To Hopes Never Lost

THE IMPLICATIONS of ENVIRONMENTAL DEGRADATION on SECURITY: THE CASE of ARAL LAKE BASIN and SOUTHEASTERN ANATOLIA PROJECT

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ABSTRACT

THE IMPLICATIONS of ENVIRONMENTAL DEGRADATION on SECURITY: THE CASE of ARAL LAKE BASIN and SOUTHEASTERN ANATOLIA PROJECT (GAP)

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Traditional security conceptualizations of International Relations are no longer adequate to respond to increasing insecurities because of changes in international circumstances, most notably the end of Cold War. Diversification of issues and actors require a new definition of threat, a move beyond traditional militarily oriented threat, which is directed by an external actor against the State. This requires an extension of the security agenda to cover other factors causing insecurity which is no longer limited with the potential of the factors to cause "conflict", especially to encompass environmental security; and a deepening of the security agenda by moving towards insecurities of non-state subjects, particularly to cover individual security. The study clarifies these concepts and the new security agenda through the case studies of Aral Lake basin and Southeastern Anatolia Project (GAP).

Keywords: Environmental Security, Individual Security, Aral Lake, Southeastern Anatolia Project (GAP).

ÖZET

ÇEVRESEL BOZULMANIN GÜVENLİK ÜZERİNE ETKİLERİ:
ARAL GÖLÜ HAVZASI ve GÜNEYDOĞU ANADOLU PROJESİ

Atalan, Nurcan
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Uluslararası ilişkiler teorisinde gelenekselci (realist) yaklaşımlar, devletlerin güvenliği ve tehdit konularını askeri alanla sınırlamışlardır. Ancak, 1970lerle birlikte değişmeye başlayan ve Soğuk Savaş'ın bitmesiyle tamamen değişen uluslararası ortam güvenlik ve tehdit kavramlarının kapsamlarının genişletilmesi ihtiyacını doğurmuştur. Ancak, güvenlik kavramının yine aynı geleneksel çerçeve içinde, ekonomik, sosyal, politik ve çevresel faktörlerin çatışma yaratıp yaratmayacağı sorusu etrafında ele alınması, çevresel güvenlik kavramının kabulünü zorlaştırmıştır. Oysa ki yeni bir tehdit tanımlamasından hareketle çevresel güvenlik kavramı ele alındığında geleneksel güvenlik çalışmalarının ele almakta zorlandığı ancak devletlerin güvenliğine etkisi olan çevresel bozulma ve diğer ekolojik konular daha rahat irdelenmiş olur. Ancak, çevresel güvenlik kavramı devlet-odaklı tehdit tanımının derinleştirilmesini ve kişisel düzeyde de ele alınmasını gerektirir. Çevresel bozulma kişilerin yaşam kalitesini değiştirebilir ve kişisel düzeyde güvenliğin sağlanamaması da devlet güvenliğini negatif biçimde etkileyebilir. Bu çalışmada ele alınan iki örnek su havzası, Aral Gölü ve Fırat-Dicle nehirlerindeki çevresel bozulmanın kişiler üzerindeki etkisinden hareketle devlet güvenliği ile kişisel ve çevresel güvenliğin nasıl ilişkili olabileceği anlatılmaya çalışılmıştır.

Anahtar Kelimeler: Çevresel Güvenlik, Kişisel Güvenlik, Aral Gölü Havzası, Güneydoğu Anadolu Projesi (GAP).

ACKNOWLEDGEMENTS

This study is an attempt to show that International Relations theory is not just about states and about military-relations between states. It is dedicated to "hopes" because there is still so much to do, and it is not easy to reach the goals.

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TABLE OF CONTENTS

TABLE of FIGURES

> The story is told about Robert Benchley, an American writer, that when he was an undergraduate at Harvard, he was once asked in a political science examination to "Discuss Fishing rights on the Grand Banks of Newfoundland from the point of view of either the Canadians or the Americans". Benchley,...wrote on his paper, "Since this subject has been thoroughly examined many times from both points of view, I choose to discuss it from the view of the fish" (Kolars, 1994: 129).

INTRODUCTION

Water is an essential need and much of the fresh water available on the world is in the form of rivers, over two hundred of which cross state borders. Considering the utilization of these river basins on the criteria of required quantity and quality of water, there is no binding international law enforced over the riparian states. However, the hydrology of the transboundary river basin ties the riparian states into a complex web of socio-economic, political, environmental and thereby, security interdependencies which make it difficult for water-related tensions to become large scale armed conflict.

However, a riparian state's engagement in large scale utilization of the river basin, ignoring the socio-political, environmental, and economic consequences of the utilization at the domestic level and for other riparian states (especially if they are downstream), can undermine security and national interests of one of the states in the basin when it is acknowledged that security is something quite more than mere defense.

Especially with the end of Cold War, with a diversification of issues and actors in international relations, the narrow realist definition of militarily-oriented security was no longer adequate to address the changing circumstances posing a

"threat" to state's well-being. Threats have been traditionally perceived as an armed action directed against the territorial integrity and sovereignty of the state by an external actor. However, circumstances that affect the individual health, safety, well-being, and all forms of life (nature) can undermine a state's well-being, thereby creating a link between individual-level environmental security and national, regional and global security. As a result of the diversification of issues and actors, there emerged a need for alternative accounts of security, to cover a "broadened" agenda of issues and a "deepened" agenda of non-state subjects of security.

The first chapter of this study deals with these "broadening" and "deepening" attempts in International Relations. After questioning whether environmental security exists or not, the chapter points to how shallow the traditionalist understanding of security is, since it continues to deal with the diversified issues and actors within the same framework of viewing threat as something that should have the ability to cause armed conflict. By redefining "threat" as something that degrades the quality of life of inhabitants of a state, thereby limiting the policy options of a government, state or non-governmental entities, it becomes possible to move beyond the traditional definition of threat. This also enables alternative formulations of security that link human (individual) security to state security: Human insecurity undermines state security in the sense that it is impossible to create a sustainable future for the state without secure citizens, healthy individuals who have an access to food, water, economic opportunities, etc.

For empirical elaboration of this formulation, two case studies are chosen: Aral Lake basin (Sry-Darya and Amu-Darya rivers) and Euphrates and Tigris basin

(Turkey's Southeastern Anatolia Project (GAP)). The cases exhibit some important similarities as well as differences, thereby enabling a smaller comparative study to be carried out. Both basins are shared by two or more riparian states and are the largest river basins in their own region and very important for the riparian states. Population growth in the basins is high, which increases stress over the existing water resources, which are decreasing in quantity and quality because of unsustainable exploitation of the riparian states. For both basins, diversion of rivers was first for agriculture, the most water consuming sector. In both, cotton is grown as a monoculture crop, which has led to salinization of soils. The riparian states of both basins lack financial, technological, organizational and human resources required for unilateral implementation and maintenance of water-development projects--or to eradicate the negative consequences of large water diversion. Therefore, they are dependent on foreign credit agencies and World Bank funds.

In both basins, water-related tension prevails among the riparian states. The diversion of rivers and the following consequences (resettlement, deterioration of soil, air and water quality, and deterioration of health) have adversely affected the local people in both basins. The infrastructure system is adequate in neither and thus a high percentage of local people cannot receive clean water, and sanitation facilities, which causes a high incidence of intestinal infectious diseases. Neither have solid waste treatment systems. Both have problems with participatory decision making. Fortunately, the participation of local people is increasing though at a slow pace in both.

Chapter two deals with Aral Lake basin. It starts by elaboration of the causes of environmental degradation in the basin and continues by clarification of the impacts of this environmental degradation on local people. After mapping the peculiarities of the basin, such as fragile economies, ethno-political cleavages, lack of political stability, which are increasing the tension, the chapter concludes that insecurity of individuals is likely to undermine the political security of the basin.

Chapter three is on Euphrates-Tigris basin. It elaborates the features of Turkey's large water-development project GAP, and its consequences for local people, pointing to the possibility of the issue being securitized by downstream riparian states in the future. Concerning the peculiarities of the basin, the rising significance of environmental and individual security concerns for the basin is pointed.

Much has been written about the environmental degradation in Aral Basin. However, the studies about Euphrates-Tigris basin have been unilateral, that is emphasizing on only one dimension of the water utilization, with many commenting on the military dimension pointing to possible "water -wars". However, it is time to examine the Euphrates-Tigris basin and GAP from the perspective of individuals, ans nature in order to grasp the importance of taking precautions before reaching the point of no return, as in the case of Aral basin. This study aims to provide an introduction to a different perspective on Euphrates-Tigris basin.

CHAPTER 1

New Security Debate

Introduction

The debate about the reformulation of alternative accounts of "security" are prominent in the agenda of post Cold War era IR scholarship. The end of the Cold War not only brought a diversification of issues but also a diversification of actors. The changes both in the practice and discipline of international relations did not just stem from the disintegration of the USSR, which meant the end of a unifying threat -- therefore the end of bi-polar structure--but also the end of military-based conventional security studies. Since 1970s, non-military issues such as oil, have been on the agenda and have posed a challenge to the "security" of the states. Environmental issues are among these non-military issues more frequently discussed now in terms of whether they pose a security threat or not, and if they do, what threat they pose. The answers to these questions depend on the nature of security studies. Therefore, it is necessary to elaborate the post Cold War theoretical discussions related to security, in order to answer them.

As a consequence of post Cold War induced changes, dissatisfaction with the (neo)realist premises grew among scholars of the field (Krause and Williams, 1996: 1). According to the conventional (neo)realist definition, security is a state's defense

of sovereign interests-- the state's exclusive right to self-government over a specified territory and its population (Buzan et al., 1998:49), especially by military means (Dabelko and Dabelko, 1995: 3). This entails direct use of coercive power, which is an effective way to acquire and control territory. This approach takes "the State" as the center of analysis--or as the referent object of security-- and raises military challenges to the realm of "high politics" (priority issues) while relegating other issues to that of "low politics" (secondary issues). However, systemic changes such as the dynamics of technology (i.e. microelectronic revolution), which make social, economic and political distances so much shorter and the movement of ideas and information so much faster, have increased the interdependency of issues (See Rosenau, 1993: 71-93), also necessitating the inclusion of low politics issues into the security agenda. Another factor for inclusion was the transnational, rather than local or national, nature of these issues, which meant that realist premise of state-centrism was no longer adequate to address security issues. These led to the attempts to "extend" the agenda of security studies.

However, some scholars were at the same time not content with "renaissance" formulations of security (See Walt, 1991) which evaluated the new issues and challenges within the framework of traditional security agenda, guided by an article of Stephen Walt's (Krause and Williams, 1997: xix). Between these "old" and "new" accounts of security, the debate now centers on how to remove military issues from the center and replace them with diverse challenges to individual and collective well-being or human survival and to reach consensus over the results at the same time.

This chapter will question the concept of environmental security with post Cold war security formulations. After an elaboration of the new extentionist approach (examining the “broadening” and “deepening” lines, concepts used by Krause and Williams) around the concept of environmental security, the chapter will try to answer the following questions: What is a "threat"? What are the characteristics of environmental security? What are the main criticisms of the concept of environmental security? Are the criticisms related to where environmental security fits into the new agenda? In other words, do these criticisms stem from the nature of mainstream International Relations theories, or from that of the new security formulations? Therefore, does the idea of environmental security pose any challenge to the state-centric security formulation? If so, how "real" is this challenge and can it respond to the peculiarities of environmental sector of security? Through the answers, the chapter will conclude that environmental security can best be employed within the post Cold War critical security formulation whose scope is broad enough to encompass environmental issues within the security agenda. However, considering that the critical security framework is limited addressing individuals as subject of security, it seems that the theoretical framework adequate to meet expectations that the conceptualization of security be "deepened" and "broadened" still needs to be worked out in the future.

Reformulation of Security

New security studies especially after the Cold War attempted to reformulate security beyond the narrow definition offered by realist scholarship. To achieve this

purpose, efforts developed along two lines. The first approach attempted to *broaden* the agenda of security "to include a wider range of potential threats, ranging from economic and environmental issues to human rights and migration". The second approach aimed to *deepen* the agenda of security by "moving either down to the level of individual or human security, or up to the level of international or global security, with societal and regional as possible points" (Krause and Williams, 1996: 230)

The arguments to broaden the security agenda were already being discussed even before the end of Cold War. For example, neorealism, formulated in 1959 with the publication of Waltz's *Man, the State and War*, to address the challenges directed against realism, stated that economic and political capabilities of states may also be important for military purposes (Keohane, 1986:89). Still, strategic studies was dominated (as some scholars though it should be) by the military aspect of security agenda (Wyn Jones, 1999:104). However, Buzan's recognition that the definition of security as relating to the protection against external military threats was no longer adequate to serve as a means of understanding "what is to be secured, from what threats and by what means" (Krause and Williams, 1996: 230) led to attempts to broaden the definition to include "security of human collectivities" in other sectors of security (economic, political, social and environment) as well (Buzan, 1991:19).

This definition gained further support as several issues emerged on the international agenda after the collapse of the Soviet Bloc (Wyn Jones, 1999:105) and led to attempts to adopt "a more diversified agenda in which economic, societal, and environmental security issues play alongside military and political ones" (Buzan et al., 1998:7). However, this more expansive definition works by situating the politics of

existential threats at the core of security studies so as not to lose “the essential quality of the concept of security” (Buzan et al., 1998:27), which leads to the interpretation that since different dimensions of security are not mentioned this diversified agenda is not referring to a fundamentally different framework (Baldwin,1997). Moreover, accepting a diversified agenda of security does not necessarily answer the question “whose security is the concern?”. In other words, this does not necessarily allow referent objects other than the state to enter into the picture as well (Buzan et al., 1998: 8).Thus, came the concerns about "deepening" of the agenda.

The referent object of security, as defined by realism, has always been *the State* itself. However, there have been four other frequently used levels-of-analysis in international relations: *international systems* at the macro level, referring to the global system; *international subsystems,* which can be either territorially coherent, such as intergovernmental organizations (IGOs), or not, *subunits,* which can be organized groups of individuals within units who have the capacity to or willingness to affect the behavior of the unit (such as bureaucracies or lobbies); and finally, *individuals* at the micro level (Buzan et al., 1998:5-6).

With its defining core elements as "defined territory, permanent population, and government and capacity to enter into relations with other states, "nothing is more real in this world than states" (del Russo,1995:177). Therefore, for realism, states have been the main level of analysis, especially concerning militarily focused security studies. Moreover, based on the concept of sovereignty, and the existence of the inside/outside--domestic/international—dichotomy, only suprastate levels of analysis

can be studied within the realm of international relations, while substate levels of analysis are perceived as subject of other disciplines (Wyn Jones, 1999:96).

With the end of Cold War, diffusion of international rivalry and a decrease in the likelihood of nuclear conflict due to radical change in geopolitical environment, as well as the increasing number and significance of the multinational corporations, new social movements, transnationals and IGOs (Wendt, 1992:424), led to a questioning of "traditional capabilities and authority of the state" (del Russo,1995:179). The fact that the issues have become more transnational in character rendered solely state-based solutions to threats obsolete. However, considering that there is no more effective form of political organization to replace the state at the moment (del Russo,1995:180), realists argue that in the medium run sovereign states will remain to be the main referent objects of security. However, this does not prevent the alternative arguments to flourish, such that answers to the question of “whose security?” depend on the goal of analysis (Levy, 1990:39), as there is no one correct referent object for security studies (Buzan et al., 1998:295).

How can this alternative formulation become possible? Critics of realism, challenging the narrow definition of security based on military and external factors of threat, still refer to the risks of expanded security agenda (Buzan et al., 1998:4; Krause and Williams,1997:xvi) and try to formulate "a framework based on the wider agenda that will incorporate the traditionalist position...by exploring the threats to referent objects and the securitization of those threats, that are non-military as well as military" (Buzan et al., 1998:4). "[B]ecause states, or the absence of state, have come to be framed as the source of security, or of insecurity, but also of as that form of

political life that makes it possible for us to imagine what security, or insecurity, could possibly mean" (Walker, 1997:68), the dominance of the state has made other conceptualizations of security as well as attempts to focus on other referent objects of security problematic. Shortly, the modernist legacy of the state makes it difficult to conceptualize a "broadened and deepened" security agenda as "realistic" (Krause and Williams, 1996). However, within this broadened and deepened new security agenda, Buzan has been especially skeptical about a coherent conceptualization of security in the environmental sector (Buzan et al.,1998: 2).

