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Intensification of Natural Resource Conflicts, Environmental Crime, Human Rights Abuse, and Arguments for and against Introducing International Environmental Court

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Prepared by Noriyoshi Takemura

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Prologue and Epilogue

1. Introduction

When natural resources (land, water, minerals, metals etc.) are poorly managed or inequitably shared, or when business operations are implemented without due consideration for communities and context, they may contribute to tensions which could escalate into violent conflict, or feed into and exacerbate pre-existing conflict dynamics. Moreover, environmental degradation and population growth are intensifying competition over already scarce resources, such as land and water, and climate change threatens to increase such competition even further. Many experts and governments expect natural resources to become key drivers in a growing number of disputes, with potentially significant consequences for international, regional, and national peace and security. In the lights of these risks, renewed attention needs to be paid to mechanisms for mitigating and resolving natural resource disputes.

The number of disputes before international courts and tribunals which involve environmental concerns is growing. There is the increasing awareness of, and tensions between, exploiting the natural environment for economic gain and its conservation for sustainable health, cultural, social economic, scientific and other purposes. Although many modern day activities within individual states cause transboundary and global environmental harm and contribute to ever-worsening global climate change, there is no specialized international court or tribunal with competence over international environmental matters. Now we need to introduce a new, specialized, carefully designed, international court for the environment which would become one of solutions to environmental governance and dispute resolution.

In this report, dealing with some cases, the current situation of natural resource conflicts are analyzed, and then, in order to mitigate or solve problems, the necessity of introducing the international environmental court is discussed.

2. Components

2.1 Prologue and Epilogue

When natural resources (land, water, minerals, metals etc.) are poorly managed or inequitably shared, or when business operations are implemented without due consideration for communities and context, they may contribute to tensions which could escalate into violent conflict, or feed into and

exacerbate pre-existing conflict dynamics. Moreover, environmental degradation and population growth are intensifying competition over already scarce resources, such as land and water, and climate change threatens to increase such competition even further. Many experts and governments expect natural resources to become key drivers in a growing number of disputes, with potentially significant consequences for international, regional, and national peace and security. In the lights of these risks, renewed attention needs to be paid to mechanisms for mitigating and resolving natural resource disputes.

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2.2 'Multiple Battlefields' of Lithium Extraction at the Salar de Uyuni: Economy vs Environment/Ecology, Colonization vs Decolonization, and Global North vs Global South

The current state of the lithium extraction in Bolivia and the problematique of 'environmental human rights' and 'political ecology' in Latin America are critically analyzed. The Bolivian constitution of 2009 has been classified as one of the most progressive in the world regarding indigenous rights. The indigenous principles of Suma Qamaña/ Vivir Bien/ Good Living on the harmonious relationship between humans and nature are established in the constitution. Nonetheless, these rights clash with the constitutionally recognized rights of the nation state to extract and commercialize natural resources mainly hydrocarbons and mining under the banner of redistributive justice, welfare reforms and the common good: the dilemma of extractive development. The class-ethnicity tensions have altered throughout history, according to changing socio-economic, cultural and political settings. During Evo Morales' presidency, class based human rights in practice tend to be superior to the ethnically defined rights, as a reflection of the dilemma of extractive development. In Latin America, human rights have emerged as a weapon in the political battleground over the environment as natural resource extraction has become an increasingly contested and politicized form of development. However, the application of human rights discourses has yielded limited concrete results largely because the state as a guardian of human rights remains fragile in Latin America and is willing to override their commitment to human and environmental rights in the pursuit of development. In order to break this impasse, we need a new epistemology and emancipation, knowing and enacting 'political ecology'.

2.3 The Hottest Chaos of Cobalt Mining in Democratic Republic of Congo: 'Triad Abyss' of Human Rights Abuses, Environmental Pollution, and Illegal Global Trade

The DRC and corporations violate human rights and neglects environment in cobalt mining. These abuses and degradation/destruction are not only serious but also structural. Many conflicts arise concerning possession of natural resource wealth. The DRC has suffered ceaseless conflict for nearly two decades, as well as 'highly organized and systematic exploitation' of its resources. The population of Congo migrates toward mining areas in search of work and means to support their lives even in conditions of slavery, and groups engaged in armed conflict reap the much benefit from mining. Rebel groups and the army are fighting for control of the mines, and have used mass rape and kidnappings to gain control. In cobalt mining and trade in the DRC, corruption and violence are institutionalized to 'violent kleptocracy system'. Governments must now require companies to act responsibly by producing ethical batteries not associated with human rights abuses or environmental harm.

2.4 The Nile River Water Conflicts and Cooperation: The Grand Ethiopian Renaissance Dam Construction and 'Hydro-Hegemony' Change

A large part of the Nile basin is considered as one of the poorest regions of the world. Water scarcity is a major challenge for this already closed basin. The challenge is further exacerbated by climate variability. Thus, the immediate national interests of the riparian countries are taking priority over the basin based strategy. After a decade of failed attempts to initiate cooperation, the countries of the Nile basin have again started adopting conflicting postures over the water. Political tensions between Egypt and Ethiopia as a result of the unilateral construction of the project GERD, and the Ethiopian refusal to halt construction until the required studies were concluded have fed the historical mistrust between the two countries. Each country has sought to maintain old alliances and form new regional relations to influence the interests of the other in the Nile basin and the Horn of Africa. This approach continued even after the two countries reached a general understanding on resolving the crisis over the GERD. It is necessary for the important riparian states of the Nile basin to abandon their state-centric water development approach and develop sustainable cooperation over the shared water to meet the climate change challenges.

2.5 'Drought and Flood (Climate Change) – Social-Ecological System Destabilization – Conflict Nexus' in East Africa: Climate Change-induced Environmental Degradation, Food Insecurity, Migration and Violence around Mt. Kilimanjaro

Climate change leads to environmental degradation which has an impact on natural resources. Competing livelihood systems are subject to stiff competition, leading to social tensions and violence. In other incidences, environmentally induced migration has contributed to competition over shrinking

resources in host communities, and is a recipe for violence. Droughts or floods are examples of extreme weather events, which are categorized under climate variability and characterized by their severe effects on people's livelihoods, especially on agricultural production and associated food security. The current drought situation in the Horn of Africa is worryingly familiar, and the situation is deteriorating faster than expected. Severely erratic and below average rainfall has resulted in widespread food insecurity and malnutrition, deteriorating livestock conditions, and the mass movement of populations within and across borders. In this research, focusing on the region around and near Mt. Kilimanjaro, Tanzania, the following questions are cleared; first, how climate change over a period of time disrupts the normal functioning of the ecosystem that interacts with humans, and affects how they access certain vital resources for their survival; second, how climate change hazards create imbalances in the socio-ecological system that have the potential to exacerbate or even trigger violence in some contexts.

2.6 Arguments for and against Introducing International Environmental Court

The number of disputes before international courts and tribunals that involve environmental concerns is growing, whether they arise from domestic law, environmental treaties or economic treaties. This trend is driven in part by the increasing awareness of, and tensions between, exploiting the natural environment for economic gain and its conservation for sustainable health, cultural, social, economic, scientific and other purposes. There is no specialized international court or tribunal with competence over international environmental matters, Bruce mentions. This is despite the fact that much modern-day activity within individual states causes transboundary and global environmental harm and contributes to ever-worsening global climate change. Whether an international adjudicative body for the environment would be feasible or beneficial is hotly contended. Two key issues are addressed: (i) whether existing international institutions can adequately address modern disputes involving the environment, and, if not, whether they can be modernized; and (ii) whether it would be beneficial to create a new, specialized adjudicative body for the environment that functions within the global dispute settlement system. It is unlikely that an international court or tribunal for the environment would become the sole solution to environmental governance and dispute resolution. It is, however, an idea worth considering and has been recommended by the International Bar Association as a potential long-term endeavor. In the interim, contemplating better models for resolving international environmental disputes can provide solutions to modernize the existing dispute settlement regime.

