to increasing pressure on governments in order to respond to the new needs necessitated by the new demographic formula. The change in the attitudes of Ethiopia and the Sudan towards the use of the Nile waters in the 1990s can be attributed to pressures caused by the new demographic formula.

The above discussion would provide for an argument that the use of the Nile waters, in its interrelations with other components of the system, has become the link between the river system and other systems that are not necessarily in the river vicinity. It brings issues of degradation of marginal lands caused by using the river’s waters (used for large-scale agriculture) by way of displacing nomads and some traditional farmers to these lands. In the same token the ill-planned economic development outside the Basin, within the riparians' territory, affects the Nile waters by pushing more population inside the Basin who otherwise maintained their livelihood with the resources outside it. Viewing it as such, expands the concern to what the Nile irrigates and what it does not, where the two spaces are structurally related, therefore, necessitates relating the desert to the river, the rainfed agriculture to the irrigated; farming to grazing, and economic exploitation of natural resources to protection of the environment. In Ethiopia, for instance, it links the Awash river to the Blue Nile - the rivers outside the Basin to the Basin so long as they are inside the territory of the riparians whose population is entitled to move inside their borders.

The pattern of recent population movements gives indicators that these movements affect the Nile waters both quantitatively and qualitatively. By way of reaction they bring to the forefront issues of food security, resettlement, rehabilitation and environmental protection. The tremendous increase in population coupled with concentration of the displaced (whether they settle along the river and its tributaries cultivable land or in urban areas) represents a tremendous challenge to existing norms of distribution of national wealth and access to natural resources in the Nile riparians – a challenge to the norms that govern groups and states competition over resources. It spills over to the inter-basin relations and generates tension among the co-riparians. However, this very challenge can generate a new rationale that provides for co-operation and an ever-increasing co-operation.

Developments in the Nile Basin, in the 1990s, show that this rationale is well on the track. The bilateral agreements between Ethiopia and the Sudan and between Egypt and Ethiopia generate a potential conflict. However, the new imperatives in the Basin would render them read differently. These agreements had been a necessary exercise for what will crop up in the Nile Basin Initiative. Presenting the political will of all riparians, the NBI represents a major change in politics about the Nile. Its assertion of sustainability makes a place for reversing the prevailing development imagination, therefore, if genuinely implemented, will curb the causes of conflict and will build up for co-operation and an ever-increasing integration among the co-riparians. Two development priorities, necessary for maintaining the current demand for water as well as for increasing the supply, can be set. These are rural development with a new orientation for environmental protection, rehabilitation and resettlement; and increasing water supply for agricultural development for food security and poverty alleviation. While these priorities represent sufficient conditions for overcoming the current problems in the Nile Basin, it is political stability that provides for the necessary condition. The task for the Nile riparians is to consider political stability a development priority and to emphasise it in the objectives of the NBI.

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