Redefinition of Security and Securitization of the Environment

To elaborate the concept of environmental security requires specification at two points: Redefinition of security and securitization of the environment (Brock, 1997:19). "Security is about survival...in the face of existential threat" (Buzan et al., 1998:27) which refers to an emergency situation for the state and requires a right to use whatever means necessary to block a threatening development (Buzan et al., 1998:21).

Although it does not matter whether the threats are caused within or outside one's own nation (Ullman, 1983:16), realism has only focused on threats caused by external action, which Levy defines as "action in which the participation of foreigners is central, whether or not domestic action is also harming national values" (1990:41). Loosening the definition and arguing that security is not necessarily about survival but preserving the status quo, Brock still puts security as a “goal” (1997:20). However, concerning the diversification of issues and actors as well as definition of other levels

of analysis in relation to the state (i.e. individuals can only be secured as “citizens” of a state), it is still presumed that "threats arising from outside a state are more dangerous than threats that arise within it" (Ullman,1983:19). Thus, to deal with the expanded agenda, a new definition of threat is needed.

To respond to this need, Richard Ullman's definition is most useful:

> a threat to national security is an action or a sequence of events that 1)threatens[1] drastically and over a relatively brief span of time to degrade the quality of life for the inhabitants of a state, or 2)threatens significantly to narrow the range of policy choices available to the government of a state or to private, nongovernmental entities (persons,groups,corporations) within the state (1983:19).

This definition contributes to environmental security debate since it encompasses a wide array of threats, ranging from natural disasters to man-made environmental degradation (Deudney,1999; Stern, 1999). However, this definition has not been immune to criticism: How a significantly narrowed range of choice for corporations or individuals can pose a threat to "'national" security is not clear (Stern,1999:130). Moreover, since environmental degradation occurs over a long time frame, it does not fall into the time frame specified by Ullman (Shaw,1996).

In the case of security, something is framed beyond the established rules of the game as a special kind of politics or as above politics (Buzan et al., 1998: 23). The move that presents something as "an existential threat to a referent object" (Buzan et al, 1998: 25) and convinces the audience that it is more important than other issues, and thus should take absolute priority, is called “securitization”. It is always a political choice to securitize or to accept securitization (Buzan et al., 1998: 29)

[1] I would like to thank Serdar Guner for diverting my attention to a "tautology" in this definition. The definition defines "threat" as something that "threatens" something, but still does not clarify the question of "what is a threat?".

because there exists no “objective” threat as a result of the directive speech act, the issue is presented in such a way that the actor operates as if a threat exists (Buzan et al., 1998: 24). What is an important feature of securitization is precautionary principle, a special rhetorical structure by which the issue is dramatized as an urgency such that the audience is convinced "if the problem is not handled now, it will be too late". Thus, by labeling something as a security issue, "an agent claims a need for and a right to treat it by extraordinary means" (Buzan et al., 1998: 26).

Deudney argues that defining environmental problems as security issue is “rhetorical” since it has a motive to make people respond to environmental degradation with a sense of urgency (1991:23). In other words, defining environmental issues as “threats” aims to stimulate action (Deudney,1990:465). However, this criticism of its rhetorical nature cannot be rational in the sense that every securitization act is “rhetorical”. Indeed, those who use the concept to describe environmental security choose to use such a language for two reasons. First, by using security as a “rhetorical device”, the scholars, policy makers, individuals, or even the State itself want to make environmental problems appear as important issues to get public and policy makers’ attention. Second, they want to challenge state-centric, militarily-oriented understanding of security by focusing attention to the disequilibrium between social and ecological systems so as to get state resources for it (Matthew,1997:76-77). In short, Deudney implies that environmental issues do not deserve to be defined as security issues, a sentiment or attitude which is shared by other critics of environmental security concept (for example, Brock, 1997).

The question of whether the environment has been “merely politicized or has also been securitized” then arises (Buzan et al., 1998: 24). Environmental issues are mostly regarded as politicized but not securitized (Rosenau, 1993:84) for several reasons: First, unlike other sectors of security, the natural scientific agenda is more important than the political agenda for the environmental sector. For other sectors as well, science works to give an assessment of threat for securitizing or desecuritizing moves so that the political agenda makes the political choices those are recommended by the scientific experts (Buzan et al., 1998:72). However, the environmental sector has a specific dependence upon scientific authority because of the difficulty of assessing the cumulative global effects of events and the long time frame in which environmental change takes place. Indeed, recent developments, such as transcientific problems blurring the border between science and policy, make knowledge production an important process for the political agenda (Litfin,1993:100), therefore bringing more demand for scientific standards to define the interests of states (Buzan et al., 1998: 72). Knowledge can be a powerful tool leading to politicization by becoming a driving motive for new actions and providing justification for actions already chosen (Breyman,1993: 128) but may not necessarily lead to securitization. However, the power of those who control knowledge determines whether securitization will occur or not. Moreover, according to Breyman, scientists are subject to political pressure, they may not (be able to) indicate some specific date (1993:128) which can be crucial for securitization. In sum, "successful securization in environmental issues (such as holes in ozone layer, and signs of global warming) in

near- term depends on how convincing are the proofs that the concerned elites develop for the decisive action taken by the government." (Rosenau, 1993:84).

Secondly, according to Buzan and his co-authors, Waever and de Wilde, three steps-- existence of existential threats, emergency actions and the effect of interunit relations demanding the right to govern the actions of states by their own priorities-- are required for securitization (1998: 26). However such a call for emergency action or "panic politics" is missing in environmental sector (Buzan et al., 1998: 83). Environmental degradation occurs in a span of time such that the consequences are felt beyond present generation, preventing politics of the crisis from becoming pervasive and quick (Rosenau,1993:84). Also, environmental issues are felt beyond any particular level of analysis.

Thirdly, there is no common agreement on which level to securitize issues: In the environmental sector, securitizing moves are attempted at all levels but generally at the local level (Buzan et al., 1998: 92) Securitization of environmental issues should take place at the global level for some scholars. For Gleick, many of the environmental problems are global in scope (1991); therefore, he calls for international cooperation at the global level, thus disregarding environmental problems posing a threat first at the local and regional level. Similarly, Jessica Tuchman Matthews argues that securitization should take place at the global level for problems such as climate change and ozone depletion that threaten all of humanity, and each state or region should be responsible for its own regional problems (1989:175). For Levy, as well, environmental issues should be linked to security not at the national level but at the global level because direct security threats come from

global environmental problems (1990:48). However, as Rosenau argues, although the global character of environmental issues seems more politically motivating because of the fear of cumulative negative effects on regional and global scale, localizing dynamics are as important (1993:88).

Many environmental problems such as desertification, erosion, pollution, and water scarcity have their consequences felt first at the local level and then at the global level (Buzan et al., 1998: 85). Moreover, the degree to which the same environmental problem affects different countries varies (Buzan et al., 1998: 85; Soroos,1999: 45; Renner,1996: 53), such that the same environmental problem will not be securitized-- may not even be politicized-- in all countries. Therefore, the motto "think globally, act locally" can be useful in grasping how securitization works in the environmental sector (Buzan et al., 1998: 87). This is due to the fact that although the concern is global, its political relevance is decided at the local level (Buzan et al., 1998: 91). Moreover, since people directly affected by the existential threat exist at the local level, they do not wait for time-consuming global-level solutions to materialize or to be formulated (Buzan et al., 1998: 92).

Securitization can also take place at the regional level, through the cooperation of neighboring countries. However, considering differences in national interests of each state, it may also be difficult to securitize the same environmental problem successfully. In today's world, the attempts of international agencies, such as World Bank, UNDP, and UNEP, and interested states can also work for the securitization of a specific environmental issue at the regional level. Securitization attempts at all these levels will be elaborated on in the case studies in the following chapters.

Opponents of securitization of environmental issues argue that although securitization will work to draw public attention to the issue, the costs of securitization may outweigh the benefits (Brock,1997:21). According to Levy, better solutions can be reached on the ozone case by treating it as low politics issue and not labeling it a security problem (1990:50); some states have not taken action because they have not felt their interests and national core values directly threatened. Moreover, concerning the possible linkages between environmental performance and political system, securitization of the environment can lead to justification of military action (i.e. directed to prevent destruction of rain forests) and further degradation of natural resources, due to the negative link between war and natural resources (Brock,1997:21). The reason for this is that "states have not disassociated themselves from the policy of using force as their ultimate means of resolving conflicts and the development of new arms technology has not ceased yet" (Käkönen,1992:151).

After clarification of these two points, now we can move to the formulation of environmental security within this expanded security framework by addressing the difficulties of placing environmental security within the realist framework. The next section will question whether these difficulties can be overcome with a critical formulation of security or not. This attempts to answer whether environmental security challenges or reinforces the state system.

Problems with Environmental Security

The dilemmas of environmental security arise as the following four questions are answered: 1) what is the definition of environmental security, 2) what is the

relationship between environmental change and conflict?, 3)what should be the response to deal with environmental change if it poses a security threat?, 4) what is the referent object of environmental security?

The first problem is *the lack of a common definition of environmental security.* In general, there are four defining elements of security: There should exist the core values to be secured; the threats that endanger these; the vulnerabilities that make threats salient; and appropriate response mechanisms. (Matthew 1997: 89). When it comes to the environmental sector, most observers share a concern for the environment (Dabelko and Dabelko, 1995: 9); however, they disagree about the link between the environment and security. One reason contributing to this controversy is the broad range of environmental issues covered under the concept of environmental security (Dabelko and Dabelko, 1995: 4). Environmental issues listed by Buzan, Waever and de Wilde include: disruption of ecosystems (such as climate change, loss of biodiversity, deforestation and other forms of erosion, depletion of the ozone layer and various forms of pollution); energy problems (including energy shortage and uneven distribution of it); population problems; food problems; economic problems (concerning structural asymmetries and inequity, unsustainable modes of production and social instability due to these); and civil strife (meaning both war related to both environment damage, on the one hand, and violence related to environmental degradation and other) (1998: 74-75). Some authors prefer a distinction in just two arenas rather than all these different categories listed such as natural resources and their man-made degradation (Rosenau, 1993: 80). However, all these categorizations

refer to the multiplicity of issues that environmental security has to cover in its definition.

There is not a clear consensus within environmental security literature regarding which issues are subject to securitization and which are not. Moreover, not every publication deals with all of these topics (Buzan et al., 1998:17), which causes differences in the definition of the environment and, thus, environmental security. According to Levy, the environment is defined as "natural resources characterized by a fixed stock steadily depleted over time, and systems in which the feedbacks are strictly economic and not ecological, ought not be considered environmental" (Levy, 1990: 39). This definition attaches economic value to nature, which is problematic: It is anthropocentric in definition by pointing to the competition between homo sapiens and other species and nature (Dabelko and Dabelko,1995: 5). For example, it is not the scarcity of one resource such as water that leads to the securitization of the issue but the uneven distribution of that resource between borders and states that leads to tension. "Scarcity is not a product of nature but, rather, a consequence of control of ownership of property, of sovereignty and of markets." (Lipschutz, 1997: 43). Considering the link between ecological systems and man-made political/international structures, other definitions of environmental security emerge as well.

Brock points to the distinction between ecological security and environmental security. Whereas environmental security refers to the safeguarding of strategic natural resources, ecological security refers to "the safeguarding of a condition whereby the physical surroundings of a community provide for the needs of its inhabitants without diminishing its natural stock" (1997:24). In a different fashion,

the environmental security concept of the Bern Group includes two parts: "economic scarcity", which is decline in quantity of a resource and thus can be relative; and "ecological scarcity", which is decline in quality of a resource that may turn irreversible when degradation exceeds "the point of no return" (Brock, 1997: 23). Among these attempts to link socio-economic systems to ecological systems, Myers' definition covers everything that can be regarded as "ultimate" security, which "amounts to human well-being: not only protection from harm and injury but access to water, food, shelter, health, employment, and other basic requisites that are the due of every person on Earth." (Myers, 1993: 31). This is not an abstract or trivial observation in the sense that "everything is connected to everything" (Matthew, 1997: 82). However, it is not welcome by other scholars because it is regarded as too maximalist and existentialist in scope. (Levy, 1990: 36; Matthew, 1997: 74). Indeed, "if everything that causes a decline in human well being is labeled a security threat, the term loses its analytical usefulness". (Deudney, 1990: 463; Deudney, 1991: 22).

Buzan, Waever, and de Wilde have also pointed out the risk that the wider security agenda may lead to the concept of security losing its coherency (1998: 4). In sum, the first dilemma of environmental security, the lack of agreement on a common definition of environmental security, also raises the issue of what to secure: renewable natural resources with a life-sustenance value or non-renewable natural resources without a life-sustenance value to human beings (such as oil, coal, or diamonds). The latter can be regarded as economic scarcity resource issues because these can be substituted for by technological innovation (Mathews, 1989: 164). Although it can be argued that technology can bring substitutes for renewable resources as well

(Deudney, 1990: 470), such as desalinization of sea water to get fresh water, these technologies are very expensive and not available to everyone. Therefore, it is widely accepted that change in the quality and quantity of renewable resources should be considered an "environmental threat" to security(Dabelko, 1995; Matthew, 1997; Claussen, 1995). Yet, there are nuances among these arguments as well: For Dabelko and Dabelko, air and water deserve attention. For Claussen, water, fisheries, and forestry are important, but for Matthew water and fisheries are more important, thus deserve to be the subject of environmental security

Most analysts and scholars agree that among these renewable resources, water (especially surface water) has a definite link to security. As Myers notes, to many "[I]f the oil wars have begun, the water wars are on the time horizon" (1993: 12). The agreement over surface water as a clear threat to internal (or domestic) security stems from the fact that water is so crucial for life. For example, water scarcity induced by increased demand, decreased supply or unequal access to available supplies (Homer-Dixon, 1994) undermines internal security by contributing to health problems, civil strife, economic crises and institutional failures (Chou, Bezark, Wilson, 1997: 98). The conditions undermining international security are more complex: Concerning state's sovereignty, water often moves beyond borders in the form of rivers. Two-hundred sixty rivers around the world are shared by two or more sovereign states (Serageldin, 2000: 291). However, one cannot tell if all these river basins are prone to insecurity.

The conditions that make a situation of water scarcity into one of regional insecurity are various, such as the extent to which a river is shared by more than one

country, felt interests and perceived issues, or the motivations and perceptions of the actors, as well as relative advantages of the countries sharing the water resource, and the lack of inequitable water sharing agreements among all water users (Naff and Frey, 1985: 78-79; Chou, Bezark, Wilson 1997: 98) as well as economic development schemes. Economic development schemes in a river basin to increase agricultural productivity or to produce hydroenergy mean a change in the quantity of water flow for the downstream riparian as well as a change in the quality of the water in the long run. However, the consequences of the development schemes also vary from case to case. Moreover, contextual factors, such as the existence of political, economic and social (religious or ethnic) tensions, affect the relationship between environmental change and insecurity. In sum, it is not certain whether the sense of insecurity at the regional or international level is directly caused by environmental change due to the use of water by riparian states. Therefore, it is better to clarify the issues concerning the relations between environment and security on a case-by-case basis.

A second problem about environmental security is related with *the relationship between environmental change and conflict.* There are two camps regarding this issue. "Traditionalists" like Homer-Dixon, Matthews, Myers, and Renner argue that environmental degradation may lead to armed conflict (Dolatyar and Gray, 2000: 72). However, it is important to understand that their arguments are not attempting to assert environmental problems as the main factor of insecurity. Instead, they take environmental problems as an "accessory factor" of insecurity. From this perspective, a negative change in the quality and quantity of renewable, non-substitutable resources is an important factor, but only one of many factors

leading to conflict. In short, environmental change acts as a variable of conflict, that is, it indirectly causes conflict by playing along the rift lines in the state and society by exacerbating already existing political, economic, or social tensions and conflicts. (Stub, 1997: 4; Mathews, 1989: 167; Homer -Dixon, 1991, 1994, 1999; Myers 1993: 23; Renner, 1996: 53).