Chapter 2

'Multiple Battlefields' of Lithium Extraction at the Salar de Uyuni: Economy vs Environment/Ecology, Colonization vs Decolonization, and Global North vs Global South

Abstract

The current state of the lithium extraction in Bolivia and the problematique of 'environmental human rights' and 'political ecology' in Latin America are critically analyzed. The Bolivian constitution of 2009 has been classified as one of the most progressive in the world regarding indigenous rights. The indigenous principles of Suma Qamaña/ Vivir Bien/ Good Living on the harmonious relationship between humans and nature are established in the constitution. Nonetheless, these rights clash with the constitutionally recognized rights of the nation state to extract and commercialize natural resources mainly hydrocarbons and mining under the banner of redistributive justice, welfare reforms and the common good: the dilemma of extractive development. The class-ethnicity tensions have altered throughout history, according to changing socio-economic, cultural and political settings. During Evo Morales' presidency, class based human rights in practice tend to be superior to the ethnically defined rights, as a reflection of the dilemma of extractive development. In Latin America, human rights have emerged as a weapon in the political battleground over the environment as natural resource extraction has become an increasingly contested and politicized form of development. However, the application of human rights discourses has yielded limited concrete results largely because the state as a guardian of human rights remains fragile in Latin America and is willing to override their commitment to human and environmental rights in the pursuit of development. In order to break this impasse, we need a new epistemology and emancipation, knowing and enacting 'political ecology'.

1. Introduction: Global Allure of Lithium and Response of Bolivia

In Bolivia lithium has taken a more central economic position since 2008 and will continue being central in the anticipated future, Revette explains the current situation of lithium extraction, although hydrocarbons currently serve as the primary source of revenue. Bolivia is a critical node in the 'triangle of lithium' and much of the hype surrounding its lithium industry is associated with the global excitement around this unique alkali metal's role in changing energy technologies. Increased

use of battery powered electronics, tools, and vehicles has resulted in a tremendous recent growth in global demand for lithium, and our appetite for all things tech-related only seems to grow. Hybrid and electronic cars (e.g. Tesla Motors, Nissan Leaf, Toyota Prius) along with endless versions of new smartphones and similar devises all demonstrate our expanding dependence on lithium (Revette: 35).

Currently, she continues, four companies (Talison Lithium Limited (Australia), Sociedad Quimica y Minera (Chile), Rockwood Holdings (Chile), FMC Corporation (Argentina)) account for the majority of lithium production in the world, but there are questions regarding the ability of current production to keep up with growing demand. There was a doubling of lithium consumption between 2000 and 2012, with some projections anticipating a growth rate of 11% per year through 2017, while others foresee a quadrupling of lithium consumption over the next two decades. Some even argue that lithium shortage will be likely soon. These tangible shifts in the global market place have opened up space for lithium to play a critical role, and Bolivia, home to the world's largest known reserve of lithium, has identified this an opportunity to step in as a key player in lithium production. The challenge, however, comes in determining exactly how Bolivia will insert itself into this shifting global energy matrix (Revette: 36-37; Perotti and Coviello).

In this context, then she analyzes, Evo Morales, President of Bolivia, rejected several offers of foreign investment in the lithium industry because he required majority Bolivian ownership in the process, and tremendous emphasis has been placed on the 100% state ownership and management of the initial phases of the industrialization. The lithium industry was placed under the control of a division of the state-run mining corporation Corporación Minera de Bolivia (COMIBOL), Gerencia Nacional de Recursos Evaporiticos (GNRE), and Morales has repeatedly emphasized how the lithium industry is critical to the growth, development, and sovereignty of Bolivia. What makes lithium particularly distinctive in such a mineral rich country is that it represents the unprecedented opportunity for the state to fully control the extraction and industrialization process from its beginning. In conjunction with the larger context of socio-political changes in the country and region, the 2008 inauguration of the state-run lithium industry brought with it great hope and expectations regarding Bolivia's ability to rewrite its long and troubled history with natural resource extraction curse (Revette: 37; Mares; Aguilar-Fernandez).

In this chapter, the current state of the lithium extraction in Bolivia is critically analyzed. Then, the problematique of 'environmental human rights' and 'political ecology' in Latin America is deliberated. At last, future prospects of lithium and natural resources mining and its problems in Bolivia and Latin America are suggested.

2. Extractive Capitalism or Imperialism of the Twenty-First Century?

2.1 Development, Difficulties and Negative Effects of 'Progressive Extractivism'

In recent years, we can see the development of new form of extractivism in Latin America: 'progressive extractivism'. According to Veltmeyer, this is a heterodox form of extractivism based on

resource nationalism and 'inclusionary state activism' in the form of the regulation of operations of extractive capital in the public interest; environmental protection, 'equitable growth' and 'sustainable resource development'. Progressive extractivism, which is exemplified by Bolivia and other post-neoliberal states, is characterized by a development strategy of resource extraction and primary commodity exports, which has been used to deepen the contributions of extractive sector and extend extractivism to other resources such as rare earth or industrial minerals, and lithium in the case of Bolivia. In this scheme, the state plays a much more activist role than in the classical model of extractivism and this state activism has a more 'inclusionary' character (Veltmeyer: 81-82).

A more indirect but no less activist role for the state has to do with development financing and infrastructure support, and the provision of subsidies and production incentives. In this scenario, he explains, the transnational mining companies would by no means be done away with. As in the case of Bolivia, they reappear in a new form of association with the state. Even in its new 'progressive' form, in Bolivia, a strategy based on natural resource extraction is unsustainable, unable to escape the development trap of reliance and dependency on foreign direct investment and the machinations of global capital and the imperial state (Veltmeyer: 82-83).

As for the extraction and production of lithium, then he mentions, the government anticipates state participation only in the first or easiest phase of the industrialization process, via the formation of a state enterprise (COMIBOL) for the production of carbonate and lithium chloride. For the more complex heavy industrialization process required for the production of metallic lithium, and for the financing of this production, the government has been actively seeking and continues to seek alliance with foreign companies. The policies of governments in Bolivia in the mining sector have created a scenario in which the extraction and exportation of minerals and metals are dominated by the transnationals (Veltmeyer: 91).

2.2 Labor, Conflict and Class Struggle in the New Bolivia

Most of conflicts in the extractive sector, and the resource wars over water and gas etc. which surround these conflicts, Veltmeyer analyzes, derive from the negative environmental impacts of extractive operations on the economy and on the livelihoods of indigenous communities located near those operations. In this context, class or social struggles have tended to take the form of a defense of the territorial rights of the indigenous population to the land, water and resources from the predation of extractive capital. The indigenous population, composed mostly of peasant farmers and rural landless or near-landless workers, can be viewed as a new proletariat, one more victim of a protracted capitalist development process of 'accumulation by dispossession' (Veltmeyer: 108-109).

The communities of indigenous peasants that make up rural society, he continues, form the social base of the environmental and social movements of resistance provoked by and brought into existence over the past decade in response to the destructive operations of extractive capital. In this situation, the indigenous peasant farmers have been largely proletarianized, forced to abandon agriculture and their rural communities and to work off-farm, many in the mining sector, or to migrate to the cities

where they have joined the ranks of the ubiquitous street workers in the informal sector, which now accounts for up to 60 percent of the economically active population in Bolivia (Veltmeyer: 109).

Bolivia's extreme dependence for its national development on the extraction of hydrocarbons and minerals, he mentions, makes the economy vulnerable to the vagaries of commodity prices and leads to conflicts with indigenous and environmental groups over the adverse impacts of extractive projects. The mining sector continues to be disrupted by inter-sectorial conflicts between peasants and indigenous working class fighting over the scraps that the transnational mining industry leaves behind. An abundance of natural resources, together with other endogenous processes of a pathological character, distorts the allocation of economic resources in the region, resulting in a negative redistribution of national income, the concentration of wealth in a few hands, and widespread poverty and recurrent economic crises, while consolidating a 'rentier' mentality, further weakening an already weak institutional framework, encouraging corruption and damaging the environment (Veltmeyer: 113; Veltmeyer et al.: 247; McNeishi; Plekkenpol).

2.3 Costs of Extractive Capitalism or Imperialism

The impacts of extractivism can be put into several categories, both socioeconomic and environmental. Veltmeyer et al. insist that the latter relate to the degradation of environments in which, increasingly, indigenous and farming communities of small-scale producers have to live and work, operate their enterprises and sustain their livelihoods. A large number of detailed scientific studies have corroborated the endless charges, claims and concerns of the populations and communities negatively affected by the operations of extractive capital, particularly open-pit mining (Veltmeyer et al.: 237).

The negative social impacts of extractivism, Veltmeyer et al. continue, concern jobs and livelihoods, and the health of community members and mineworkers, as well as new forms of social inequality. They also have to do with 'accumulation by dispossession', i.e. enclosure of the commons of land, and water, separating the direct producers from their means of production for the purpose of extracting, exploiting and profiting from the human and natural resources. In conditions of the new extractivism, the 'enclosure' and 'depossession' dynamics of the capital accumulation process take and are taking the form of privatizing access to and commodifying both the commons of land and water and extracted subsoil resources, degrading the environment (e.g. polluting the air and water), and undermining the livelihoods of the direct producers in their communities (Veltmeyer et al.: 237; Gudynas; López and Quiroga).

In short, Veltmeyer concludes, although the extraction and production of lithium have drawn a lot of money and received large loans, the result has been very poor: there is no development; the scale of mass poverty and negative environmental impacts are alarming; what they have is environmental contamination and pollution, massive deforestation, damage to health and disease (Veltmeyer: 95)

3. Ethnic Rights and the Dilemma of Extractive Development in Plurinational Bolivia

3.1 Vivir Bien, Ethnic Rights and the Extractive Dilemma in the Constitution of 2009

Academics, social movement activists and politicians in Bolivia, Ecuador and elsewhere frequently use the Vivir Bien concept, both as a critique of development understood as progress/economic growth and as a principle of harmonious and ecologically sustainable life. According to Lalander, for a better comprehension of the legal setting and the complexities amidst the dilemma of extractive development, the ethnic-indigenous as well as broader social rights, and also the 'extractive developmentalist' rights of the state, it is of great importance to examine some crucial parts of the 2009 constitution. Broadly speaking, throughout the constitution there are references to the central objectives of poverty reduction, welfare provision, economic development and environmental protection (e.g. article 312). Moreover, articles 306 and 313 emphasize that the overarching ambition of Bolivian economic policies is to overcome poverty and social/economic exclusion (Lalander: 470-471).

However, he mentions, the same constitution equally expresses the rights of the state to explore the natural resources of the soil, as pronounced in articles 319 and (below) 355, which also indicates the destination of the incomes derived from these activities:

I. The industrialization and sale of natural resources shall be a priority of the State.

II. The profits obtained from the exploitation and sale of the natural resources shall be distributed and reinvested to promote economic diversification in the different territorial levels of the State. The law shall approve the percentage of profits to be distributed.

III. The processes of industrialization shall be carried out with preference given to the place of origin of the production, and conditions shall be created which favor competitiveness in the internal and international market (Lalander: 471).

Clearly, then he analyzes, prevailing economic and political interests conflict with indigenous-territorial and environmental rights. This enigma, reinforced rights and the maintenance of resource extraction reliance, is clearly expressed in the constitution. National authorities justify the persistent extraction with the necessity to achieve distributive justice, that is, a diminution of poverty and the provision of welfare for all, especially the marginalized sectors. This approach, with the partial sacrifice of the specific rights of the environment/nature and indigenous peoples to achieve social welfare is sometimes labelled progressive neo-extractivism (Lalander: 472).

3.2 Indigeneity and the Dilemma of Extractive Development

The capitalist logics of accumulation are, Lalander explains, still central traits of the Bolivian political economy, which has been criticized by many activists and scholars who were hoping to witness the progress of an anti-capitalist/post-capitalist project in the country. However, the Morales administration has since the beginning explicitly communicated that the state should attain control of extractive industries so as to finance welfare reforms and to achieve economic development.

Moreover, the Morales government realized radical legal reforms regarding both human rights and environmental principles within the hydrocarbon sector. These improvements, including the acknowledgment of rights in the 2009 constitution, were the outcomes of decades of popular struggle, principally by lowland indigenous peoples (Lalander: 475).

The indigenous and class-defined discourse of Evo Morales and his government is, he continues, pronounced and directed at different levels: the domestic and global spheres respectively. Evo Morales has indeed been portrayed as a climate hero around the world, leaning on discourses based on indigenous values and the worldview of Vivir Bien (Suma Qamaña) as options for responding to both global capitalism and the climate crisis. But, this discourse is applied mostly at a global level, whereas the domestic speeches of Morales deal more with development economics and fair distribution of resources, that is, policies and rights defined by class and social justice. The aim was consequently neither to abandon the matrix of capitalist development, nor to entirely end the pollution of nature through extractivism or to always respect the indigenous territories, but to establish the dilemma and propose the Vivir Bien as an alternative to the world. The relative superiority of welfare policies vis-à-vis environmental conservation and indirectly indigenous territorial rights is similarly expressed in the quotation (Lalander: 476-477).

Rounding off, he mentions, the extractive dilemma has been characterized by recent years of contentious politics and resource governance in Bolivia. Often these conflicts have been portrayed as choices between ethnic and environmental values and rights on the one hand and economic, developmentalist and class-defined interests and values on the other. The realpolitik is always a question of choices and priorities, and there will always be a certain degree of compromise and sacrifice of specific rights, interests and values (Lalander: 477; Feil and Rüttinger; Schilling-Vacaflor; Mähler and Pierskalla).

3.3 Political Economy of Extractive Development Dilemma

The Bolivian constitution of 2009 is, according to Lalander, undoubtedly among the most radical in the world regarding the incorporation of international human rights criteria and the recognition of specific indigenous rights. As expressed above in the fragment of the preamble to the constitution, Bolivia is no longer a republic but a plurinational state, which is a direct acknowledgment of the indigenous custom to organize according to distinct ethno-cultural identification within the same nation state. Additionally, the indigenous ethical-philosophical conceptualization of Suma Qamaña (Vivir Bien, live well) on the harmonious relationships among human beings and with nature/the environment has been established as the backbone of the constitution and national development policies. These innovative reforms have been applauded worldwide and enhanced the ethno-ecologist image of Bolivia and the government of Evo Morales Ayma. A principal endeavor of the government since 2006 is the ambition to decolonize society, the state and the economy, which is also reflected in the constitution. Historically, the Bolivian political economy had excluded the indigenous population. Mining and extractive capitalism and imperialism based on exploitation of the indigenous peoples as

labor force have characterized the Bolivian political economy since colonial times. The 2009 constitution strengthened the position and role of the state in the economy, as a response to the discontent with neoliberal global capitalism (Lalander: 464-465).

The Morales government, which together with Venezuela and Ecuador has been in the forefront of what has been labeled twenty-first century socialism, he mentions, has repeatedly emphasized that the state should achieve control of extractive industries in order to fund welfare policies and to achieve economic development. Regarding the state control of vital industries, mainly hydrocarbons, agro-business and mining, the constitution declares the industrialization and commercialization of natural resources to be a key priority of the state, though taking into consideration the rights of indigenous peoples and provided that revenues should be directed at the common good (articles 319 and 355), as will be further discussed in due course. The dilemma of state authorities is consequently, to be able to deliver welfare for all, which requires economic resources. With the public control of strategic industries, the redistribution of wealth through extraction can be achieved; that is, provision of class-defined rights. The rights of indigenous peoples and of the environment are affected in situations where natural resources are extracted in indigenous territories. This follows the logics that have characterized extractive projects around the globe, wherein economy almost always outplays ethnic and conservational rights (Lalander: 465; Kröger and Lalander; Blansett; Canessa).

In short, he concludes, the incorporation of the indigenous philosophy of Suma Qamaña in the constitution and national development policies has reinforced the ethno-ecologist profile of the Morales government, particularly at a global level. Likewise, as has been discussed, the government uses the indigeneity and ethno-ecologist discourses strategically. It has been argued that in the Bolivian practice, ethnic rights intertwined with environmental rights frequently tend to be downgraded in relation to the broader class-defined rights as an outcome of the extractive dilemma. While indigenous rights were decisively reinforced with the constitutional reform of 2009, these rights clash with the constitutionally recognized rights of the nation state to extract and commercialize natural resources under the banner of redistributive justice, welfare reforms and the common good, class-defined rights. This is a crucial expression of the dilemma of extractive development (Lalander: 478).