Opponents of this camp, such as Gleditsch, Hauge and Ellingsen, and Deudney criticize this link between environmental change and armed conflict in three ways. First of all, the character of environmental and resource interests do not match with the deep-rooted material and institutional features of contemporary world order so as to ignite an armed conflict (Deudney, 1990:470). Moreover, security interdependence – not a one way relationship where one country is polluting its neighbor but the neighbor is as well causing environmental change in the polluter country—as well as linkage of issues (Buzan et al., 1998 :89-90) make it difficult for environmental factors to lead to interstate violence separate from the effects of interactions with other military, economic and cultural factors. Secondly, only in a pessimistic scenario will environmental change lead to an armed conflict, but even then people would not fight a war since they would not want to waste their already scarce resources (Deudney 1990:472). Thirdly, the study on the impact of environmental degradation on armed conflict has a flawed methodology, that it lacks comparative research. According to Gleditsch, there is a need to explore the link between regime type and conflict, since democratic countries are less likely to fight wars in general and environmental-induced insecurity in particular. What is more, democratic countries have a bigger concern for the environment (1997: 96-100; 1998: 389). To this point,

Hauge and Ellingsen add the need to further search the link between economic factors (poverty, income equality) and conflict and between environment and conflict (1998:314) which is a good point to begin tracing the link.

Before passing to the next problem, I would like to clarify the following points: Contrary to Deudney's argument that the possibilities for states to fight a resource war are diminishing due to the coming of "age of substitutability" (1990:470), access to resources (both renewable and non-renewable) still plays an active role to drive states to war. If not, the Gulf War, due to Iraqi desire for oil, nor the continuing tension between Syria and Israel over Golan Heights, due to claims of water, would not occur. Deudney puts too much confidence in mankind and perceives life as a struggle to be won against nature. However, he ignores the dependence of humans on Nature for the provision of even the basic life-sustaining resources.

Moreover, the argument that "states will not fight over already scarce resources" seems to ignore the capability of environmental change to lead to conflict at the domestic level. For example, the clashes between Hutus and Tutsis in Rwanda in 1994 was not a case of simple ethnic hatred. It involved a complex web of factors which have been ignored for long years such as population growth, land degradation (both increasing stress over already scarce land) and economic discrepancies resulting from mismanagement of resources (Renner 1996:114-122) which affected international security through an influx of refugees from Rwanda to neighboring countries. Deudney's criticism seems to undermine the foundations of the domestic-international distinction. Civil war in a country even far away from a state's security concerns is brought to the agenda by mass media with "instantaneous communications

of global reach" calling for an end to domestic strife by the help of regional or international organizations (like NATO, or the UN). This shows that domestic/international distinction is becoming less significant to the international community (Stern, 1999:139).

Finally, I believe that after accepting Ullman's reconceptualization of security based on threat causing change in the quality of human life, perceiving an environmental threat as a cause of conflict (conventionally understood in military terms among states) seems to be as a step "backwards" by trying to fit environmental threats into the realist agenda. There can be other forms of insecurity (Figure I), directed towards the nature, the individual, but these may not lead to armed conflict between states or involving a state's military forces at all.

A third problem is about *how to fashion a response to environmental change.* Despite the radical change in the geopolitical circumstances in the post Cold War, the new world (dis)order still requires the use of military to overcome threats (Dabelko and Dabelko, 1995:6). Conventional understanding of security reinforces the idea that threats -- including environmentally induced conflicts-- could only be overcome by deployment of military force and the U.S experience in Somalia, Rwanda, and Haiti provided a good support for this argument (Claussen, 1995:43). However, how appropriate are the realist instruments to provide security from environmental threats whose nature is totally different than that of military threats by use of force[2]. War

[2] Nature of environmental threats is different than that of military threat. First of all, there is no actor-based threat in environmental security. Environmental threats are "threats without enemies". However, according to Buzan, there is no need for an actor based threat to define something as a security problem (Buzan et al.,1998:44). This lack of external threat makes "us" versus "them" distinction which mobilizes public in case of threat inapplicable. In environmental sector, the enemy is "us" and we may not feel threatened and therefore be eager to respond when same environmental problem is caused by our state but may feel threatened when it is due the actions of another state. Deudney gives the example

cannot be an instrument to provide environmental security. On the contrary it is widely accepted among the scholars that war is the main contributor to environmental problems and environmental insecurity either during the preparation for war by creating pollution, wasting significant fiscal and organizational resources that could otherwise be spent on the environment, or during and in the aftermath of war by directly destroying the nature (Matthew, 1997; Deudney, 1990; Stern, 1999; Dabelko and Dabelko, 1995). Even the ones who believe that military can respond to environmental problems believe in the need of expansion of the role of armed forces, not only limited to coercion but to include precautionary activities as well to counter or ameliorate specific environmental concerns (Oswald, 1993:126). The role of military as a major contributor to environmental problems shows how unconvincing are the attempts of realists to isolate environment from the traditional military core of security studies. Realism induces scholars to squeeze environmental issues into a structure of "state", "sovereignty", "territory", "national interest" and "balance of power". Therefore, realism discourages an emphasis on transboundary environmental problems because it cannot link these issues to a particular country or explain the impact of these on the structure of power relations between states (Homer-Dixon, 1991: 84-85). However, as it is explained earlier, the environmental agenda easily

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of U.S citizens being more concerned with deforestation in Brazil than that occurring in the U.S.(1990:468). Environmental threats are not “yet” depicted as “enemies” because it is not very easy to formulate them witihn the conventional terms of security or other traditional forms of political discourse which has been shaped by the Cold War terminology of us/them, friend/foe distinction. (Dalby, 1997:19). Secondly, the nature of organizations dealing with military threats and environmental threats are different. Military organizations are specialized, removed from the society and based on zero-sum concept: the greater one nation's security, the less another's. On the contrary, environmental organizations deal with all subjects, are open to everyone and bring common benefits (Dabelko and Dabelko, 1995:6-7). Thirdly, military threats occur in short-time horizons but environmental threats occur in long-term horizons (Deudney, 1990:467) which means that

falls within the parameters of the security agenda even when the agenda is defined in military - centric terms (Stern, 1999:138).

The fourth and last problem concerns *the referent object of environmental security*. "Security as a concept clearly requires a referent object, for without an answer to the question: 'The security of what?' the idea makes no sense" (Buzan, 1991:26). In the environmental sector, unlike other sectors where a particular referent object[3] can be depicted as the one whose survival is threatened, it is difficult to identify one particular referent object in the environmental sector. Indeed, the range of possible referent objects is very large and may range from

> relatively concrete things, such as the survival of individual species (tigers, whales, humankind) or types of habitat (rainforests, lakes), to much fuzzier, larger scale issues such as the maintenance of the planetary climate and biosphere within the narrow band human beings have come to consider to be normal during few thousand years of civilization (Buzan et al., 1998:22).

To categorize it differently, to deep ecologists the referent object of environmental security may mean the environment itself, and to others, it may refer to the environmental quality of life, or achieved levels of civilization and environment (Brock, 1997:18; Matthew,1997:77; Buzan et al., 1998:76). However, these two do not necessarily coexist in harmony nor exist in harmony with the realist definition of security.

Indeed, "theories of security must be for those who are made insecure by the prevailing order, and their purpose must be to aid their emancipation"(Wyn Jones,

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environmental issues are not "hot issues" (Rosenau, 1993:81) and it is not easy to securitize environmental issues.

[3] For example, in the military sector, the referent object is the state. In the political sector, the existential threats are generally defined in terms of sovereignty and ideology of the stte. In economic sector, it becomes difficult to depict the referent object at first instance, however, firms or national economies can provide consensus as referent object of security. And in the societal sector, the referent

1999: 118) which calls for accepting different referent objects at different times and in different locations and in different issue areas (Baldwin,1997).

Human Security

Traditionally, state actors faced an "external threat" where social and natural resources have been redistributed based on an emphasis on armed security by those in power (Käkönen, 1992:148). Therefore, the state was perceived as the main provider of security for inhabitants (its citizens), at the domestic level. However, in today's world, states are far from creating the atmosphere of stability and fostering prosperity for individuals: rather states are becoming the main source of insecurity (Wyn Jones, 1999: 99) by legitimizing the use of extraordinary measures against its own citizens (Wyn Jones, 1999:108). Individuals are directly affected by the impacts of existing socio-politico-economical structure and the problems resulting from the attempts to sustain the continuity of the state, which mean inequal opportunities to basic services such as health, education as well as brings displacement of masses and the weakening of social institutions as an "everyday reality" to "ordinary people" (Käkönen,1992: 148-149; Rosenau, 1993:73). Moreover, a government's treatment of its own citizens , which has traditionally been treated as a domestic matter, is now held to be within the realm of international law (Mathews,1993:34), which shows that individuals are becoming referent objects in the realm of political sector, especially through the issue of human rights (Buzan et al., 1998)

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object is the large-scale identities defined independent of the state in their functioning. (Buzan et al., 1998:22).

Similarly, in the environmental sector, consequences of large scale development projects and the change in the environment affect substate actors more (Stoett,1994:210). Many of the environmental resources and pollutants are ubiquitous and they encompass regions and the whole Earth, rather than one particular territory over which state has not traditionally exercised control (Rosenau,1993:76). This means that the state has become inadequate to alleviate environmental problems and it is not the survival of the state which is at stake.

The problem in the environmental sector is whether individuals are the referent object of security and if they are, how they become referent objects. Although Buzan and his co-authors Waever and de Wilde share the idea of social construction of security and the expansion of security agenda with critical security studies, challenging the realist premises, they are skeptical about individualism as the referent object of security (1998:47). The reason lies on the assumption that the success of the referent object of security depends on its size: Depicting the scale of the referent object at the micro level to be individuals or small groups as well as at the macro level to be humanity as a whole is problematic (Buzan et al., 1998:37) because at these levels it becomes difficult for the referent object to claim legitimacy in terms of survival (Buzan et al., 1998:39). Legitimacy for the referent object of security can best be sustained at the middle scale of limited collectivities where an "us/them" feeling can be sustained easily in the case of securitization.

Individuals can become referent objects of security in two ways: Either as themselves or by being members of a global civil society where their allegiances are planetary. Individuals are important referent objects of security analysis, since loss of

life prevents the enjoyment of all other goods (Deudney, 1990:462), security from violence is a primal human concern and a secure world cannot be achieved if individual feels insecure. Indeed, the state is a means of providing security but not the end in itself (Wyn Jones, 1999:114). By themselves, individuals can become the referent object of security through a conceptualization of security both in the theory and practice of security which operates within a broader concern for human emancipation (Wyn Jones, 1999:5). Based on Horkheimer's notion of emancipation, where individual is the ultimate referent object of analysis, the "critical theory should be concerned with the corporeal, material existence and experiences of human beings"(Wyn Jones, 1999:115). However, a focus on individuals can be criticized as reductionist because humans live in collectivities whose characteristics differ (in the social sense, needs of women are different than needs of men) and human beings cannot be categorized under the single title of "individuals" since their identities differ. Wyn Jones argues that since every human is constituted by overlapping of identities, the focus on individuals would raise the multifaceted nature of identity and the problem of "difference" can be alleviated through concrete analysis therefore by deciding what group to privilege depending on the case (1999:116). Indeed, emancipation provides "true security" because security understood as the absence of threats can be achieved by removal of constraints over individuals (or groups) such as war, poverty, poor education which prevent them from choosing freely what to do (Wyn Jones, 1999:118).

The relationship between security and emancipation of individuals can be achieved in a couple of ways. The first way to understand what emancipation means

is by formulating security studies within the framework of critical theory. Through understanding how the modern accounts of security construct "subjects" or tell individuals who they must be (Walker, 1997:71), a transformation of political life from political realism to political idealism can be achieved. Thus, this may provide the link between security and individual by removing the inside/outside dichotomy which privileges the state. A second way is to analyze particular issues and areas, or to elaborate which institutions in particular settings will best advance regional security from a critical security perspective, what conditions can be created to provide security for all which will provide a means of conceptualization away from generalizations (Wyn Jones, 1999:121-122). A third way is to apply the insights of critical theory to the study of world politics which will provide alternative images of political community other than the traditional one image of individuals excluded by a sovereign nation state (Linklater, 1996:77). Considering the impact of globalization and the increasing social differentiation of social systems, the notion of national identity is challenged. In this context, questioning traditional notions of sovereignty and citizenship are no longer utopian (Linklater, 1996:81). Therefore, considering the needs of those who do not share the dominant national culture and the interests of people outside one's own nation can be possible (Linklater, 1996: 98).

However, implementation of critical theory based on Horkheimer's notion of emancipation as elaborated in the interpretation of Wyn Jones (1999) can be problematic for the environmental sector. Horkheimer's notion of emancipation is based on increased domination of nature by humans. Interestingly, contemporary environmental problems are due to the attempts of human to dominate nature. Thus,

emancipation --if perceived in Horkheimer's notion-- in the field of security may bring "new forms of domination" which may emancipate individuals but "enslave" nature, which will not be helpful to address environmental insecurities.

Individuals can also be regarded as referent objects of security as members of "civil society". Traditionally defined within the borders of a nation-state, civil society now has a broader definition through globalization:

> Civil society is … a context in which a number of collectivities are formed and interact. Civil society comprises formal organisations of a representative kind (e.g., parties, churches, trade unions, and professional bodies); formal organisations of a functional kind (e.g., schools, universities and mass media); and more informal social and political networks, ranging from local voluntary groups and ad hoc activist coalitions to nationally and internationally coordinated social movements (Shaw, 1994:648).

Civil society as an alternative to individuals can work better in terms of security legitimacy in the sense that "the individual is individually weak against the state" (Prins, 1993:177). Civil society allows individuals to sustain legitimacy as a security referent. Moreover, individuals can contribute more to the transformation of the traditional structures, and by working through their own communities, can offset the threats undermining their security (Mathews,1993:37). However, it may not be possible to sustain a "us/them" feeling within the civil society, since different groups in the society are affected to varying degrees by the same problems. In the environmental sector, the environmental change affects impoverished communities, indigenous people, local inhabitants, or the nomadic tribes more than rich, urban elites (Renner, 1996:55). Another issue concerning lack of "us/them" feeling can be the fact that individuals may not be ready to define a common interest for which they are willing to work. (Raustiala, 1997:736).

It is not possible to increase security in the context of traditional values and within the framework of existing economic and political structures. Long-term security in the international system should involve a peaceful transformation of the whole system based on "new threat images" and state as a threat to civil society (Käkönen,1992: 153). For an expansionist reformulation of security, functioning of civil society is crucial. However at the global level, civil society is weak. This is because the states have the power and can prevent the functioning of global civil society if it does not function to the interests of states. Second problem is related with the coherence of response from global civil society concerning the differences in culture, interests, and fears. (Shaw, 1994:650). This is especially evident in environmental sector. What exactly is rendered secure in environmental problems is a controversial issue. For example, during the Gulf War, is it the Northern access to resources around the world? (Dalby, 1997:16). As long as the concept of security defined in terms of modernization and the promotion of economic growth prevails, the North feels "insecure" by the environmental consequences of the development of the South. However, from the viewpoint of the South this is just an excuse to restrict the South's use of its resources in the way it wants to use[4] . Therefore, concerning global civil society, a common definition of threat will be difficult to formulate in environmental matters.

Regarding the problems with both attempts to present individuals as referent object of security, it can be argued that there is a need for further clarification. What can be a good solution to the problem of defining individual security is to relate the

[4] Global civil society is not necessarily a realm of Southern or Northern definitions of the State. However, at contrasting levels of development, perceptions of (environmental) insecurities may differ

referent object to the goal of analysis and area. For example, concerning water-related tensions in international river basins, individuals can be the referent object of analysis. However, global civil society, or humankind in general, cannot respond effectively, because it is difficult to securitize the environmental degradation occurring in one river basin at the humanity level**.** This could perhaps be possible within the framework of "One-World" thesis, that "nobody can feel finally secure as long as others are persistently insecure" (Myers, 1993:16), since it is the same "Earth" that both African and Americans share (Myers, 1993:16). However, the idea of "one-world" does not have many supporters. Indeed, it is argued that the term has an ecological meaning but calls upon industrialized countries to assist the Third World countries which may put more stress over the natural resources by discouraging Third World countries from using their resources in a sustainable fashion (Abernethy, 1990:323), thereby it carries the problem of moral hazard by discouraging Third World countries taking action to solve their own environmental problems.

Another problem with taking individuals as referent object of security is that the state still has the legitimacy and power to regulate the actions of different actors in international relations which makes it difficult to have alternative referent objects (Raustiala, 1997:736). However, the boundary - erasing impacts of globalization over the issues may mean a redefinition of the content, levels-of-analysis, and referent objects of security.

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from North to South. (See Soroos, 1999: 53-54.)