4. State-led Extractivism and Frustration of Indigenous Development

4.1 Contradictions of Plurinational Extractivism

The paternalist-clientelist state-society relations in Bolivia, reproducing themselves from resource revenues, according to Poweska, are not contradictory but fully complementary with and functional to the global capitalist system, thus facilitating the subjugation of Bolivia to the interests of global resource markets. Because of the Bolivian state's stronger involvement in socio-political mechanisms produced/conditioned by the resource extraction-dependency and the need to respond to these mechanisms of state-society relations, in which state-owned resources are used to secure the political

loyalty of society and the prolongation of power, Bolivia is more prone to capitulate before market pressure for natural resource exploitation. It also contributes to understanding why the Bolivian state, controlled by a supposedly pro-indigenous government, is more sensitive to the interests and expectations of some social sectors that are structurally better situated in the system of power and more influential on the state, while at the same time it is so firm towards, relatively, the weakest part of society, who are indigenous peoples protesting against state-led extractivism (Poweska: 446).

The configuration of power and dominating social interests and expectations cannot be underestimated. He analyzes that the evolution of the state project towards centralism and the substantial reduction of 'plurinational' elements of the state's ideology is following traditional and well-established patterns of the Bolivian political culture and character of state-society relations. These include the well-known phenomena of vertical state-society relations and clientelist statism, strong paternalism and corporatist clientism, all related to the problem of a rentier state. Accordingly, corporatism, clientelism, statism and rentierism are interrelated and constitute together the backbone of the Bolivian 'national ideology' and political system, historically rooted but re-articulated with the world commodities boom. This model incites conflicts between different social groups competing to gain influence in state power and capture rents. State-owned resources are used to secure the political loyalty of different social groups and the prolongation of power. The maintenance of the system serves the reproduction of power structure and the position of ruling actors and privileged groups. Clientelism and paternalism reproducing themselves from resource revenues are not contradictory but fully complementally with global capitalism, as were the interests of the Bolivian elites throughout history (Poweska: 457-458).

However, he insists, there is a fundamental contradiction between this model of state control of resources, indispensable for the generation of rents that fuel paternalist-clientelist state-society relations, and indigenous peoples' self-determination in development. In its perverse logic of power, the state's paternalism discourages society's own initiatives. Instead of increasing incentives for people's own choices and direct opportunities of development, the state limits people's autonomy in disguise as the protector and savior of society. Even if all listed above can be recognized as important factors contributing to the problem of corruption that regularly raises social discontent in Bolivia, as well as to the erosion of genuine, direct democracy, such a vision of state and society relations are widely accepted in Bolivian society (Poweska: 458; Ströbele-Gregor; von Braun).

4.2 Compensatory or Predatory? Problem of the State and Asymmetries of Power

Is the Bolivian state compensatory or predatory? We can say it is both at once. He explains that, in order to be compensatory towards dominating parts of society, it is simultaneously predatory towards indigenous peoples occupying resource rich areas. But how can we explain this ambiguous nature of the Bolivian state's performance, based upon the contradiction of pro-indigenous discourse and pro-extractivist economic policy? (Poweska: 457).

In the interplay of structural and conjunctural factors, he continues, we can find the 'double face' of MAS (Movimento al Socialismo) which are incarnated in the current state project. The ruling party almost since its beginning combined two ideological and pragmatic wings or discursive axis: nationalist, anti-neoliberal, trade unionist, interested in the return of the economically active central state, the revocation of privatization, nationalization of hydrocarbons and redistribution of rents, industrialization and general modernization, and the generation of employment. The other 'wing' dealt with ethnic issues: claims for the end of the persistent exclusion and marginalization of native sectors of society that sought greater access to and presence in the political system, greater sensibility of the state to the interests of indigenous peoples and conferring collective rights (e.g. territorial autonomy, communitarian justice and democracy, recognition of cultural rights, and so on) (Poweska: 457).

There was no one agenda, he mentions, but several different agendas which formed an unfocussed scope of interests and expectations for the state's renovation; agendas of different sectors of society that felt similarly harmed by imperialism and neoliberalism. While these different dimensions combined well before the winning of political power, the apparent union of the indigenous-populist lock started to dissolve thereafter. Priority was given to the primary-export logic and economic centralism that would generate extensive rents to redistribute, and the ruling party opted for a national-popular and state-centric political project for the Bolivian 'refoundation', actually a typically developmentalist project. The legitimation of the refoundation project was based upon the rhetoric of the plurinational state (Poweska: 457).

4.3 Indigenous Rights, Extractivism and 'Pragmatic Retreat'

Bolivia is a state with a long colonial legacy, with a tradition of discrimination and exclusion of indigenous peoples. Historically, Poweska explains, it was a country where privileged sectors used state power as a mechanism to secure exploitation of subaltern groups. The term 'accumulation by dispossession' is used to address the indigenous peoples' resource dispossession by central state power as transferring property from indigenous groups within a state to state ownership for the benefit of domestic elites and other social groups which are favorably oriented towards central power. Such transfer is made under the figure of redistribution of resource export revenues, but also through state investments which directly benefit entrepreneurial sectors. Thus Bolivia resembles a 'predatory state'. This kind of state is described as one which in the interests of the best-organized groups deprives society of resources or plunders surplus without reward for the welfare of the harmed population. All of these above interpretations refer to the problem of unequal socio-political relations that render the power structure of the state (Poweska: 455).

Bolivia also demonstrates some attributes of a classic rentier state. He continues that, as the country is historically a natural resource extraction-dependent state, such a state cannot function without revenues coming from resource export sectors, and it has a strong tendency to centralism and vertical relations with society. These patterns are conditioned by the need for control of vital resources

and strategic sectors of the economy. Inevitably such a state would maintain a strong central character. This goes hand in hand with the predatory character of such a state (Poweska: 455).

Despite Morales' reputation as a defender of Mother Earth, by focusing on extractive sectors as a source of state revenues and supply for social redistribution through ambitious social programmes, he insists, the Bolivian state brings into question the authenticity of its pro-indigenous agenda. The extractivist priority policy quickly contradicted the official policy of vivir bien. The project of decolonialization became problematic for the policy of nationalization of resources. There is a fundamental conflict between the state and many indigenous groups over this question. The expansion of hydrocarbons exploitation and mining as well as the development of infrastructure and energy projects progress at the expense of the most fundamental indigenous rights. The Bolivian state's 'pragmatic retreat' undermines indigenous rights to territorial and resource control. It seems that the promise of the plurinational state has been converted into empty rhetoric (Poweska: 444).

In short, the fundamental paradox of the rhetoric of human rights have been used and abused by the 'Janus-faced state'; one face compensatory and the other predatory. He concluded that, even if indigenous rights are being strengthened through international activism at the global level, their implementation strictly depends on local circumstances. The state plays a crucial role of the intermediary sphere in the dialectic between local and global levels of struggle for indigenous rights. The Bolivian case provides the proof that even the ratification of well-constructed international law and incorporation of fundamental indigenous rights into the constitution cannot ensure their effective realization in practice. Especially when confronted with complicated nuances of internal politics and development dilemmas, Bolivia demonstrates the opposite. The indigenous rights and indigenous agenda are being deformed and manipulated by the state. And it does not really matter if the government is discursively pro-indigenous. The expansion of hydrocarbons and the mining industry, together with infrastructural and energetic projects are at the expense of the most fundamental indigenous rights. This 'pragmatic retreat' undermines rights to territorial and resource control (Poweska: 459).

5. Environmental Human Rights and Political Ecology in Latin America

5.1 New Human Rights Perspective Critiques Current Development

Natural resource exploitation, and the increasing number of large-scale and mega-development projects in the region, according to Raftopoulos, has made Latin America one of the most dangerous places for human rights activists and environmentalists in the world. Human rights have emerged as a weapon in the political battleground over the environment as natural resource extraction has become an increasingly contested and politicized form of development. Latin American governments have pursued extraction relentlessly, regardless of the socio-environmental costs and the abrogation of the most fundamental human rights which this development model entails. A report published by Inter-American Commission on Human Rights in 2015, while stating that states have the freedom to

exploit their natural resources through concessions and private or public investments of either a national or international nature, also importantly emphasized that these activities should not be executed at the expense of human rights and justice. Along with this increasing recognition of the linkage between human rights and extractivism, questions are also being raised within human rights law over approaches to environmental protection and recognition of intercultural perspectives (Raftopoulos: 387-388).