Accepting the fact the nature of environmental issues supersedes "borders" of nation state and the bifurcation[5] of the state system, it can be argued that state-centricism is a "narrow self-closing definitional move" (Buzan et al., 1998:37) and by a wholesale refutation of current power structure, we may move to "human security", individuals as the referent object of security.

In short, diversification of issues requires a reformulation of security since traditional realist security premises cannot address them. This stems from the fact that these new issues have already been presented as "threats" by national leaders or foreign security analysts, and require an answer to the question how to fashion a response which can be possible within the extended security agenda.

Methodology

For the elaboration of the concept of environmental security, a structured, focused comparison of two river basins --Syr-Darya / Amu-Darya rivers (Aral Lake Case) and Euphrates/ Tigris rivers (Southeastern Anatolia Project, GAP case)-- will be carried out. Using critical theory formulation of the post Cold war era and with an observable variation, change in the quality of human life, i.e. increase in the diseases, decrease in mortality), I will try to answer "How does the environmental change affect the quality of human life?". Setting up the dependent variable as "state security", and independent variable as "environmental degradation" , I intend to show that individual security can be equated with state security ,rather than trying to show environmental threat as component of state security. The use of intervening variables

[5] By "bifurcation of world politics", Rosenau refers to the coexistence of the traditional state-centered structure of the international system with an equally powerful but less centralized, multi-centric system,

such as the level of economic development, political stability within the basin (whether there has been stable governments or not, there has been other issues having conflict potential or not), level of environmental degradation, and population measures, will provide me the opportunity of a coherent analysis.

The form of environmental degradation is different in the two cases: In Aral Case, the alteration of river beds for irrigation resulted in water scarcity, salinization and decreased the quality of life for inhabitants. In the GAP case, large dams and irrigation schemes are causing waterlogging and salinization, but more seriously, dislocation of people, and the establishment of dam reservoir over the homes and lands of these people has left people landless and homeless. This difference will determine the general questions to be asked for each case. For Aral case, the secondary sources as well as internet sources will be examined. For elaboration of GAP case, I will rely on primary source material derived from interviews with state officials and nongovernmental authorities since available secondary source is limited. As an attempt to redefine security, this study will be both descriptive and analytical.

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dominated by a variety of actors such as NGOs and other transnational actors.

Chapter 2

Aral Lake Basin

> Environmental security must be acknowledged as a part of personal security of citizens and it must be given priority consideration when conducting or planning any kind of activity (Kaffka,1997:189)
>
> [T]he earth's resources are enough for everyone's need but not for everyone's greed (UNEP Handbook, 2001:8)
> [Soviet ideology of eco-perestroika] Society cannot wait for nature to produce benefits , society must extract those benefits from nature (Middleton,1998: 2)

Introduction

As elaborated in the previous chapter, it is commonly agreed that international river basins are more prone to conflict due to sovereignty and territoriality concerns. The proneness increases especially where water, a very essential and non-substitutable resource, is shared by two or more states, or when it is perceived that water is overexploited or degraded by others. This applies to the case Aral Lake basin, where not so many water resources exist other than the two rivers Amu-Darya and Syr-Darya, which have already been overexploited during ex-USSR rule, and are now shared by five newly independent states (NISs): Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

The borders of Aral basin have been recently drawn with the disintegration of USSR in 1991. After the lack of centralized control of Moscow government, the

problems stemming from unequal distribution of people, land, and water resources between these newly independent states (NISs), nation building has been a problematic process in Aral basin, regarding the geographical, socio-economic, political and environmental peculiarities of the region.

This chapter will explain the peculiarities which are exacerbating the potential for conflict, although only small-scale scarcity - induced conflicts have been experienced in the region so far. The chapter proceeds as follows. After elaborating the geography of the region, I will explain the causes of environmental degradation (cotton monoculture, poor water and land management practices, and Soviet ideology of eco-perestroika) with its most visible outcome as the desiccation of the Aral Lake, as well as salinization of soils, and change of ecosystem and climate. The impact of these environmental changes over the economy will then be examined. Detailed clarification of the impact of all these changes over human ecology (individual security of citizens) will provide an opportunity to link environmental degradation to human (in)security. These alone may not be crucial to undermine the security of states in the region. However, the fragile economies of the states, ethnic cleavages in the region, threat of rising fundamentalism, lack of political stability (corrupt governments and rising opposition) increase the potential for "armed" conflict. Although there are individual actors, global civil society, and attempts of cooperation among the basin states, no endurable solution has been reached yet. Already a huge number of people have been dislocated from the region due to environmental degradation, which is a threat to security of the basin according to UNHCR[6]. However, there are still hundreds of thousands of people seriously affected from

environmental degradation and are insecure (lacking the ability to meet the requirements of human security) and unfortunately, the future of the states in the basin is directly linked with the future of these people.

Physical Geography of the Aral Basin

As an arid land dominated by deserts, Asia experiences sharp continental climate which is characterized by hot summers (with the highest temperature 40-50°C) and cold winters (the lowest -6 to -8°C). Precipitation also fluctuates, varying from 100 millimetre/year (mm/year) in the Qyzlkum and Karakum deserts surrounding the Aral Lake and in mid-Ferghana Valley, to up to 300 mm/year or more in the foothills of the mountains in the south and east (Elhance, 1997:209; Downing, 1995:395). Hot summers cause high rates of evaporation. The climate limits the settlement to the locations around the main sources of freshwater, the rivers of Amu-Darya and Syr-Darya, which have annual flow rates of 62-72 billion cubic meters (m^3) and 37-40 billion m^3 respectively (Tanton and Heaven, 1999: 363). These two rivers used to feed the Aral Lake with an average annual flow of 50 billion m^3 till late 1950s which was enough to keep the inputs and ecological situation of the Aral basin stable. However, because of diversion of rivers to increase irrigation to produce more cotton beginning from 1960s, the annual flow from the rivers reaching Aral Lake dramatically decreased (Middleton,1998:2). With more than three thirds of the flow of rivers diverted for irrigation, by 1980s less than 7 billion m^3 of water was reaching the Aral Lake (Spoor,1998) which led to the d(r)ying of the Aral Lake.

[6] For the figures of dislocated people, see Lucy Jones, 1999, p.29.

Peculiarities of the Basin

The basin was under the rule of ex-USSR until 1991. USSR was a huge country in scale and although there existed a very large database about the consequences of development projects, this database was insufficient in terms of quality and provision of information, because the data was processed in line with the main ideology, particularly eco-perestroika (Zhulidov et al.,2000:1937). Moreover, until the early 1980s, open discussion of the costs of economic and ecological problems was prohibited due to dogmatic attempts at development, which favored straightforward approach to development (Glantz et al, 1993: 176). In the 1980s, glasnost policies of Gorbachev and the Chernobyl accident in 1986 brought environmental awareness for people for the first time.

The economy of Central Asia was totally dependent on the Soviet economy. Thus, after the independence, Aral Basin states were hit by an economic catastrophe and its aftershocks due to the drought of 2000 and decrease in world cotton prices[7] (ICG, 2001), which caused hyperdepression. The basin was already poor and neglected under the Soviet rule compared with other regions of the USSR For example, in Kyrgyzstan, the share of the population below poverty line was 12% in 1988. However, with the end of direct budget support to the Kyrgyz government by Moscow, the ratio increased up to 84% in 1994 (ICG, 2001).

The basin lies in a volatile and politically unstable geography: Russia in the north, Iran in the west, Afghanistan in the south, and China in the east. Because of its

[7] Cotton is still the main source of income for the economies of Uzbekistan and Tajikistan. See ICG, 2001.

location away from major international trade routes, and being surrounded by neighbors not hospitable to the west, foreign investors, who could have played an important role in economic development, have been deterred from the Basin.

The states of the Basin have taken steps on the road of political transition since 1991. However, the example they took was China, a model of stable authoritarian state with a liberal economy. As this system is based on the strong control of the state, it brought the corruption of political elite, which exacerbated the discrepancy between the rich and the poor, thus yielding social tension (ICG,2001). The region has a high birth rate (Rumer, 1990:xv), and with lack of proper education system, lack of jobs and accompanying hunger due to economic insecurity, especially young people have been mobilised as a political opposition to the government of their state in rule.

Moreover, ethnic differences have a potential to exacerbate already existing political, economic and social tensions. Kyrgyztan has significant Russian and Uzbek population within its territory, Uzbekistan has large Tajik population and Tajikistan has large Uzbek population (Elhance, 1997:214). Ethnic cleavages exacerbate with unequal and discriminatory distribution of water, and land among the population (Rumer, 1990:76-78).

Although there is little probability that the Aral basin states will fight "water wars", a number of small scale resource-based conflicts have occurred in the basin because the basin states are too divided internally. For example, in the summer of 1989, a small scale armed clash occurred between Kyrgyz and Tajiks in Kyrgyztan over division of water and land resources (Elhance, 1997: 213). In 1990, a dispute over water and land in the Osh region of Kyrgyztan, on the border of Uzbekistan,

caused the death of 300 people. Similarly, in Ferghana Valley, tension over access to land and water ignited inter-ethnic conflict in 1990 (Spoor, 1998: 433). Indeed, the unilateral attempts of states to increase water use, such as Turkmenistan's attempt to extend Karakum Canal to divert more water from Amu-Darya river for its own use, may exacerbate tension in the basin (Elhance, 1997: 213).

Moreover, more than a hundred thousand people have been dislocated because of environmental reasons in the basin (Glantz et al, 1993: 185). Considering that new Russia will be unable to resettle new environmental wave of dislocated people, which would undermine the security of the region, Norway and Finland have prepared themselves to accept thousands of dislocated people (Kaffka, 1997: 185).

Causes of the Desiccation of Aral Lake

The cause of desiccation of Aral Lake was cotton monoculture, water intensive cash-crop production (Elhance, 1997:209; Glantz et al, 1993:178; Rumer,1990:70; Tanton and Heaven,1999:363; Kobori and Glantz,1998:38; Klötzli,1997:418). During the Soviet period, especially with Stalin's imposition of collectivization of land, Central Asia became dominantly an agricultural region, with its economy totally linked to cotton production[8]. By 1960, there were 5.1 million hectares (ha) of land irrigated for cotton production which increased to almost 7.5 million hectares in 1990s (Elhance, 1997:209; Tanton and Heaven,1999: 363) with an additional million hectares of land planned till the end of 2000--before the disintegration of USSR.

More than being the main medium of export for cash-hungry USSR, cotton monoculture can also be identified as an extension of Soviet ideology of eco-perestroika, i.e, restructuring nature in order to exploit it (Spoor,1998; Middleton,1998) which was assured not only by Soviet government decisions but also by the members of scientific community (Glantz et al, 1993:175). It can also be seen as a result of a Soviet policy of centralism which aimed to render regions dependent on Moscow. Centralism worked in the following way: The Aral basin was specialized in cotton production in a way that crop rotation was violated, nothing but cotton was planted, trees were cleared for more land, and only cotton was cultivated in state farms (sovkhozy) and collective farms (kolkhozy). After the harvest, the end product, raw cotton, was shipped to procurement centers in other republics of USSR, which specialized in textiles. (Rumer, 1990:69-70). In return, other republics provided other needs of Central Asia. As a result of this centralism, not only agriculture but also industry, education, health and public morality[9] collapsed with repercussions for today.

Dependency is experienced today as well because the necessary conditions in terms of labour (manpower), technology, finance and trade have no longer been available since 1991 for Aral basin states to provide their self-sufficiency in food, trade, health and other sectors (Downing, 1995: 393).

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[8] Central Asia, where Aral Lake basin lies, was depicted by USSR for specialization in cotton production since it was the most suitable area within USSR for cotton production with its sunny and warm climate, and fertile plain lands. See Fergus, 1994: 36.

[9] USSR policy was towards more and more cotton production. However, due to technical problems, such as out-of-date irrigation schemes, as well as deterioration of soil through time, it became almost impossible to increase the amount of cotton produced despite heavy use of fertilizers. Since the producers found it totally impossible to fulfill USSR plans in cotton production by honest means, all types of fraud occurred. One of the ways was bribing the head of kolkhozy or sovkhozy to inflate the

The impact of the diversion of rivers is coupled with poor irrigation infrastructure: Only 30-40 percent of the water withdrawn for irrigation purposes actually reaches the crops. The rest is lost during transport either due to groundwater seepage or evaporation (Tanton and Heaven,1999: 363) --as common characteristics of all large irrigation projects, which can be held true for GAP case to be elaborated in the next chapter. As one example, one third of the water from 1,300 kilometers long Karakum Canal[10] in Turkmenistan--once designed for irrigation but now used to provide drinking water -- is lost through filtration and evaporation before it reaches the crops (ARAL-SD, 2001). The diversion of rivers accompanied by poor water and land management practices brought the most observable environmental change in the basin: Desiccation of the Aral Lake, with heavy pollution and salinization of the left-over water. Aral Lake was once the world's fourth largest lake, fed by 50-60 billion m^3 of freshwater annually of Amu-Darya and Syr-Darya rivers. It supported a diversity of life, a fishing industry, paper industry and was the home of fertile lands used for irrigated agriculture since eighteenth century to produce a variety of crops. However, with a minimal and ever decreasing volume of water, the surface area of Aral Lake shrank by half, the sea lost three-fourths of its volume with a 16 meters of decrease in water level. Due to nearly three decades of change neither Amu-Darya nor Syr- Darya reach the Aral Lake now, and the sea now ranks tenth largest in the world and threatens to shrink even further. The shoreline receded up to 100 km in some

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amount of cotton delivered. The other way was to expand the area under cultivation but not informing the planning and statistical offices of USSR. See, Rumer, 1990:69-70.

[10] Economic concerns override natural concerns for states. The Karakum Canal had been built with the motivation that diversion of one cubic meter of water for irrigation would be more economically beneficial than the same amount of water allowed to be delivered to Aral Lake (Glantz et al, 1993: 187).

places with 33,000 km of exposed seabed covered with a thick crust of toxic salt behind (520 kilograms per hectare), which are the residues of agro-chemicals. The salinity of waters have been multiplied three times leading to a destruction of all marine ecosystem (Fergus, 1994: 37; Rumer,1990: 76; Middleton,1998: 2; ARAL-SD, 2001, MSF, 2001a). However, these were just the initial changes.

Consequences of Desiccation of Aral Lake

The consequences of desiccation of Aral Lake can be categorized under three titles: Physical and biological impacts, economic impacts, and social impacts. Most significant impact to be mentioned under physical and biological impacts is climate change. Aral Lake used to regulate the climate of the region and mitigate the otherwise harsh climate. With the demise of the Sea, summers became shorter and hotter while winters became longer and colder. The number of frost days increased, which shortened the available growing season to 170 days. This had an impact on vegetation such that the crops that required a longer growing season could no longer be grown. Moreover, days of dust storms increased in number and became accompanied by toxic salt storms (Middleton,1998:3; Zetterström, 1994:50). By 1993, storms flew around somewhere between 30 and 150 million metric tons of dust and toxic salt over lands around, sometimes as far away as Belarus, India, and China (Zetterström, 1994:53; ARAL-SD, 2001)

A second repercussion is related with the loss of large areas of irrigated land throughout the basin due to salinization[11] and waterlogging[12], with 2.8 million

[11] Salinization and waterlogging are brought about by poor water management. *Salinization* occurs when naturally saline lands, or lands without proper drainage, are irrigated. Dissolved salts then

hectares (of the total 7.5 million hectares) of land severely affected. The main reason was poor water management practices, mainly lack of drainage. However, accumulation of dust and toxic salt flown with storms and salt pans from irrigation seepage water in many shallow flooded depressions in Aral Basin also led to salinization and waterlogging. (Tanton and Heaven, 1999:364).

A third impact involves the loss of biodiversity. Delta areas around Aral Lake, that used to support a wide variety of life, have been transformed due to disappearance of annual floods, decrease in humidity and high rates of evaporation. Vegetational change led to the disappearance of reeds (loss of 50,000 ha of reeds had an economic impact as closing down the paper industry), and to the loss of grazing for livestock (Middleton,1998: 3; Fergus,1994:39), and to a widening of the desert area. With the ecosystem change also came the loss of bird and fish populations. As a result of the increase in salinity of the sea and destruction of the food chain, the fish population was lost, which had economic repercussions as well.