The explosion of social-environmental conflicts that has accompanied the expansion of extractive activities, she explains, has posed a challenge to the political and economic ideology of the current development model. This challenge comes from the new relational ontologies of local and indigenous communities and cultures which have opened up debates about the relationship between the human and non-human world, the rights of nature and human rights and duties. It has become increasingly apparent that the Commodity Consensus model and the largescale export of primary products in Latin America have advanced in recent years in a context of increasing violence and have impacted enormously on the promotion and protection of human rights. As a consequence of this new cycle of protests in the region, the environment has emerged as a new political battleground for human rights, and along with it, the urgent need to carry out more research on the relationship between human rights, extractivism and the environment. The explosion of social-environmental conflicts that have accompanied the growth and diversification of extractivist activities has posed a challenge to the political and economic ontology of current development models and opened up debates about nature and the relationship between the human and non-human world (Raftopoulos: 388, 401; Hogenboom).

Moreover, she insists, it has raised questions over Western approaches to human rights and led the transition towards de-colonial approaches to human rights built upon alternative cosmologies and intercultural perspectives, whereby nature has inalienable rights. Consequently, there are a number of emerging themes that warrant further attention. Further research into how transnational human and environmental rights advocacy networks are shaping the meaning and possibility of human rights discourses, de-colonial approaches to human rights and methodologies in Latin America, the adoption of human rights discourses in different social and cultural contexts and legal systems and also gendered impacts of extractivism and the role of women in social-environmental conflicts could provide valuable new insights into the merits of extractivism as a development strategy. It is hoped that this special edition will not only synthesize current work on human rights and extractivism in Latin America but also encourage more multidisciplinary research into the topic, broadening the analytical base of debates on extractivism, help foster a new relationship between humans and nature and change the way we conceive the environment (Raftopoulos: 401; Gianolla; Columbia Center on Sustainable Investment, Sustainable Development Solution Network, UNDP and World Economic Forum; Goyes et. al).

5.2 Epistemology: Knowing Political Ecology

In Latin America, Leff explains the epistemology of knowing political ecology, ecological destruction generated by the exploitative appropriation of nature during the colonial regime and then on to the present world economic order was accompanied by the exclusion and eradication of traditional practices even as Western knowledge, economic rationality and religious beliefs were imposed on the conquered territories. These sweeping changes were simultaneously linked to the political and economic rise of the West, as early capitalist relations of production were formed in and through exploitation of the peoples and natural resources in the region. Unequal international economic exchange is connected to the creation of 'enclave' economies as well as the historical and political alliances and dynamics in Latin American countries that facilitated such activity. The political ecology conceive of dependency and underdevelopment as a structural state of world affaires where poor nations provide the natural resources and cheap labor in an unequal interchange for capital and technology from 'developed' nations. The cause of Latin American misery is firmly connected to capitalist relations of production that underpin the wealth and power of Euro-America and not to rapid population growth in the Third World. With the contemporary emergence of severe and intensifying environmental crises, the dialectical relation of capital and ecology is incorporated into the contradictions of the economic world order which prompt in turn critical understanding of how destruction of the ecological and cultural potential for a more equitable, diverse autonomous and sustainable development of the South has occurred (Leff: 47).

Decolonizing knowledge, epistemological vigilance and critical thinking about the power strategies which are being deployed in the contemporary geopolitics of sustainable development, he insists, are central to the fight-back against the rampant forces of global capital which combine traditional and new forms of exploitation and oppression in Latin America as well as in the rest of the global South. Decolonizing knowledge is therefore an epistemological condition for deconstructing the exploitative trends of the global economy and reviving the ecological potentials and cultural meanings of local people, thereby giving life to alternative modes of production, thinking and being. A sustainable world is constructed in the clash of thoughts and actions, in cultural re-identification, as well as in the reinvention of practices, negotiation of interests, and expression of existential meanings through the social re-appropriation of nature in a plural world based firmly on ecological productivity and social justice (Leff: 49; López and Vértiz; Albrecht).

5.3 Emancipation: Enacting Political Ecology

Sustainable production is based on the negentropic conditions of production based on the ecological potentials of the earth and the cultural creativity of the peoples who inhabit the living planet. Concurrently, he suggests the emancipation of enacting political ecology, environmental rationality deconstructs and encounters the hegemonic modern economic, scientific and technological rationality which derives unsustainable economic growth to the increasing degradation of ecological organization and ultimately to the entropic death of the planet. Political ecology faces the challenge of harnessing

and reversing this process of entropic degradation by prompting negentropic thermodynamic processes in the construction of a social order founded in the immanence of life, the ecological productivity of the biosphere, and culturally innovative practices which preserve and enhance the sources of life on the planet (Leff:51-52).

Enacting political ecology has also revolves around a clear sense of how past and present hegemonic power structures impinge on people's everyday lives. He insists that, to plot a strategy of emancipation involves an often highly location specific sense of multifaceted ecological distribution conflicts geared by multiple power structures. In effect, socio-environmental conflicts encapsulate the battle between sameness and otherness, likeliness and difference, and ontological uniformity and diversity. While assessment of these conflicts is by no means confined to Latin America, this region affords an especially rich setting within which to explore and test this concept – with insights which then inform wider thinking about it (Leff:52).

In short, in Latin America, he concludes, the idea which socio-ecological justice and emancipation is based on the 'cultural re-appropriation of nature' is central to political ecology analysis. If the ethical politics of otherness points towards the pacific coexistence of different ways of being-in-the-world, the variety of ways in which human cultures construct nature open political ecology to conflicts of 'equity in difference' arising from different cultural visions and valuations of nature, as well as the confrontation of cultural/economic rights to appropriate nature and territorialize cultural diversity. Politics of difference emerges as the resistance of cultural beings to the dominion of global hegemonic homogeneity, as well as to the associated objectifying of people and their environment (Leff: 53).

6. Conclusions

The Bolivian constitution of 2009 has been classified as one of the most progressive in the world regarding indigenous rights. The indigenous principles of Suma Qamaña/ Vivir Bien/ Good Living on the harmonious relationship between humans and nature are established in the constitution. Nonetheless, these rights clash with the constitutionally recognized rights of the nation state to extract and commercialize natural resources mainly hydrocarbons and mining under the banner of redistributive justice, welfare reforms and the common good: the dilemma of extractive development. The ethnic identity is multifaceted in Bolivia, and large segments of the indigenous population prefer to identify in class terms. The class-ethnicity tensions have altered throughout history, according to changing socio-economic, cultural and political settings. A central argument is that, during Evo Morales' presidency, class based human rights in practice tend to be superior to the ethnically defined rights, as a reflection of the dilemma of extractive development.

In Latin America, human rights have emerged as a weapon in the political battleground over the environment as natural resource extraction has become an increasingly contested and politicized form of development. If we examine the link between human rights abuses and extractivism, we can argue that this new cycle of protests has opened up new political spaces for human rights based resistance.

Furthermore, the explosion of socio-environmental conflicts that have accompanied the expansion and politicization of natural resources has highlighted the different conceptualizations of nature, development and human rights that exist within Latin America. While new human rights perspectives are emerging in the region, mainstream human rights discourses are providing social movements and activists with the legal power to challenge extractivism and critique the current development agenda. However, while the application of human rights discourses can put pressure on governments, it has yielded limited concrete results largely because the state as a guardian of human rights remains fragile in Latin America and is willing to override their commitment to human and environmental rights in the pursuit of development.

In order to break this impasse, we need a new epistemology and emancipation, knowing and enacting 'political ecology'.

[Notes]

1) This chapter is based on the paper titled "Lithium of the Salar de Uyuni in Bolivia, 'Gold of the 21st century' helps lift a Nation out of poverty or throw it into the abyss of despair?: The next battlefield between economy and environment/ecology" and presented at the 73rd Annual Meeting of the American Society of Criminology, 15-18 November 2017, Philadelphia, U.S.A..
2) This chapter is a part of research results of "Research on Environmental- and Eco-crimes by Progress of Scientific Technologies and Development of Societies and measures against Them 2015-2019" (Subject Number: 15K03181) supported by the Grant-in-Aid of Scientific Research by Japanese Ministry of Education, Culture, Sports, Science and Technology.
3) In order to make a research on current situation of lithium extraction and environmental degradation at and around the Salar de Uyuni in Bolivia, the author visited the relevant places: the salt plane lake (Uyuni), lagoons (Colorada, Honda, and Charkota), lithium factories (Rio Grande and Lippi), quinoa farms and factory, salt factory (Colchani) , etc. in August 2017.
4) I would like to express my thanks to my colleagues for their help: Professor María Laura Böhme (University of Buenos Aires) and members of her research group.