The economic impacts are "not difficult to identify but difficult to quantify" (Fergus,1994: 39) because the conditions for the economy of Aral Basin which was traditionally based on animal breeding, agriculture and fishing totally changed. The economic changes can be stated as closing down of different work sectors and increase in unemployment. Fisheries and shipping industries which were once

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accumulate in the upper soil layers, decreasing crop yields and reducing soil fertility. Salinization is common in arid and semi-arid lands. Salt is also added to the upper layers of soil from the irrigation water itself. Even the purest water used as drinking water contains 200-500 particles per million (ppm) of salt, which is a small figure compared to ocean water containing 35,000 ppm. Application of 10,000 m^3 of irrigation water per hectare per year, which is a typical irrigation rate, means addition of 2-5 tons of salt over top soil annually since the salts remain over the soil as the water evaporates or percolates underground. If this salt is not flushed out, the soil turns into a white, salt desert. (see Postel, 1993: 58)

supporting almost 60,000 employees disappeared (Middleton,1998: 3). Animal breeding could no longer provide money due to loss of 10 million ha of pasture land (MSF,2001a). Also, forestry and hunting could no longer provide money nor food.

A second economic impact, related with loss of financial and logistical support from Moscow as well as loss of arable land, was reduced food production, i.e. lack of food security. As elaborated in the first chapter, food security is one of the main categories of threats to human security. One can survive without a television but cannot survive without sufficient provision of food. Moreover, malnutrition weakens the immune system which contributes to increased number of diseases. Also, toxic effects of agro-chemicals are exacerbated by nutritional deficiency (Downing, 1995:395; Dosumov, 1996: 157). The result is a general decline in health conditions.

Regarding the effects of environmental catastrophe, and pervasive poverty especially in rural areas of Aral Basin, there has been a demise in the standard of living. Therefore, social impacts have been alarming. The Aral basin has one of the highest levels of tuberculosis (TB) in all of Europe and former USSR[13], and one of the highest levels of anemia in the world (MSF, 2001b). The health of populations of the basin, but especially those in Uzbekistan and Kazakstan, are adversely affected. Although poor health is multi-factoral, main reason is environmental pollutants (agro-chemicals) excessively used to increase cotton production (Middleton,1998: 4;

[12] In a similar fashion, waterlogging occurs as a result of repeated downward percolation of irrigation water. Excessive water raises the water table to such an extent that the roots of crops become submerged. The soil becomes a wet desert since the soil is too wet to sustain crops.

[13] The incidence of tuberculosis (TB) increased due to excessive use of chemicals and poverty. It spread due to lack of proper care (malnutrition and poor health services) as well as ignorance: When people start feeling better, they stop getting medicine which makes TB drug-resistant. It is more expensive to cure drug-resistant TB, which is beyond the individual capacity of poor Aral basin states. Moreover, change in climate has forced people to stay in enclosed areas longer, which caused TB to spread more. For more, see Jones, 1999:28-29.

Kaffka,1997:186; Zetterström,1999: 52). Environmental pollutants such as DDT[14] and other organochlorine compounds, such as dioxins, although banned in many countries and Central Asia, but replaced with other permitted agro-chemicals, now appear in the soil, air, water, every level of food chain and human body because of their long half lives[15] in nature (Zetterström,1999: 49). Moreover, pollution is cumulative, thus effective over generations, and according to Downing, it will take a minimum of three generations to eradicate the consequences of environmental pollutants (1995: 395).

Before elaborating on the impact of agro-chemicals, it is important to mention that another reason, as important as environmental pollutants, leading to poor health of the populations is the lack of (good quality) drinking water due to the diversion of rivers for irrigation and pollution of surface water and groundwater by sewage and agro-chemicals. Water quality began to deteriorate in the 1970s, parallel to environmental degradation. Now, the quality of water is so poor that 65 percent of piped water in Karakalpakstan, a semi-independent republic of Uzbekistan, the most polluted zone in the basin[16], does not meet chemical standards for drinking water and 35 percent falls below bacteriological ones set by World Health Organization (WHO) (Ataniyazova, 2001: 25). However, there is the problem of a deficit of even such unsuitable water as

[14] DDT is the abbreviation of dichloro-diphenyl-trichloroethane. It was discovered by a German scientist in 1874, but its properties as an insecticide were only understood in 1939, and then used worldwide. Its harmful accumulative effects over human body and nature were for the first time explained in detail by Rachel Carson. See Carson, 1962.

[15] Half-life: A radioactive isotope left to itself will gradually decay into various smaller particles. This rate is measured by how long it will take for half of the atoms to decay. For further information, see for example, the web page of Uranium Information Centre.

[16] Pointing to the multifactoral nature as well, a Karakalpak parliamentary deputy talked about the situation in Karakalpakstan as follows: "What the Karakalpak are going through today is nothing short of tragedy. Seventy percent of the population are ill; the republic has not a single maternity hospital, there is a shortage of housing, a lack of drinkable drinking water; as a result of malnutrition women cannot feed their baby children...No other area of the country (former USSR) has a situation like this...this is an ecological catastrophe" (Quoted in Lipovsky, 1995:1109).

well. Less than three percent of the residents of Aral basin have access to piped water while the majority is forced to provide drinking and household water from highly contaminated wells, canals, and rivers (ARAL-SD, 2001) causing water use in the region to be five to six times less than the minimum required (Lipovsky, 1995: 1109). Besides being contaminated, the water is highly saline too. For example, in the Kawlinsk region of Kazakhstan, underground aquifers contain 4,000-5,000 milligram of salt per liter of water, which is eight to ten times higher than the standard level[17] (ARAL-SD, 2001). As a result of drinking highly salinized water, almost 90 percent of the babies one to two months old seen by local hospitals are found to have urine whose salinity is far in excess of the normal level for babies (Lipovsky, 1995:1109). Another health impact of lack of drinking water is the rate of major infectious diseases, epidemic diseases, including typho-paratyphoid diseases, viral hepatitis A and acute intestinal diseases such as diarrhoea, which affects especially the age group under 15, causing death among infants (Fayzieva, 1998: 355; Downing, 1995: 397).

Other factors causing a decline in health situation is the increase in dust storm activity with the decline in the volume of Aral Lake accompanied by toxic salt, which increases the risk of throat cancer, acute respiratory diseases and increase in eye infections[18].

As a result of pollutants, especially because of high metals such as manganese and zinc in the water, the human body's ability to absorb iron declines, leading to anaemia.

[17] The standard level of salinity for water has been set as 500 mg of salt per liter. See webpage of World Heath Organization, WHO, 2001.

[18] Although there exists no data about the relationship between air quality, particularly dust content, and respiratory diseases in children of the area, there has been significant amount of medical study pointing to the increase in respiratory diseases with the environmental degradation of the Aral Basin. Indeed, Medecins Sans Frontiers is carrying a research project to determine the degree of relationship. For more, see MSF, 2001c; Downing , 1995; Fayzieva, 1998.

Exacerbated by dietary deficiencies, over 90 percent of the women in the basin are anaemic, with haemoglobin levels in their blood well below World Health Organization's standard of 110 grams / liter (Ataniyazova, 2001:26; Downing, 1995: 395). Anaemia leads to weakened immune system, increased risk of brain damage, and high rates of maternal and infant morbidity and mortality. High levels of pesticides have been detected in every sample of women from Karakalpakstan, causing changes in reproduction and fetal development, such as congenital deformations and still-birth. The rate is so high that in Dasckhovuz, northern Turkmenistan, the region's ten hospitals have set up special wards for babies with birth defects. In general, the effects of pollutants on overall population include disturbances of endocrine functions, neurobehavioral changes, an increase in incidence of cancer (especially thyroid, oesaphagus, gastrointestinal ones), dermatological change and decrease in life expectancy (Downing, 1995:391; Kaffka, 1997; Zetterström, 1999). Life expectancy dropped by almost five years over a decade in some places, to 62 years in women and 59 in men (Jones, 1999:29).

All these changes leading to a decline in health situation has also had psychological impacts. Besides the increasing rate of psychiatric illnesses due to heavy contamination of food and water, people also show the signs of psychological depression in mostly affected areas. A search carried in Karakalpakstan and Turkmenistan in 1989 found that apathetic mood of mothers, due to worry about their future and their lack of concern for their own health as well as for their babies, contributed to increasing infant mortality (Wolfson, 1992: 245). Indeed, women have become also worried about how to feed their babies, because of prohibition of breast-

feeding due to high levels of chlorinated contaminants in mother milk (Zetterstrom, 1999:52). Mothers have become totally dependent on the state to supply baby foods. However, the states of the basin have failed to import substantial amount of milk powder and other baby food, therefore requiring breast-feeding (Downing, 1995: 395).

Moreover, people of the region suffer from stress-related psychological symptoms, because more than half of them believe that environmental degradation might affect or has affected their health or that of their family[19].

In sum, it can be said that deterioration of health conditions in Aral basin is multifactoral. For different health problems, a combination of factors contributes in varying degrees. However, as an example, the following scheme about the causes of tuberculosis can be helpful to map the multifactoral nature of health problems (Figure I)

To find a solution to the health problems is beyond the capacity of individual states of the basin. Here come the international repercussions of an environmental change labeled as "one of the major man-made environmental disaster"(Kobori and Glantz, 1998: 26; Spoor, 1998:409). Based on Principle 1 of Rio Declaration, "Human beings are at the center of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature." Based on this principle, international aid providers and other states may be asked to provide financial assistance to relieve the problems. However, a country may resist the involvement of international aid providers, with the contention that there is no significant poverty or that it is able to address its own problems, as is the case with Uzbekistan, the country

most affected from the consequences of Aral Lake degradation, in that its whole economy was based on cotton production. Maintaining the image that it is already providing the needs of its citizens is so crucial for the NISs since they want their own sovereignty to be recognized.

Securitization: At Which Level, and by Whom?

By the 1980s onwards, with the impact of Gorbachev reforms (glasnost) and 1986 Chernobyl accident, environmental awareness started to grow among the public. Indeed, significant opposition to the communist regime in USSR as a result of glasnost came from environmentally - oriented groups and citizens. Demands for protection of habitat, man and nation were put forward not only because outright political protests would have been considered anti-Communist propaganda but also because of deep concerns of ordinary citizens to protect their own health and welfare (Wolfson, 1992: 241).

Can environmental awareness of the local people be enough to securitize the environmental change in the Aral Basin? Today, there is sufficient data disseminated through the internet as well, which is a good sign of achieving data dissemination. However, still too little has been achieved on the side of governments and since water monitoring and water management are not connected, the problem of proper data still continues (Zhulidov et al.,2000: 1938). Also, local communities have never been involved in assessing needs, planning, decision-making, monitoring or evaluation of the data about Aral basin (Ataniyazova, 2001: 27). Local people have moved from the dependency on Moscow (from being citizens of ex-USSR) to dependency to

[19] For more, read about the Project of Psychosocial Survey of Medecins Sans Frontiers, MSF, 2001c.

international organizations as aid and information providers. It seems that the insecurity of the people in the basin has already crossed the borders of the basin.

Since glasnost the basin has become the concern of global civil society, international organizations and other states in the world. However, due to cross-cultural differences, the West perceives the need to save the Aral Sea for the sake of the environment, while it is a public-health issue for basin states (Wolfson, 1992: 244). Also, the local people think that they have become the "experimental zone" for IOs, international NGOs and experts (Ataniyazova, 2001:27) and they express their discontent with the following words: "If every specialist coming here brought a bucket of water, the Aral Lake would be full again" (Jones, 1999, 28). USSR has never allocated more than 1% of the national income for nature preservation and environmental concerns. The situation continues in former USSR states. Therefore, Aral Basin states have to rely on foreign aid for environmental issues. The World Bank, UNDP, UNEP, European Union, and donors like United Kingdom, Netherlands, Turkey, Israel and Australia have provided help (financial, technical cooperation) especially in the last five years. However, since the aid goes through the state, or its capital directly, and the aid does not reach the needy locals directly, and there has not been much progress in the solution of the matter. (Kaffka, 1997:188). For example, Uzbekistan is still hesitant to divert the Aral Sea's sources, the waters of Amu-Darya and Syr-Darya away from the cotton fields (Jones, 1999:28) and it seems unlikely that the local communities can expect the solution from donors for immediate salvation (Fergus, 1994: 5). However, there are signs that the local people are taking action for their security, and taking the opportunity to choose their own options, with

the help and facilitation of international actors and global civil society, such as PERZENT--the Karakalpak Center for Reproductive Health and Environment (Ataniyazova, 2001, 26). Still, the role of civil society of the local people is minimal, especially in Uzbekistan and Turkmenistan (Spoor, 1998:434). In sum, it can be stated that although it is the health of an individual farmer in Karakalpakstan as the concern of security, he could not securitize environmental alteration of the Aral Basin in the very beginning. Only recently, with the attempts of global civil society and civil society at the national level, local people have had the opportunity to securitize environmental issues.

There have been attempts of basin states to cooperate, therefore to securitize the issue at the regional level. In October 1991, the ministers of Water Supply of the five riparian states signed an agreement recognizing the unity of the Aral Basin and "the right of each riparian state to exploit the common water resources under the principle of equality" (Elhance, 1997: 214). This was followed by the establishment of Interstate Coordinating Commission for Water Supply (ICCWS)--now renamed as Interstate Council for Addressing Aral Sea Crisis (ICAS), and two rive basin authorities, that for Syr Darya in Tashkent, and that for Amu darya in Urgench. However, there is a severe lack of institutional capacity to implement policies allowing equal use at national and local levels (Spoor, 1998: 433). Still, the attempts continued. Occasionally, the five presidents of the basin have come together: such as at Aral Sea Summit in March 1993 in Kzyl Orda, at Nukus Aral Sea Conference in September 1995, and in Almaty in February 1997, where they agreed to a more efficient and sustainable use of the available water of the basin (Spoor, 1998: 433).

However, in these conferences, the states were a part, but the right of Aral Lake to receive and equal share was ignored.

Despite these attempts, transparent flow of hydrological and environmental data has not been achieved among the basin states. (Elhance, 1997:215). Although the presidents of the basin states have been successful to securitize the Aral Lake environmental change at global level and attracted international finance to implement solutions, intersectoral coordination at the national level and the BVO level is limited, and not likely to produce the desired aims. Water, environment and agriculture are dealt with by different government agencies which do not communicate and exchange data with each other. Lack of intersectoral communication is also related with lack of political will to pursue a national security policy based on human ecology. However, an exact assessment of the economic costs of the environmental change in the basin may motivate the riparian states to opt for an integrated basin management focused on human security.

CHAPTER 3

Euphrates-Tigris Basin: Southeastern Anatolia Project (GAP)

Introduction

Like the Aral basin, the Middle East is an arid and water scarce region. However, water scarcity is so serious that for long years, Middle East has been alleged to be the stage of "water wars". Turkey's engagement in the development of the waters of Euphrates-Tigris basin with Southeastern Anatolia Project (with its Turkish acronym GAP) which has turned into "an integrated, multi-sectoral, regional development program" from a simple irrigation scheme has attracted the attention of water wars commentators on the Euphrates-Tigris basin especially in the 1990s.

The Euphrates-Tigris basin covers two main rivers; the Euphrates, and the Tigris, both of which originate in eastern Turkey and flow through Turkey's southeast to lower Mesopotamia, Syria and Iraq[20]. All three states have attempted to develop their water resources in the last thirty years, however they have not reached any binding agreement among themselves over the utilization of water yet, which has become a source of tension.

[20] Although Iran is a riparian state in Tigris, the main controversy over the Euphrates-Tigris basin is between these three riparian states. Therefore, these three will be examined here.

This chapter will give a factual map of the basin (its physical geography), then move to the characteristics of the basin which are obstacles to basin wide cooperation and exacerbate the potential for water-induced conflict., for example, by causing a mutual lack of trust among the parties. After elaboration of GAP, I will try to show how shallow the traditionalist national-scale approaches to security concerning the water debate are. For a long time, water quantity has been the concern for all riparian states. Only in recent years, the impacts of the project on water quality (water pollution by agro-chemicals and increasing salinity of waters), and on nature (waterlogging, salinization of soils) have been securitized by downstream riparian states. Moreover, the impacts of the project on human (such as the need to resettle local residents to empty dam reservoirs, the need to cope with water-borne diseases, and changes in social structure) have been considered. Because of the population concentration of the basin (mainly of Kurdish origin) and the ethno-political problems occurring, the impacts of the project over local people have been securitized by mainly international agencies and global NGOs. The chapter will examine these attempts of securitization of environmental concerns and humanitarian concerns about the project, and then conclude by pointing to the need to broaden and deepen the security conceptualization by all three riparian states.

Physical Geography of the Basin

The Euphrates-Tigris basin consists of the drainage and catchment areas of two rivers, the Euphrates and the Tigris, both of which originate in eastern Turkey.

The two main tributaries of the Euphrates, the Karasu and the Murat rivers also originate in the mountains of Turkey. The Euphrates is the longest river in West Asia, with 2,700 km. in length (Elhance, 1999: 125). The flow of the Euphrates is subject to seasonal and annual fluctuations. According to Turkish sources, and to most of the scholars in this field, the flow of Euphrates if 31 billion cubic meters (bn m^3) of the total 35 bn m^3, which means Turkey provides 89% of the flow of Euphrates. The remaining 11% comes from Syria. (MFA, 2001).

The Euphrates flows through Syria and Iraq before emptying into the Persian/Arab Gulf, after meeting with the Tigris to form the Shatt-al Arab in Iraq. The Tigris, and its main tributaries, the Botan, the Batmansu, the Karmansu and the Greater Zap, also rise in eastern Turkey. These tributaries, thereby, Turkey contributes 49 bn m^3, which is 52% of the flow of Tigris. The rest comes from Iraq (MFA, 2001).Tigris is as well prone to wild seasonal and annual fluctuations. The river's seasonal changes are so wild that the maximum flow of Tigris can be as eight times as its low flow, which is twenty-eight times that of the Euphrates (Elhance, 1999: 127).

The climate of the basin is arid, with high evaporation rates. The tributaries of the basin are fed by snowmelt.

The population of all three riparian states is increasing rapidly. The rapid population growth[21], coupled with aspirations for development of water resources by all three riparian states. Especially after the 1970s, unplanned urbanization and

[21] By 1997 figures, 6,128,973 people live in Turkey's GAP region, with 64.1% living in urban areas. The population growth rate is 2.4 %, whereas the country average is 1.5% (GAP Administration, 2001: 16-17). The population of Iraq and Syria are dense in the basin. Therefore, although not specified for

industrialization, and the lack of environmentally sensitive technology has had adverse effects on the quantity (which has been the main concern of downstream riparian states) and the quality of waters in the Euphrates-Tigris basin.

Although no military conflict has occurred among the riparian states so far, there has been no permanent outcome of the continuous dialogue efforts. Lack of mutual trust and some other factors became the reason of serious tensions in the basin since the 1970s, which also caused lack of cooperation.

Obstacles to Basinwide Cooperation

The riparian states of the Euphrates-Tigris basin have disagreements, which are not directly related to the water issues of the basin. Turkey, founded in 1923 as a secular republic, formulated its foreign policy along the lines of "preservation of national integrity, modernization along Western standards, and noninvolvement in domestic issues of neighboring countries that could endanger peace and stability" (Kramer, 2000: 118) in its relations with the downstream riparian states on Euphrates-Tigris basin as well. However, coupled with suspicion towards its Arab neighbors, because of World War I, Turkish foreign policy towards Syria and Iraq has been much influenced by the attitudes of the particular governments in rule and from Turkey's Western-orientation. During the Cold War, Turkey preferred to enter Western institutions, such as NATO. However, Syria, which received USSR aid for its development projects, and Iraq, anti-western in its foreign policy, have opposed Turkey because of its membership in NATO. During the 1970s, Turkey and Syria

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the basin, the population growth rate of Iraq as 3.6% (between 1980 and 1990) (FAO,2001) and that of Syria as 3.1% (between 1975 and 1999) (UNDP,2001), which can give an idea.

opposed Iraqi military actions (Gleick and Yolles, 1994:13). During the Iran-Iraq War of 1980s, Syria allied with non-Arab Iran (Muslih, 1996:119), while Turkey adopted a neutral position demonstrating its strategic commitment to the West (Muslih, 1996:120) while attempting not to jeopardize the flow of oil from both oil rich countries, since Turkey has enough water resources but lacks oil (Bulloch and Darwish, 1993:173). Finally, in the 1990s, Turkey and Syria opposed Iraq during the Gulf War.

On the Iraqi and Syrian side, suspicion towards Turkey and each other dominates the relations. The suspicion stems from the political controversy between the Baath regimes in Syria and Iraq since the late 1960s. The Baath regimes are organized in an ethno-religious hierarchy where the ethno-religious groups other than those serving the power base are marginalized. This requires the existence of a strong state apparatus in both domestic and foreign policy, since marginalized ethno-religious groups both within the state and in neighboring states can undermine national security (Schulz, 1995: 110). Also, both regimes pursue a policy of Arab nationalism and strive to be a regional power, causing a rivalry between the two (Dolatyar and Gray, 2000:78).

Considering Turkey-Syrian relations in particular, the tension is coupled with disagreement over Hatay (Alexandretta), the utilization of the Asi (Orontes) river (Bulloch and Darwish, 1993:69; Picard, 1994:217, Giray, 1994: 244), Syria's (alleged) support for the Kurdish secessionist groups, most notably the PKK (Kurdistan Workers' Party) from the late 1970s to the late 1990s as a retaliation for Turkey's

attempt to control Euphrates water by GAP (Bulloch and Darwish, 1993: 59-69; Muslih, 1996: 121; Jouejati, 1996:141; Elhance, 1999: 138).

With Iraq in particular, Turkey is concerned with the political and security vacuum in northern Iraq, which worsened since Gulf War, and its effect over the precarious situation in Turkey's southeast[22] (Kramer, 2000:120). Recently, Turkey's involvement in Northern Iraq and its special relationship with Israel, which is dominated by growing cooperation in military affairs, have had repercussions over Turkey's relationship with both Syria and Iraq (Kramer, 2000: 118-119).

Another obstacle basinwide cooperation of water utilization has been Turkey's claim to "Right of Sovereignty" that since much of the water of Euphrates-Tigris is generated within its borders, it has the right to do whatever it wants with that water (Beaumont, 1994: 208), as in the words of a Minister of State of Turkey:

> The Euphrates and Tigris are born and fed in Turkish territory. These two rivers are of vital importance for Turkey. Turkey will continue to take into consideration, as it has always done, in the use of these two rivers, the situation in the downstream countries.
> However, Turkey has no obligation to meet the water needs of the downstream countries. The waters of Euphrates and Tigris have to be used optimally and fairly by the involved countries as is the practice for the rational utilization of all scarce resources (Golhan, 1994:12)

[22] A predominantly Kurdish origin population live in the basin, which has caused tension especially in Turkey and Iraq. The existence of Kurdish population living in southeast of Turkey has never been perceived as an ethno-political problem, but reconstructed as "tribal resistance to the central rule", or "economic underdevelopment of the region" since the establishment of Republic of Turkey in 1923. (For more on this issue, see Yegen, 1999). Therefore, the secessionist demands of the Kurdish population led by PKK have been perceived as "acts of a group of bandits" and a threat to territorial integrity of Turkey which required the attempts fo armed forces. The clashes between PKK and Turkish armed forces cost a human toll of 30,000 --including civilians-- between 1984 and 1999, when PKK leader, Ocalan, was arrested in Nairobi, Kenya, and imprisoned in Turkey. Kurds in Syria and Iraq have been divided between the factions of Barzani's KDP (Kurdistan Democratic Party) and Talabani's PUK (Patriotic Union of Kurdistan), who finally agreed on "the organization of free and fair elections for a new regional assembly" in September 1998 with Washington Agreement (Kramer, 2000: 120-124).

Iraq and Syria would agree that the Turkish statement that "Turkey has no obligation to provide all the water needs of the downstream riparian states" ignores the principle of "equitable utilization"[23] defined by Article 5 of the Convention on Law of Non-Navigational Use of International Watercourses, agreed in 1997(See ILC,2001).

However, in general, the main obstacle to basinwide cooperation is lack of regularized institutions and incomplete information. According to Kibaroğlu and Ünver:

> Data regarding stream flow, precipitation, evatranspiration, water removals, return flow, salinity and a host of other variables in relation to land resources are notoriously scarce, incomplete and open to question in the basin. Information relating to water and land resources of the region is poor and not exchanged on a regular basis among the riparians (2001: 320).

Therefore, only after putting the accurate figures of the amount of water available in the basin and thus rebuilding thrust that a basinwide cooperation can be reached.

GAP

Turkish hydrological resources are divided into twenty-six basins. Of these basins, the Euphrates-Tigris basin contains the largest volume of flow among the rivers of Turkey, and constitutes 28.5% of Turkey's total surface waters (17% from the Euphrates, and 11.5% from the Tigris) (Tomanbay, 2000: 82). Therefore, the Euphrates-Tigris basin is of first rank importance for Turkey (Golhan, 1994:9). Turkey intends to fully utilize this basin; therefore, with the completion of the Keban Dam on Euphrates and the initiation of projects like the Karakaya Dam and the

[23] The term "equitable utilization" is also vague, since, in practice, it is open to interpretations (Picard, 1994:220; Inan, 1994:229). However, it is definitely not based on a ratio of utilization according to the

Ataturk Dam, development of the Euphrates-Tigris basin turned into a large, integrated, multi-sectoral project,GAP, one of the largest of its kind into the world. The figures about its scale are revealing: GAP consists of thirteen sub-projects (seven of them on the Euphrates, and six of them on the Tigris), with twenty-two dams, nineteen hydroelectric plants covering an area of 75.193 km² (which is equal to 10% of Turkey's territory, 26% of Iraq, 42% of Syria, and larger than Middle Eastern states like Jordan and Israel) encompassing nine cities of Turkey with a population of 6.1 million people (which makes 9.7% of Turkey's population by 1997 figures), and requires the investment of $32 billion, of which 46% has already been spent by the end of 2000 (GAP Administration, 2001).

The targets of the project are to increase hydroelectric production, with an amount of 27 billion kilowatthours of electricity annually with an installed capacity of 7500 Megawatts, thereby providing energy for the energy-hungry country[24]. The project also aims to irrigate a total land of 1.7 million hectares (which is larger than the total area previously opened to irrigation by the state), thereby initiating agro-development[25]. At the same time, GAP hopes to increase the prosperity of the region,

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riparian state's contribution to the flow of the watercourse.

[24] Turkey's energy consumption has risen dramatically over the past 20 years. The energy need has tripled since 1980. With 70% of Hydroelectric power plants (HEP) finished within GAP by the end of 2000, the project constitutes 39% of total hydroelectric generation of Turkey, and 9.7% of total energy production (GAP Administration, 2001: 30). When totally completed, energy produce in GAP will equal the total hydroelectric generated in Turkey in 1992. However, it is expected that GAP's contribution will not compensate Turkey's increasing energy need. An important reason of growing energy need of Turkey besides industrialization is inefficient use of energy. Experts claim that 22% of energy generated in Turkey (mainly by thermal power plants and HEP) is lost because of inefficient distribution and relay systems (For more, see EIA,1999)

[25] Water-led development plans of Turkey are based on the following formulation:
Development of water resources→Irrigation→Development of agro-industry→Economic development of the region in focus→Social change.
According to Demircan, this is a straightforward and engineering approach to development and ignores "obstacles" during he planning stage such as environmental and social concerns, which can emerge during the implementation stage.

thus eliminating the discrepancy in development between this region and the rest of the country. It attempts to do this by increasing employment opportunities in the region, with a planned figure for 3.3 million jobs. Ultimately, the project aims to improve the quality of life of the local people; and thereby to restore stability in the region (GAP Administration, 2001: 16). When completed, Turkey will control 28% of Euphrates-Tigris water (Akbaba, 2001:49).

However, although Turkey claims that it intends to protect the environment by pursuing sustainable development through GAP (Tomanbay, 2000: 87-90), the environmental problems emerging in the completed parts of the projects show that "the GAP project is likely to behave in a similar way to other irrigation projects" (Beaumont, 1994:208), i.e. there are ecological consequences of the development project (Richardson, 1995: 36-47) about which Turkey has not taken precautions in the planning stage.

The benefits of the project for downstream riparian states have been repeatedly announced by Turkey and scholars, such as the regulation of the flow of Euphrates-Tigris rivers which are prone to wild seasonal and annual fluctuations, with a guaranteed flow of 500 cubic meters/second (m^3/sec) as well as the eradication of the risk of floods for downstream, with reservoirs built "in the most suitable part of the basin" (Golhan, 1994:9; Bagis, 1994:19; Kolars, 1994: 136). However, when it comes to the questions of a wholesale examination of the impacts of the project for the basin, Turkey argues that "overall, GAP is a domestic project"(Bagis, 1994: 17), which can be interpreted as Turkey perceiving that the consequences are "limited" to domestic boundaries of Turkey. However, Turkey also acknowledges the fact that "no harm to

nature" principle is quite impossible to attain (Bilen, 1994: 88). Therefore, Turkey declares that it takes all the precautions to minimize the negative effects for downstream riparian states. However, Turkey does not believe that the adverse impacts of GAP will be that serious. Indeed, if GAP adds any environmental problem to the basin further downstream (such as increasing salinity of waters, or pollution of waters by agro-chemicals and organic waste), this is "of secondary importance" (Bilen, 1994: 89-90).

Water Quantity or Quality?

The quantity of water released from Turkey has been the focus of the downstream riparian states in the Euphrates-Tigris basin for long years. Until the 1970s, the engagement of the three states in the development of Euphrates-Tigris basin was not through big projects like GAP. Therefore, there was no significant complaint or tension about water quantity although there was no legal agreement on water utilization.

However, problems started when both Syria and Turkey completed al Thawra and Keban dams respectively in the period of 1973-1975, which was a dry period causing serious water reduction, thereby displacing villagers in Iraq when both dams were filled (Marr, 1996: 47). This crisis brought Iraq and Syria to the brink of war. However the crisis was then settled by a secret agreement between the parties which stated that Syria would use 42% while Iraq would use 58% of the water released by Turkey (Giray, 1994: 249; Dolatyar and Gray, 2000: 79).

The link between security and water came to the agenda of Turkey and Syria, with the 1987 Security Protocol, signed by Turgut Ozal then Turkey's prime minister's visit to Damascus. According to the protocol, "Turkey unilaterally committed itself to release 500 m³/second of water to Syria" (Bulloch and Darwish, 1993: 68) [26].

Another water related crisis occurred in 1990 during the filling of the reservoir of Ataturk Dam on the Euphrates. Ataturk Dam is the largest among the total twenty-two dams planned in GAP. During the filling of the dam, Turkey cut off the flow of Euphrates from January 13-February 13, 1990, although Turkey stated that the cut of the flow of Euphrates was for technical reasons and had already been known by the downstream riparian states from the beginning of the project and an advance warning had been given (Giray, 1994: 241; Gleick and Yolles, 1994: 14). However, there was even a notification it was not timely because of lack of coordination among the various ministries involved in water issue in Turkey[27] (Tashan, 1994: 265). This led to the interpretations that Turkey was implicitly asserting upstream riparian "full sovereignty" rights (Bulloch and Darwish, 1993:66; Jouejati, 1996: 138).

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[26] The basis of 500 m³/second of water principle was decided in Turkey's agreement with the World Bank in 1976 during the finance agreement for Karakaya Dam. In 1987, it is stated that "till a permanent agreement is signed and till the filling of Ataturk Dam is complete" Turkey has to release 500 m³/second of water to Syria. It continues that "if Turkey does not fulfill this promise for one month then it will compensate by increasing the flow in following months" (Giray, 1994: 250).

[27] In Turkey, the bureaucracy is divided into quite a number of ministries, directorates, and departments, many of which change staff according to rapidly changing governments. Considering the water issue, DSI (State Hydraulic Works) is responsible for the exploitation of all surface and groundwater, is the sole authority, and it constructs the irrigation schemes. However, DSI is not responsible for the distribution of water on land, it is the farmer's responsibility. Concerning the costs of the irrigation schemes, many farmers believe that it is the responsibility of DPT (State Planning Organization) to pay for the construction of irrigation schemes on land. A staff member from GAP Administration told that, GAP Administration seems responsible for everything related to GAP at least on paper, however DSI does not provide GAP Administration the required data, for example, on water quality, but only shares it with Foreign Affairs Mnistry Department of Transboundary Waters, which keeps the data for itself--shares neither with GAP Administration, and Ministry of Environment at the domestic scale, nor with the downstream riparian states at the international scale. Therefore, although GAP Administration seems like to be the sole authority on planning about the project, its authority is very limited, as it is surrendered by the authorities of other ministries.