[References]

Aguilar-Fernandez, R. (2009). *Estimating the Opportunity Cost of Lithium Extraction in the Salar de Uyuni, Bolivia*. Nicholas School of the Environment of Duke University.

Albrecht, H.-J. (2007). Internationale Kriminalität, Gewaltökonomie und Menschenrechtsverbrechen: Antworten des Strafrechts. *Die Zeitschrift Internationale Politik und Gesellschaft*.

Alimonda, H. (2015). Mining in Latin America: coloniality and degradation. In Bryant, R.L. (ed.) *The International Handbook of Political Ecology*. Cheltenham: Edward Elgar. 149-161.

Artaraz, K., and M. Calestani (2015). Suma qamaña in Bolivia: Indigenous Understandings of Well-being and Their Contribution to a Post-Neoliberal Paradigm. *Latin American Perspectives* 42 (5): 216-233.

Böhm, M. L. (2016). Transnational Corporations, Human Rights Violations and Structural Violence in Latin America: A Criminological Approach. *Kriminologisches Journal* 48: 272-293.

Canessa, A. (2014). Conflict, claim and contradiction in the new 'indigenous' state of Bolivia. *Critique of Anthropology* 34 (2): 153-173.

Columbia Center on Sustainable Investment, Sustainable Development Solution Network, UNDP and World Economic Forum (-). *Mapping Mining to Sustainable Development Goals: An Atlas*. White Paper. Geneva: World Economic Forum.

Feil, M., und L. Rüttinger (2011). *Rohstoffkonflikte nachhaltig vermeiden: Risikoreiche Zukunftsrohstoffe? Fallstudie und Szenarien zu Lithium in Bolivien (Teilbericht 3.3)*. Umweltforschungsplan des Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit. Dessau-Roßlau: Umweltbundesamt.

Gianolla, C. (2013). Human rights and nature: intercultural perspectives and international aspirations. *Journal of Human Rights and the Environment* 4 (1): 58-78.

Goyes, D. R., H. Mol, A. Brisman and N. South (eds.) (2017). *Environmental Crime in Latin America: The Theft of Nature and the Poisoning of the Land*. London: Palgrave Macmillan.

Gudynas, E. (2010). *The New Extractivism of the 21st Century Ten Urgent Theses about Extractivism in Relation to Current South American Progressivism*. American Program Report. Washington D.C.: Center for International Policy.

Hilborn, P. J. (2014). *Can a State Decolonize Itself? A Critical Analysis of Bolivia's State-led Decolonization Process*. Halifax: Dalhousie University.

Hogenboom, B. (2012). Depoliticized and Repoliticized Minerals in Latin America. *Journal of Developing Societies* 28 (2): 133-158.

Kröger, M., and R. Lalander (2016). Ethno-territorial rights and the resource extraction boom in Latin America: do constitutions matter? *Third World Quarterly* 37 (4): 682-702.

Lalander, R. (2017). Ethnic rights and the dilemma of extractive development in plurinational Bolivia. *The International Journal of Human Rights* 21 (4): 464-481.

Leff, E. (2015). Encountering political ecology. In: Perreault, T., G. Bridge and J. McCarthy (eds.) *The Routledge Handbook of Political Ecology*. London and New York: Routledge. 44-56.

López, A. S., and A. R. Quiroga (2015). *An Assessment of the Environmental and Social Impacts of Chinese Trade and FDI in Bolivia*. Working Group on Development and Environment in the Americas Discussion Paper. Global Economic Governance Initiative and Global Development and Environment Institute.

López, E., and F. Vértiz (Translated by M. Olavarria) (2015). Extractivism, Transnational Capital, and Subaltern Struggle in Latin America. *Latin American Perspectives* 42 (5): 152-168.

Mähler, A., and J. H. Pierskalla (2015). Indigenous Identity, Natural Resources, and Contentious Politics in Bolivia: A Disaggregated Conflict Analysis, 2000-2011. *Comparative Political Studies* 48 (3): 301-332.

Mares, D. R. (2010). *Lithium in Bolivia: Can Resource Nationalism Deliver for Bolivians and the World?* Houston: James A. Baker III Institute for Public Policy of Rice University.

McNeish, J.-A. (2013). Extraction, Protest and Indigeneity in Bolivia: The TIPNIS Effect. *Latin American and Caribbean Ethnic Studies* 8 (2): 221-242.

Øygard, M. H. (2014). *Indigeneity and extractivism in Bolivia*. Department of International Environment and Development Studies, Naragrie. Norwegian University of Life Science.

Perotti, R., and M. F. Coviello (2015). *Governance of Strategic Minerals in Latin America: The Case of Lithium*. Santiago, Chili: United Nations.

Perreault, T. (2008). Popular Protest and Unpopular Policies: State Restructuring, Resource Conflict, and Social Justice in Bolivia. In: D. V. Carrunthers (ed.) *Environmental Justice in Latin America: Problems, Promise, and Practice*. Cambridge, Massachusetts and London, England: The MIT Press. 239-262.

Plekkenpol, F. (2014). *Resources and Resistance: Social Movements and the State in Conflicts over Natural Resources Extraction in Guatemala and Bolivia*. London: University College London.

Poweska, R. (2017). State-led extractivism and the frustration of indigenous self-determined development: lessons from Bolivia. *The International Journal of Human Rights* 21 (4): 442-463.

Raftopoulos, M. (2017). Contemporary debates on social environmental conflicts, extractivism and human rights in Latin America. *The International Journal of Human Rights* 21 (4): 387-404.

Revette, A. (2016). Extractive Dreams: Unearthing Consent, Development, and Lithium in Bolivia. Boston: Northeastern University.

Schilling-Vacaflor, A. (2014). *Contestations over Indigenous Participation in Bolivia's Extractive Industry: Ideology, Practices, and Legal Norms*. GIGA Working Papers No.254. Hamburg: GIGA German Institute of Global and Area Studies, Leibniz-Institut für Globale und Regionale Studien.

Ströbele-Gregor, J. (2012). *Lithium in Bolivien: das Staatliche Lithium-Program, Szenarien sozio-ökologischer Konflikte und Dimensionen sozialer Ungleichheit*. desiguALdades.net Working Paper No.13. Berlin: desiguALdades.net Research Network on Interdependent Inequalities in Latin America.

Takemura, N. (2018). Lithium Extraction at the Salar de Uyuni in Bolivia: 'Dirty business for clean energy' emancipates Bolivia from 'curse'? *Toin University of Yokohama Research Bulletin* 38: 31-38.

Ulloa, A. (2015). Environment and development: reflection from Latin America. In: Perreault, T., G. Bridge and J. MCarthy (eds.) *The Routledge Handbook of Political Ecology*. London and New York: Routledge.320-331.

Veltmeyer, H. (2014). Bolivia: Between Voluntarist Developmentalism and Pragmatic Extractivism. In: Veltmeyer, H., and J. Petras (2014). *The New Extractivism: A Post-Neoliberal Development Model or Imperialism of the Twenty-First Century?* London and New York: Zed Books. 80-113.

Veltmeyer, H., and J. Petras (2014). *The New Extractivism: A Post-Neoliberal Development Model or Imperialism of the Twenty-First Century?* London and New York: Zed Books.

Von Braun, K. (2015). *Indigenität und Ressourcenkonflikte in Bolivien: Dynamiken indigener Selbst- und Fremdzuschreibung im Kontext extraktivistischer Wirtschaftspolitik*. Working Paper No.8. Marburg: Forum Demokratieforschung, Working Paper Reihe im Fachgebiet Demokratieforschung am Institut für Politikwissenschaft an der Philipps Universität-Marburg, Beiträge aus Studium und Lehre.

Chapter 3

The Hottest Chaos of Cobalt Mining in Democratic Republic of Congo: 'Triad Abyss' of Human Rights Abuses, Environmental Pollution, and Illegal Global Trade

Abstract

The DRC and corporations violate human rights and neglects environment in cobalt mining. These abuses and degradation/destruction are not only serious but also structural. Many conflicts arise concerning possession of natural resource wealth. The DRC has suffered ceaseless conflict for nearly two decades, as well as 'highly organized and systematic exploitation' of its resources. The population of Congo migrates toward mining areas in search of work and means to support their lives even in conditions of slavery, and groups engaged in armed conflict reap the much benefit from mining. Rebel groups and the army are fighting for control of the mines, and have used mass rape and kidnappings to gain control. In cobalt mining and trade in the DRC, corruption and violence are institutionalized to 'violent kleptocracy system'. Governments must now require companies to act responsibly by producing ethical batteries not associated with human rights abuses or environmental harm.

1. Introduction

The southern part of Democratic Republic of Congo (DRC) produces more than half of the world's cobalt, but the DRC's cobalt mining region is unstable, violent, and the rule of law is mostly absent.

In DRC, cobalt is extracted from both industrial and artisanal mines. On the one hand, the former industrial or large-scale cobalt mining industry uses heavy machinery and is mainly controlled by foreign companies, which are involved in land grabs, the destruction of community livelihoods, labor rights violations, failure to conduct legally required community consultation procedures. Security forces guarding cobalt mines have been involved in violence towards communities in the mine's vicinity. The industry also causes considerable environmental damage to the detriment of local people: biodiversity loss and deforestation, air pollution, and contamination of water with toxic and radioactive elements. On the other hand, artisanal or small-scale mining in the DRC is done mostly by hand, often using only rudimentary tools. The men, women, and children in southern Katanga region alone mine in tunnels deep underground, often without any protective equipment. In result, many artisanal cobalt miners died in collapsed tunnels and other underground incidents, alongside the human suffering caused by skin, lung and other diseases contracted by miners exposed to cobalt.

The DRC Mining Code 2002 specifies that mining companies are required to research impacts of their prospective mining operations, to inform affected communities, and to conduct community consultation procedures while maintaining constructive dialogues with those same communities. While large-scale cobalt mining companies consistently fail to live up to these requirements, the government of DRC has been unable to enforce its own mining code, leaving affected communities without the means to influence the construction of mines in their living environment. In fact, the mining code of DRC was drafted with the goal of attracting foreign, large-scale mining companies in order to revive the country's mining sector. Simultaneously, the mining code has made mining outside of a limited set of authorized mining zones illegal, and has thereby effectively outlawed most of the country's artisanal mining operations. This has arguably disqualified the sector from government regulation on issues such as child labor and workers' health and safety.

Companies using cobalt from DRC in their products have so far failed to conduct adequate human rights due diligence on their cobalt supply chains. Many large cobalt-using companies continue to be unable to determine from which mines their cobalt originates, making it impossible for them to identify and address human rights' risks in those mines. Electronics companies and other companies making use of the mineral should acknowledge that their responsibility also applies to the mining phase, including the (artisanal) mining of cobalt.

In this chapter, first, we make clear that human rights abuses and environmental pollution happen in the field of cobalt mining in the DRC, second, our research investigate these problems and find 'the triad abyss' of the hottest mining chaos in the DRC, and, third, what should be done at present and in the future is suggested.

2. Human Rights Abuses and Environmental Pollution of Cobalt Mining in the DRC

2.1 Human rights abuses in DRC power the global cobalt trade

In cobalt mining, the DRC failures to protect human rights, and corporates failure to respect human rights. These human right abuses power the non-due diligence of global cobalt trade.

In January 2016, Amnesty International and African Resources Watch (Afrewatch) jointly published a report, *"This is What We Die For,"* that examined the conditions under which artisanal miners extract a significant proportion of the world's cobalt supply and traced how this mineral is traded. The report exposed serious human rights abuses in artisanal cobalt mining in southern DRC. The report also assessed the extent to which 26 companies had put in place human rights due diligence measures in order to know where the cobalt in their products came from and the conditions under which it was extracted and traded (Amnesty International 2017: 4).

1) Serious human rights abuses in cobalt mining

In the 2016 report, they expose serious human rights abuses in artisanal cobalt mining in southern DRC. Artisanal miners operating outside of authorized mining zones typically lacked basic protective

or safety equipment, such as respirators, gloves or face protection and did not enjoy legal protections nominally provided by the state. Artisanal miners frequently suffered from chronic illnesses, and serious and potentially fatal respiratory diseases as a result of prolonged exposure to dust containing cobalt and other metals (Amnesty International 2017: 17).

Under international standards, any participation in mining by children below the age of 18 falls under the category of 'worst forms of child labor'. However, in the artisanal cobalt mining, children as young as seven work in the tunnels alongside adult miners, while most helped to pick through mine tailings or sort and wash minerals prior to sale. Many children are forced to carry out this physically grueling and hazardous work because their families are too poor to pay school fees or else rely on the supplementary income from mining to be able to send their children to school. Children are also subjected to beatings and extortion by security guards and exploited by traders. Under international standards, any participation in mining by children below the age of 18 falls under the category of 'worst forms of child labor' (Amnesty International 2017: 17).

There is a widespread failure of government agents to monitor and enforce relevant safeguards aimed at protecting artisanal miners. In addition, there is a pattern of extortion by these same officials, who routinely demanded illegal payments from miners as a 'tax' on each sack of ore collected or to gain access to mine sites (Amnesty International 2017: 17-18).

The report also made clear how cobalt from artisanal mines in the DRC entered the global supply chain. Traders purchase cobalt ores without conducting basic checks, such as asking questions about where those minerals originated from or confirming the conditions under which they had been extracted (including the use of child labor). These traders, in turn, sold the ores to larger entities supplying the smelters that process cobalt for use in various industrial applications, including products used in the manufacture of rechargeable batteries (Amnesty International 2017: 18).

2) State failure to protect human rights

There are significant gaps and weaknesses in the DRC government's regulation of artisanal mining. The Mining Code and Regulations contain limited guidance on health and safety and very few provisions to protect artisanal miners' labor rights (Amnesty International 2017: 18).

The report detailed several ways in which the government was failing to ensure protection for adults mining cobalt in hazardous conditions. It had not created enough authorized zones for artisanal mining, effectively forcing miners to work in unregulated or 'law-free' areas. Laws and regulations did not adequately protect the health and safety or other labor conditions of artisanal miners and the authorities responsible for monitoring and enforcing standards lacked the capacity to do so. State officials were extorting illegal payments from artisanal miners and were ignoring unsafe working conditions that breached the DRC's own laws, including the prohibition of child labor in mines (Amnesty International 2017: 18).

In short, the government was failing to adequately enforce the legal prohibition against child labor in artisanal mining. This was despite an international prohibition on the worst forms of child labor,

the DRC labor law and the country's mining code which bans anyone under 18 from taking part in artisanal mining. The children work of physically demanding nature for up to 12 hours a day in the mines carrying heavy loads for less than US$2 a day. Those who were attending school worked similar hours performing arduous work at weekends and during school holidays as well as before and after school. Those who were not attending school worked in the mines all year round (Amnesty International 2017: 18).

3) Corporate failure to respect human rights

All 26 companies, including Huayou Cobalt and companies potentially buying from it directly or indirectly, had failed to conduct human rights due diligence in line with international standards. The majority of companies were unable to answer basic questions about where the cobalt in their products came from and whether there was any risk of human rights abuses (Amnesty International 2017: 19).

In short, companies that purchase cobalt, or components containing the mineral, had no excuse for not conducting such due diligence steps. The DRC is by far the world's largest source of cobalt and the poor conditions of its artisanal mines and the use of child labor in them had been reported publicly in the past (Amnesty International 2017: 20).

2.2 Corporate action and inaction to tackle abuses in cobalt supply chain

Although there are international standards of due diligence for mineral supply, both adults and children are obliged to mine cobalt in the horrible conditions. Both upstream and downstream companies have not enough transparency around human rights and supply chain practices.