The Ataturk dam crisis and downstream concerns about a guaranteed regular flow of 500 m³/second--despite Syria's insistence for an increase to 700 m³/second-led to the questioning of Turkey's commitment to a regular flow downstream. Written after the crisis, Turkish resources cite that before the actual cut off from the Euphrates for a month, Turkey released more than 500 m³/second of water downstream, which makes an average of 531 m³/second[28] during the period of filling of the Ataturk Dam, from November 23, 1989 to February 13, 1990 (Golhan, 1994: 10).

In short, concerning the utilization of waters of the Euphrates-Tigris basin, and thereby the respective quantity of water to be utilized by each riparian state, there is no binding international agreement. However, due to the drought in 2000 and 2001, the amount of water released to Syria fell below 500 m³/second. According to the figures of 2001, only an average of 94 m³/second of water has been released to Syria, which led to the complaints by Syrian authorities about Turkey's wrong energy policies, and the adverse effects of reduced flow on Syrian agriculture. The response of Turkish diplomatic resources to these complaints was that the conditions providing the validity of 1987 Security Protocol have changed, therefore there is a need for a new protocol (Radikal, 2001:9).

Turkey has never been worried about the quality of water it has to provide downstream nor the environmental consequences of the GAP. Turkey believes that the GAP will add no serious problems, but only of secondary importance problems, to the basin. The main reason for this is existence of highly saline soils in further downstream Mesopotamia, in Syria and Iraq. "Syria's soils are notoriously

[28] Problems about data inconsistency can be seen from a closer reading of other Turkish sources on the subject. For example, Giray cites the same figure as 509 m³/second (1994:242) for the same period.

gypsferous" (Bilen, 1994: 89), barren (Tomanbay, 2000:94), and not suitable for further irrigation, whereas Iraq has serious soil salinity problems sue to problem of water management since early history (Bagis, 1994: 20).

Salinization of soils in arid lands is attributed not to lack of proper drainage system but to the quality of irrigation water, claims Turkish authorities. Since "the head waters of Euphrates-Tigris are of high quality and return flows from irrigation will be moderately mineralized containing 700 particles per million (ppm) dissolved solids", which is far less saline than internationally accepted standards[29], the result will be of satisfactory quality for irrigation supply (Bilen, 1994:89).

If Turkey's claim is right, and if the irrigation water is clean then what has caused salinization in the Harran Plain of Turkey after the initiation of irrigated agriculture? Turkey acknowledges that it is very typical of developing countries to save money by skipping proper drainage and canal lining, so that the money saved then is spent to extend water supply, which aggravates the problem of salinization and waterlogging (Unver, 1994: 32). However, in practice,

> improving the efficiency of irrigation system has never attracted enough attention during the planning and implementation compared to engineering designs. Under the seduction of easy gains, many of large irrigation schemes have been opened to use without completion of even the main distributory system and drainage canals on land. In these projects, even at the end of the planned development stage, the land irrigated is no bigger than a part of the field planned to be irrigated at first (Richardson, 1995: 44)

Other factors leading to salinity of soils are the improper irrigation method used which does not fit into the characteristics of the region, and lack of training of the farmers about how much irrigation water to apply in accordance with the soil

[29] US-Mexico treaty regarding the utilization of the Colorado river agreed to reduce the level of salinity entering Mexico to less than 800 ppm (Bilen, 1994: 89).

quality and crop characteristics. Farmers in the basin, in all riparian states, believe that more irrigation and more pesticides use bring more harvest. Another reason of increasing salinity is monoculture of crops such as cotton which requires more water to grow (Richardson, 1995: 45).

Harran plain covers an area of almost 150,000 hectares. 120,000 hectares of this is currently under irrigation, while the irrigation schemes for the remaining are still under construction (GAP Administration, 2001:23). According to a staff of GAP Administration, Turkey designed the irrigation schemes and the plain on an estimation than only on 30% of land would cotton be grown. However, the figures on irrigated agriculture show that cotton is grown in almost 70% of the Harran Plain[30]. Although the world does not need any extra cotton, cotton is still preferred as a crop in irrigated agriculture. One of the reasons why cotton is preferred worldwide is that it turns into money quickly. For example, a farmer has to wait two-three years for his investment on fruit trees to turn into money, whereas he can earn money through cotton in 150 days (Akbaba, 2001: 49). Moreover, the state provides subsidies for cotton in Turkey, and local people are familiar with cotton harvest because of long years of seasonal working experience in Cukurova cotton fields. However, cotton monoculture is bound to have adverse environmental effects if coupled with wrong irrigation. Cotton is supposed to be irrigated seven times a year, however, the farmers in Harran plain irrigated the cotton land fifteen times or more a year (Cumhuriyet, 1998). Because of

[30] By the end of 1998, cotton was grown in 65,025 hectares of the total 90,000 hectares under irrigated agriculture in Harrain plain. With irrigation, 946 thousand tons of cotton was harvested (GAP Administration, 2001: 33). By 1997 figures, 800 thousand tons of cotton was grown in the GAP region which was one-third of the total cotton production in Turkey (GAP Administration, 1998: 7). GAP Administration estimates the cotton production of GAP region to stabilize around 500 thousand tons when the project is complete (GAP Administration, 2001:33).

lack of training of farmers on irrigated agriculture, 20,000 hectares of the total 90,000 hectares of land irrigated in 1998 was lost due to salinization (Cumhuriyet, 1998; Radikal, 1998).

Turkey is taking precautions against salinization now. However, although drainage canals are not expensive to implement, as the original budget of GAP has been exceeded, it becomes more difficult to share a proportion for the construction of drainage canals (Richardson, 1995: 45). Moreover, Turkey still does not know where to release the return flows in the drainage canals[31] (Akbaba, 2001: 51).

Soils are also lost due to erosion. The most fertile layer of soil, the top layer, is eroded each time after irrigation and the irrigation canals are filled with soil silt, which reduced the efficiency of the water distribution further[32] (Richardson, 1995: 39). If precautions are not taken, the costs will outweigh the benefits of the project. However, if the precautions (such as establishment of drainage canals, training of farmers) are taken, it will be cheaper than solutions to clean the salinized soils which is possible only through a very expensive technology which is non-existent in Turkey[33]. Moreover, salinization can expand to non-salinized lands if precautions are not taken. Half of the soils in Iraq (50%) and one-third of the soils in Syria (30-35%)

[31] According to a staff of GAP Administration, "the return flows already collected are only a very small proportion of the total return flows and they are through the canals which are not drainage canals but the canals dug next to the field. The end of the open canal carrying this return flow is buried under the soil before the Syrian border. The water accumulated under the soil causes a protuberance and most of the time leaks over the soil and crosses the border. But when Syria blocks the flow of it, it makes a small saline lake in Turkish side of the border".

[32] The irrigation efficiency in Turkey is already about 60% ,which means that 40% of the irrigation water is already lost before reaching the crops (Richardson, 1995: 45).

[33] Although the figures are huge, $12 million that TEMA, an NGO coping with soil erosion, asks to the State to prevent the spread of salinization in the Harran plain (Akbaba, 2001: 53) or $110,000 million that Turkish Association for Development asks for the training of farmers are not significant amounts of money considered within the GAP's total budget of $32 billion (Richardson, 1995: 58), and when the return benefits are considered. For example, increasing water distribution efficiency in Harran plain

are affected from salinization, which has reduced soil fertility, and thus reduced crop yields (Gleick, 1993: 272).

Besides increasing salinity of the water of Euphrates and Tigris rivers after irrigation of Turkey's lands, another environmental repercussion for the downstream riparian states will be pollution of rivers by agro-chemicals, sewage, solid waste[34]. This pollution seems to raise the environmental concerns of the downstream riparian states into high politics agenda in the future. Like salinization, the reason for pollution is lack of training of farmers on agro-chemicals use for irrigated agriculture, as well as Turkey's use of less soluble pesticides.

Turkey invests an average of $8,800 per hectare to construct irrigation schemes. However, the total budget shared for the training of farmers is less than 1% of this amount (Akbaba, 2001: 55). Illiteracy among farmers is high and the ability of those illiterate to reach the limited number of publications by GAP Administration and others on irrigated agriculture are limited. Therefore, the farmer applies agro-chemicals in line with his belief that –as more water provides more harvest—more pesticides kill more pests and more fertilizer means more harvest, or he repeats the wrongs of his neighbor, thereby exacerbating the situation (Ozgül, 1998: 72). Moreover, currently, Turkey uses less soluble pesticides to make the pest control effective, which means that the toxic effects will stay and accumulate in the soil, the water, and the food chain longer, thereby has a likelihood to cause health problems in

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by 10% by simple means will mean an excess amount of water enough to irrigate 17,000 hectares of more land, which saves $17 million per year (Akbaba, 2001:53).

[34] Since industrial development of the Euphrates-Tigris basin has not been complete yet, one cannot talk about an industrial pollution of the rivers. There is no serious industrial activity around Euphrates. However, the Copper Factory around Tigris releases its industrial waste to Tigris without a treatment of it, thereby causing industrial pollution of the Tigris at a small scale (Gumgum, 1998: 20).

the future. However, since only 12% of the irrigation plans of GAP is complete (GAP Administration, 2001: 32), the total impact of agro-chemicals in the basin is not known. Also, no extensive study has been carried about agro-chemicals yet (Gümgüm, 1998: 17).

Another problem causing pollution of rivers is lack of infrastructure in southeast region of Turkey. 84% of the total 196 municipalities of the region (towns or cities) have no sewage infrastructure system at all. Only 6% of the municipalities actually have infrastructure system, while those in 10% are still under construction (GAP Administration, 2001: 41). Moreover, waste water or sewage flows in open canals to the rivers or to their tributaries which causes organic pollution of the rivers, which also has health consequences over the health of the people (Ilçin, 1998: 119).

There is no treatment of solid waste as well. No regular dump collection and treatment sites exist in the region. The waste taken from settlements are dumped into the river beds, on the sides of roads, or in barren fields a few kilometers away from settlements[35] (Ilçin, 1998: 119; Atlas, 2000: 12).

Environmental impacts[36] of GAP concerning the quality of water have been voiced since 1990s by some scholars (Starr, 1991: 27; Bulloch and Darwish, 1993:59-

[35] The sewage of Adiyaman, fourth populated city in the region with a population of 678,999 people, (GAP Administration, 2001: 18), directly flows to Ataturk dam, whose waters are used as drinking water as well. Although the pollution is so serious and the fish of the reservoir die and the water has a blackish color, people still swim in the water, drink the water and let the sheep graze around the open sewage canals. The municipality of Adiyaman claims that it is too costly to construct the infrastructure of the city (Milliyet, 1999). However, Demircan told that the municipality of Adiyaman did not accept the offer of GAP Administration to find financial sources for the project with the excuse that "the dam water is mainly used by the people of Sanliurfa, (neighboring city) so why would they be bothered with keeping it clean?".

[36] I would like to thank Sunay Demircan for his clarification of "environmental impacts" from the perspective of riparian states and his distinction between environmental and ecological impacts of the project of GAP: "Environmental impacts of a water development project is related with engineering concerns, water quality, due to pollution, and water quantity, which is the cause of the tension. However, ecological impacts of a project such as change in fauna and flora due to increase in humidity

60; Yolles and Gleick, 1994: 13; Kolars, 1994: 129-153). However, the quality of water has never been securitized by downstream states. Only recently, at least since the Damascus Declaration of 1996, Syria and Iraq have been voicing their complaints about decreasing water quality, thereby politicizing the issue. However, Başak told that water quantity is still the dominant issue in the negotiations of the three parties.

GAP and the Local People

The Southeastern region of Turkey has been economically underdeveloped and human development indices of the region have been lower than the country averages (GAP Administration, 2001: 16-20)., related to socio-economic peculiarities of the region. First of all, the structure of land ownership has been an unresolved problem of the region. Lack of agrarian reform is likely to cause an uneven distribution of the prosperity planned to be produced by GAP. Second is the issue of resettlement, which may undermine regional stability.

First issue that needs to be clarified is the structure of land ownership. Although the statistics are not accurate, the land distribution structure is as follows: 8% of the farmer families own 51% of the land, 41% of the families own a land of a

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and thus change in climate are disregarded. For example, according to UNDP, the nature in Shatt-al Arab region has been totally modified by human intervention-- the construction of dams by both Syria and Iraq, human settlement around wetlands, agro-chemicals used to increase crop productivity, increase in humidity, thereby change in fauna and flora--." (For more information about ecological impacts of large dams, see WCD,2000:ch3. Demircan continued: "There has been recently initiated a project to examine the loss of biodiversity under Natural Resource Management Department of GAP Administration. However, due to lack of earlier studies in the region, to carry comparative research is very difficult. Therefore, to reach a conclusion about the exact impact of GAP on the change of the fauna and flora is very difficult. What we know is the flora of the GAP region, especially around Euphrates is very crucial because the region shows the transition characteristics of Iran-Turan steppe vegetation, Mediterrenean, Euroepan-Siberian, and Northern origin vegetations. However, some of the ecosystem has already been modified due to construction facilities, dam flooding, human settlement, grazing" (For GAP's impact on fauna of the region, see Unlu et al., 1998: 79-102; for GAP's impact on flora see Saya and Ertekin, 1998: 34-55).

size between one to five hectares, and almost 50% of the families have no land at all (Richardson, 1995: 28). Agrarian reform has been pointed to as a condition for sustainable development of the project and economic prosperity of the region (GAP Administration, 1997a: 8; Akbaba, 2001: 52; GAP Administration, 1998: 8). Despite the acts taken by the state, the agrarian reform could not carried out (Cumhuriyet, 1994b). Thus, the aim of GAP to increase the prosperity in a just way cannot be achieved. Those who are likely to benefit from the outcome of the project are those big landowners who are already rich while people living in the 77% of the region where no irrigation schemes will be constructed will get poorer (Richardson, 1995: 29). Therefore, GAP, designed to reverse the migration from Turkey's southeast to center and western regions may not fulfill its targets (Richardson, 1995: 30). Moreover, many people who have been moved from their homes and lands because of the dam flooding of the area, and some of them moved to marginalized areas because of problems with resettlement programs[37]. For the biggest dam within the project, Ataturk Dam, 100,000 people needed to be relocated. If all the dams planned under GAP are constructed, this will mean a resettlement of more than 300,000 people (Richardson, 1995: 37). According to a staff of GAP Administration, Turkey was inexperienced in implementation of resettlement programs of dislocated people at the beginning. Therefore, as Faraç points out, most of the resettled people became unhappy. There were a couple of reasons for that: They could not adopt to their new environment, they lost their land and could not find jobs which meant that they could

[37] People move to environmentally fragile areas such as overgrazed land, or fragmented forest. By their use of soils and natural resources, thereby reducing soil fertility, and reducing agricultural output, they are deprived from even their basic food requirements and they exacerbate the environmental degradation (Richardson, 1995: 38).

not preserve even their low life standards, and they could not invest the compensation money they received from the State in return for their land and house flooded by the dam because of lack of consultation and lack of experience with money (2001: 232) But now Turkey is experienced in resettlement programs and considers the needs and demands of affected people before resettlement. For people whose settlements were totally or partly inundated by Birecik Dam, GAP Administration prepared Halfeti Project, and resettlements were carried in line with the principles of participatory planning and sustainable development with the support of a consulting team (GAP Administration, 2001: 35-38). However, it cannot be denied that it is difficult for people to leave their home and land of their ancestors.

Relocation of people have been politicized by World Commission of Dams in the whole world, since a number between 40 to 80 million people needed to be relocated because of large dams, with an ever increasing figure in the last thirty years (WCD, 2000: 17). In Turkey, although hundreds of thousands of people had be relocated because of dams since its establishment, and within GAP, the biggest resettlement was required for the biggest dam, Ataturk Dam, in the beginning of 1990s, the relocation issue was not politicized until Ilisu Dam. For the construction of Ilisu Dam, planned over Tigris, Energy Ministry engaged in a BOT (Build-Operate-Transfer) project with international credit agencies in 1996 because of difficulties of self- financing by Turkey. However, before the signature of the contract between Turkey and international credit agencies, there was a precondition to set up an international body to monitor the implementation of Ilisu Dam plans—whether carried out in accordance with international standards or not. Turkey rejected this

condition in 2000 on the grounds that it would be an excuse to intervene into domestic policies of Turkey. However, then the agencies started to withdraw from the project one by one from September 2000 onwards due to environmental and humanitarian concerns (Radikal, 2001:3). If the work of the NGOs and the media in the countries of these credit agencies to politicize the issue is examined, the decision of the credit agencies to withdraw from the international consortium can be better understood[38]. However, whether the attempts of this global civil society to politicize and securitize the issue in the name of the local people have been carried in accordance with the local people or have benefited them is a big question[39]. According to a staff of GAP Administration, local people do not resist to the Ilisu Dam, because they want to develop and get economic benefits as well.

GAP will also affect the health of the local people. Provision of health services in the region have always been under the national average, less hospitals, less doctors, (GAP Administration, 2001: 41-42). Since GAP is a multisectoral project and aims to improve the quality of life of inhabitants, Turkey has been engaged in a couple of programs to improve the health facilities in the region. The foremost problem in the region is lack of clean drinking water and water for household use. The region has always suffered from lack of water (Faraç, 2001), the problem of local people with access to clean water still persists: 40% of the villages do not have water at all (Ilçin,

[38] For the protests of Friends of Earth (an environmental NGO) and The Guardian (a UK-based newspaper) against the UK based credit agency Balfour Beatty, see, FoE, 2001a; FoE, 2001b; Foe, 2000a; FoE, 2000b; FoE, 2000c; Foe,2000d; FoE, 1999; Guardian,2000; Guardian, 1999a; Guardian, 1999b.

[39] However, if the asiret (tribal feudal) structure of the region which is an obstacle to participation by all because of its hierarchical structure, and problems with participation in decision making structures in Turkey's southeast are considered then perhaps it can be claimed that what NGOs and the media have been doing is not so different than what has been practised in the region by asiret control: Talking in the name of local people.

1998: 118). 34% of the municipalities have no drinking water pipe system (GAP Administration, 2001: 41). Lack of clean drinking water, coupled with inadequate infrastructure, and lack of health consciousness, because of low illiteracy rates and communication problems[40] has made intestinal infectious diseases such as diarrhoea and typhoid very common (Ilçin, 1998:126). According to 1991 figures, 51.6 % of the local population has intestinal problems, 33.8 % has typhoid fever, 11.4 % has diarrhoea, and 6.4 % has hepatitis (GAP Administration, 1998:12).

Another problem is increase in water-borne diseases such as malaria, and schistosomiasis (Ilçin, 1998: 126) due to the introduction of large bodies of water into a region where they did not exist before. Quoted in Faraç, according to World Health Organization's 2000 Report of "Roll Back Malaria Strategies", 87% of the total 36,461 malaria cases reported in Turkey are in GAP region (2001: 204). By 1999 figures, 83% of the total 21,000 malaria cases reported in Turkey are in GAP region, which caused a workpower loss equivalent to 400 billion Turkish liras (Faraç, 2001: 205).

Moreover, tuberculosis is on the increase in recent years (Ilçin, 1998: 126). By 1991 figures, 9.8% of the region had tuberculosis (GAP Administration, 1998: 12), however tuberculosis treatment centers of the region are still under construction (GAP Administration, 2001: 42).

Health problems are exacerbated by nutritional deficiencies. According to survey carried in Diyarbakir, 23.7 % of the pre-school age group (0-6 years) have nutritional deficiencies, while 85.2 % of the women of the same city have anaemia

[40] In the region, mainly Kurdish is spoken. However, only a small percentage of the health staff knows Kurdish and many of the women who do not attend school do not know Turkish. Therefore, they have

(Ilçin, 1998: 122). The reason for poor health of the women is related with high illiteracy rate (55.3% of the women are illiterate) which hinders women's full utilization of health services, and cultural structure of the region which makes early marriages and frequent pregnancies common[41].

The change in the socio-economic structure of the region has been recently observed only on a small scale. This is related to the priority assigned to the hydropower projects since 70 % of them are complete, and thus completion of only 12 % of the irrigation schemes which are supposed to bring the prosperity to the region (GAP Administration, 2001). However, the priority given to hydropower projects within the project caused resentment among the local people. The local people believe that the hydroelectricity produced in the region through the recently completed dams are sent to the west of Turkey but they are paying the burden of it (Cumhuriyet, 2000). This causes the protests of pro-Kurdish NGOs and leads to politicization that the project will not contribute to the welfare of the region (Hasankeyf, 2000). Considering the precarious situation in Turkey's southeast, the individual security related with GAP can be politicized by downstream riparian states as well so as to have card to play against Turkey to convince it to stop the project. Thus, the individual insecurities in the region may continue to become a headache for Turkey in different aspects as well.

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problems in getting the health care (Ilçin, 1998: 119)

[41] Population growth rate is 2.4 % in the region, which is higher than the country average (1.5 %) Reasons for high birth rate can be listed as follows: The desire to have well-rooted families, the expectation of male children, the need for free labour to work in the land, the customs which prevent the husband to marry another woman when the wife is pregnant, in a region where polygamy is common (GAP Administration, 1997a: 7-11).

CONCLUSION

What is security? Can we continue to equate a state's feeling of security with non-existence of military threats directed to its survival? (Un)fortunately, no. As the suggests too, security is partially constructed. What is a threat that undermines a state's well being? Is it always a military attack or a potential of it directed against the sovereignty, territorial integrity of a state? No, this definition of threat is no longer adequate to respond to changing circumstances in international arena.

Human's excessive intervention into natural cycles and the functioning of ecosystems has caused a huge environmental deterioration, growing day by day. Coupled with the possibility of transfer of environmental degradation from one state to another, from one region to another, environmental related problems gained a transboundary character, which required solutions beyond the capabilities of an individual state. Moreover, increasing interdependencies in economic, political, social and environmental issues due to progress in technology and globalization has linked economic, political, social and environmental issues to national security, which was traditionally defined to cover only the military domain. However, although the significance of other sectors of security have been widely recognized, the controversy over environmental issues--whether or not they are linked to national security-- still prevails. This is due to limitations of the traditional security conceptualizations: For

an issue to undermine state's survival, it should have the ability to cause military conflict. The inadequacy of such a conceptualization has also been shown by conflict studies, which acknowledge that conflict is generally caused by an interaction of a couple of factors; for example, ethnic differences, and historical enmities exacerbated by political, social, economic or environmental factors. Therefore, the question whether environmental issues (resources scarcity, environmental alteration--i.e. pollution, ozone depletion, etc) cause conflict or not seems to narrow the definition of state security, and a narrow definition of security is no longer adequate to respond to the challenges of a changing world, such as increasing interdependencies. In such a world, even a state claims it will not be affected by an environmental change, such as global climate change, and refuses to take action, other states which will be adversely affected from the environmental change will insist on convincing state that its security will be at stake as well.

Thus, questioning of environmental security, especially around water resources which are of basic and crucial importance for all states need not be concentrated on the possibility of scarcity induced wars. However, the impact of environmental alteration of resource bases (ecological ones as well as the ones on individuals) need to be the focus. The problem with environmental alteration which hinders its securitization initially is the time frame within which environmental alteration occurs. The environmental change occurs in a large span of time, usually beyond the life span of decision makers who require a sense of urgency to take action. Moreover, the environmental alteration may affect a specific region within the whole country, which may prevent the formation of an "us" feeling to take action. However,

these are all related to the perceptions of international relations motivated by traditional security studies. Only when International Relations starts to think beyond these limitations of traditional security formulations will it be possible to perceive the significance of environmental alteration for a state's well-being. Also, it will then be possible to clarify the impacts of such environmental alteration over individuals, viewed only as citizens of states at present. Till now, individuals have suffered from a state's policies of defense such as decreasing expenditure on health system or less economic security for the individuals. However, the significance of individual well-being, individual health, safety, happiness for a state's well being has been ignored. It is impossible to create a sustainable future for the state without healthy individuals. As the case of Aral Lake exemplifies, the stability of a state or region can be directly linked to individuals, security just as national interests can be undermined by lack of this security. Aral Lake basin has been chosen for this study so as to demonstrate lessons for countries undergoing rapid agro-development, such as Turkey.

Moreover, studies about the relationship between environmental security and national security has been unilateral, either from the perspective of an individual riparian state or from the perspective of potential for conflict. However, the relationship needs to be extended to cover ecological components of security as well, but not limited to water quality, and deepened to the level of individual. These attempts of extension and broadening will provide a better understanding of changing circumstances and increasing insecurities of states related with environment and individual. The study of the Euphrates-Tigris basin tries to set up this link in Euphrates-Tigris basin as an introduction for further research.

In conclusion, everything has been perceived from the perspective of states in the realm of international relations for many centuries, as if states have been isolated from individuals and individuals have been isolated from their natural surrounding. Time has come to change our perceptions about state, environment and individuals in the realm of international relations and to acknowledge the capability of individuals to affect the state's well being (no longer a one way relationship, which declares only the State can affect the well being of individuals) and the capability of nature to shape the future of individuals: It is no longer adequate to think that individuals can shape of future of a river by development projects, but it should be acknowledged that the river has such a shaping capacity as well.

Figure 1: Mapping Human Security

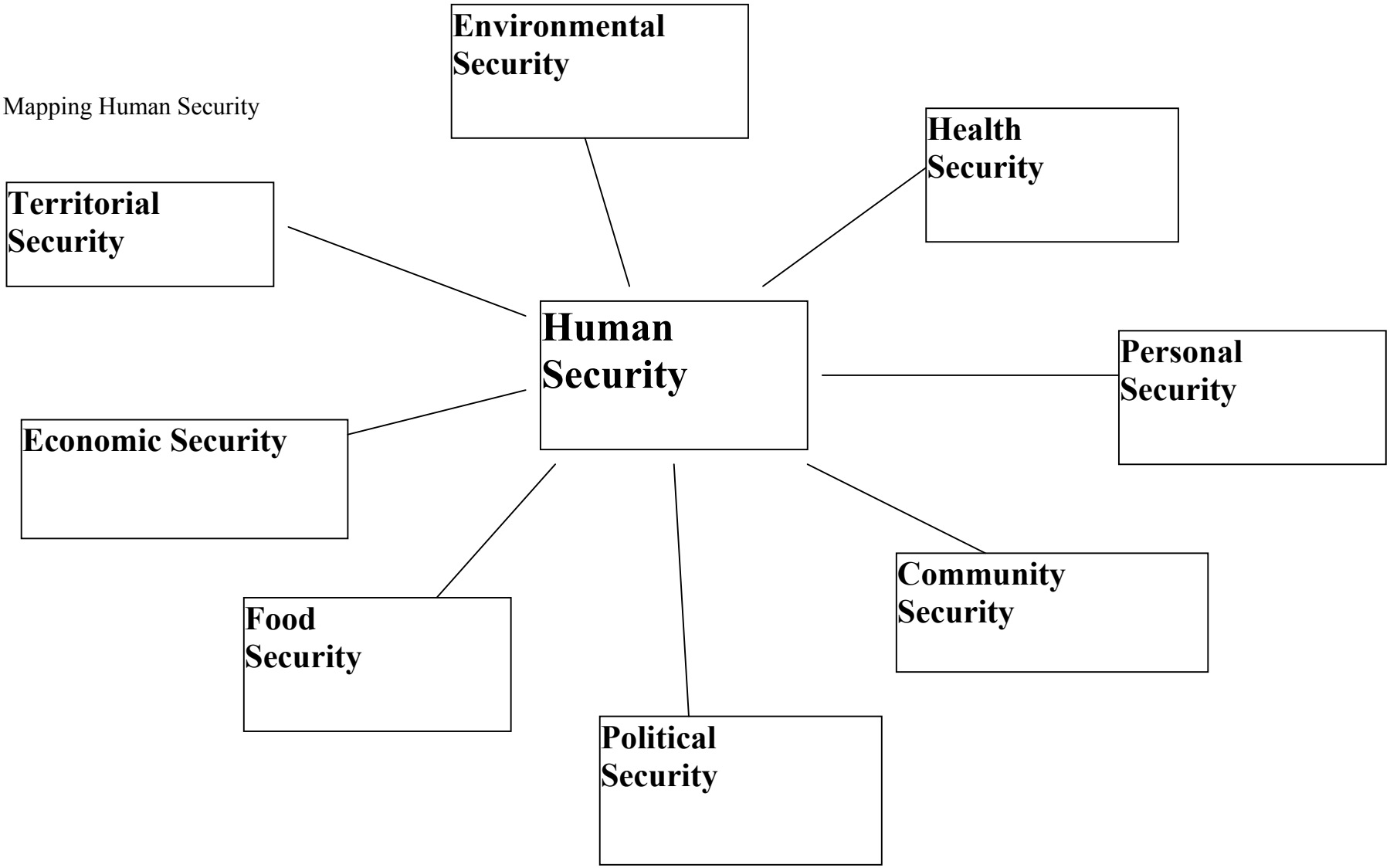
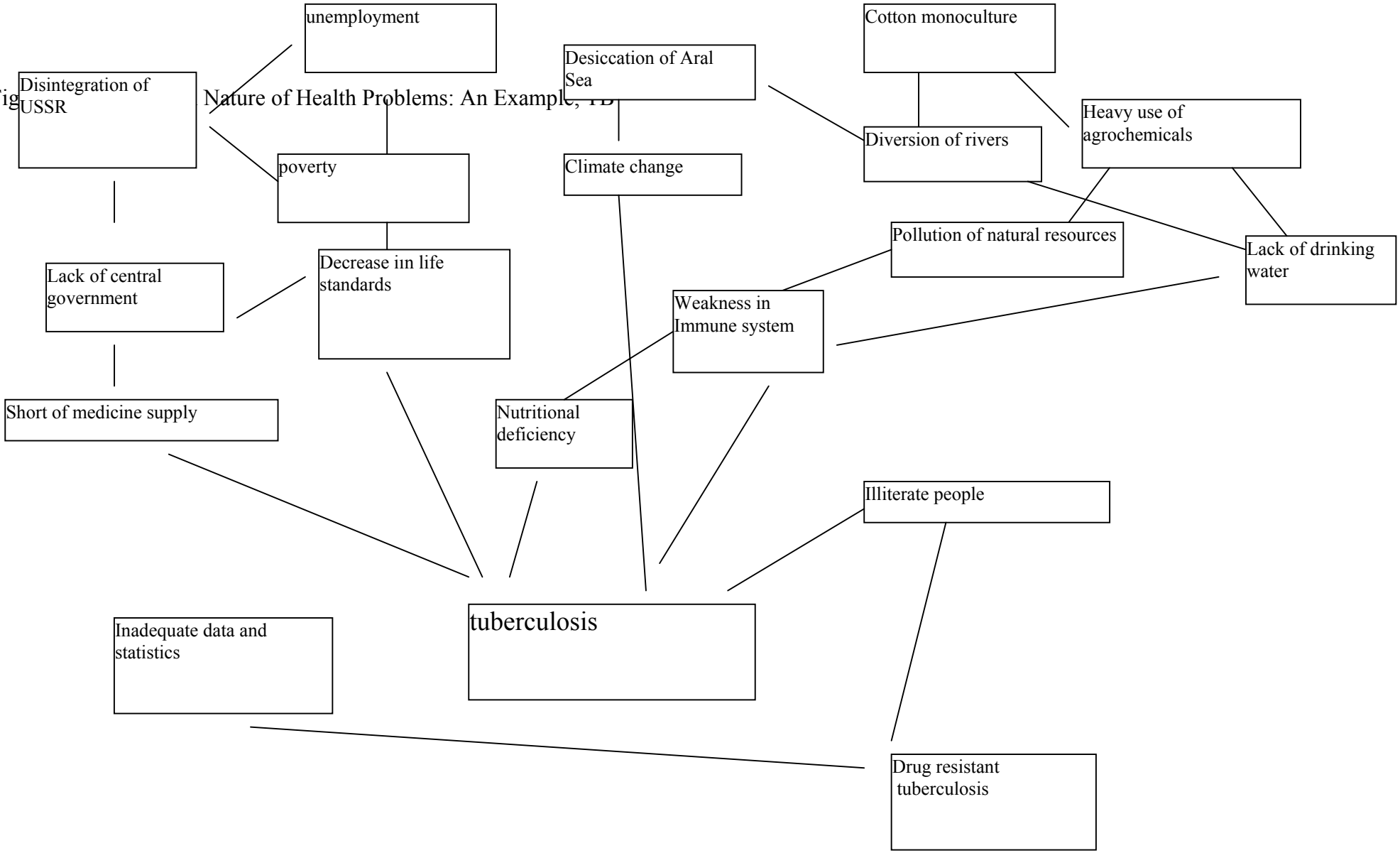


Fig Nature of Health Problems: An Example, TB



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