The Amnesty International 2017 report, *Time to Recharge,* using international standards on human rights and supply chains, examines the degree to which 29 companies' cobalt-sourcing practices have improved. The situation on the ground remains problematic, as children and adults continue to mine cobalt in hazardous conditions in violation of international law.

1) International standards for mineral supply chain due diligence

The assessment in the 2017 report is based on the international standards set out by the UN Guiding Principles and OECD Guidance.

The UN Guiding Principles on Business and Human Rights (UN Guiding Principles) set out the responsibility of companies to respect international human rights in their global operations, including in their supply chains. This requires, amongst other things, that companies carry out human rights due diligence "to identify, prevent, mitigate and account for how they address their impacts on human rights" (Amnesty International 2017: 5).

The Organization for Economic Co-operation and Development (OECD) has developed a practical guide for how such due diligence should be carried out for supply chains. The Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict- Affected and High-Risk Areas (OECD Guidance) sets out a five step process for all companies involved in the mineral supply chain to follow.

The OECD Guidance is endorsed by states and is widely recognized as the international standard for mineral supply chains (Amnesty International 2017: 5).

In December 2015 the China Chamber of Commerce of Metals, Minerals and Chemicals Importers and Exporters (CCCMC) promoted adoption of international due diligence standards through its Chinese Due Diligence Guidelines for Responsible Mineral Supply Chains, which are aligned with the OECD Guidance. In addition, a number of voluntary industry initiatives of varying significance have emerged since 2016, including the Responsible Cobalt Initiative, Responsible Raw Materials Initiative and Global Battery Alliance. These industry schemes are voluntary by nature and, therefore, have limitations (Amnesty International 2017: 5).

2) Assessing upstream and downstream company performance

Although many companies admit that there are serious human rights abuse problems that can no longer be ignored, their awareness and commitments have not translated into action across the global supply chain. While companies like Huayou Cobalt, Apple and Samsung SDI have demonstrated that they can map their supply chains in the DRC, others have failed to take any meaningful action. None of the 29 companies carry out human rights due diligence on their cobalt supply chains in line with international standards (Amnesty International 2017: 11).

The report is concerned about the low response rate of producers of battery materials and battery cells, many based in China. Unless these companies begin carrying out due diligence in line with international standards, it will be difficult to establish a viable market for more responsible sources of cobalt. Given the scale of the problem and exponentially growing demand for cobalt, more must be done (Amnesty International 2017: 11).

As a result, states, such as the DRC, China, South Korea and the USA, should require greater transparency around human rights and cobalt supply chain practices. In particular, regulation is required to ensure transparency in relation to: points of extraction, the conditions of extraction and trading and the chain of custody (actors involved) for cobalt. Companies in the cobalt supply chain should undertake and publicly disclose their human rights due diligence practices (Amnesty International 2017: 11).

2.3 Environmental pollution and human rights violations

The state of DRC and corporations violate human rights and neglects environment in cobalt mining. These abuses and degradation/destruction are not only serious but also structural.

SOMO (Stichting Onderzoek Multinationale Ondernemingen) in Amsterdam and three Congolese partner organizations (Afrewatch, ACIDH and Premicongo) conduct a field research and made a report, *Cobalt blue*, which shows how environmental and human rights violations happen structurally at industrial cobalt and copper mining operations in Katanga. Whilst the companies do not respect human rights, the rule of law and their obligations to communities whose lives are affected by the mines, the DRC government has also failed to enforce laws to protect its citizens and natural

environments affected by mining operations. This field investigations took place at mining operations of Minière de Kalumbwe Myunga (MKM), Huachin, and Société d'Exploitation du Kipoi SA (SEK), a subsidiary of Australian Tiger Resources Ltd (Scheele et al.: 4).

1) Environmental and health rights violations

In the DRC, the production of copper and cobalt is inextricably linked to violations of peoples' right to a clean environment. One example of this is the discharge of contaminated wastewater from MKM's mining operations into the Dikanga River, which resulted in the water being unfit for human consumption by local communities, but where MKM and several other mining companies were nevertheless granted mining licenses by the Ministry of Mines (Scheele et al.: 4).

The close physical proximity of industrial mining operations to local towns and villages means that thousands of people are exposed to fumes, dust, noise, and effluent water generated by the mines, trucks, and processing facilities. Those people, who live within a few meters of the mines, including the Ruashi mine, are also exposed to air and noise pollution, as well as dust containing cobalt compounds. Thousands of trucks travel to and from the mines and related operations all day and through the night, exposing resident in the cities of Lubumbashi and Likasi to heightened air pollution and leaving them rightfully afraid of contracting lung diseases. Chronic exposure to such dust can lead to potentially fatal hard-metal lung disease, as well as a variety of other pulmonary problems, including asthma, decreased lung function, and pneumonia. Previous research has shown that people living close to DRC's mines had 43 times the level of cobalt, five times the level of lead, and four times the level of cadmium and uranium in their urine than is considered normal (Scheele et al.: 4; Congolese Cobalt and Consumer Electronics; Amnesty International 2013).

2) Land and livelihood rights violations

While wastewater from mining may pollute land and water, mining itself also requires huge swaths of land and vast amounts of water for its operations, which have resulted in the loss of livelihoods in affected communities. In the case of the Ruashi mine, for example, the mine's operators blocked access to a road used by 3,000 people to access their primary water source, which they depended on for their everyday needs and overall livelihoods. Boss Mining's operation left the Kibembe and Luita rivers, which provided drinking water to local communities, in a polluted state. Both Ruashi and Boss Mining subsequently drilled wells to provide clean drinking water, but those wells were either in a state of disrepair, or provided water of insufficient quality for human consumption (Scheele et al.: 4-5; Amnesty International 2013; Amnesty International 2014).

In most of the cases, the mining companies, in violation of DRC's law, failed to consult communities about their prospective mining operations. The few consultations did not provide information to the communities on the possible impacts of the mines. Under the Congolese Mining Code, it is the responsibility of the mining company to initiate and maintain constructive dialogue with communities

affected by their projects. This responsibility of the companies was systematically and structurally neglected (Scheele et al.: 5).

To make way for the mines, actual construction of the copper and cobalt mines in the DRC resulted in the forced relocation of local communities. In four of the cases, communities were relocated without adequate compensation, without being given new land and were sent to areas with poor soil. They were also relocated to areas without basic infrastructure or access to drinking water. The combination of forced eviction with inadequate compensation and the subsequent loss of livelihood has serious consequences for people already in fragile economic situations (Scheele et al.: 5; Amnesty International 2013; Amnesty International 2014).

3) Security and violent conflict

In addition, violence has occurred between the police or military and illegal miners trespassing on the mine sites. As the illegal miners flee, police open fire indiscriminately and have reportedly hit innocent civilians. Given that some communities live physically very close to mines and their operations, accidental deaths happen. Communities, including those near the Ruashi mine, have also faced physical danger when explosions caused by the mine's operations damaged homes and property, for which they received no compensation (Scheele et al.: 5).

3. 'Triad Abyss' of The Hottest Mining Chaos: The Largest Humanitarian Disaster

3.1 'Resource curse' and control of 'conflict minerals'

1) 'Conflict minerals' and 'resource curse'

Many conflicts arise concerning possession of natural resource wealth. The role of natural resources in the violence in the DRC is referred to as 'engines of chaos.' (Katunga: 16) The country of DRC has suffered ceaseless conflict for nearly two decades, as well as 'highly organized and systematic exploitation' of its resources (Brisman, South and White: 5; Burney).

Paradoxically, people in resource-rich states are susceptible to be suffered from conflict, natural resource extraction, and human rights violation (DeVoe: 479). In Africa, many resource-rich countries are so seriously afflicted with the 'resource curse' that the abundance of natural resources is inversely correlated with economic growth, good governance, and political stability (Firger: 1048). The proceeds of mines help bankroll every armed groups. The wealth is unearthed by the poor, controlled by the strong, and then sold to a world largely oblivious of its origin (Polgreen: 15). While many poorest countries in the world are among the richest in natural resources, they are also among the countries most heavily in debt. Money derived from mineral extraction has not contributed to civil society, but has fueled conflict, human rights abuses, and corruption. The financial accounting from the extraction industry has often lacked transparency and the local community has often been excluded from meaningful consultation. These industries tend to operate in rural, mostly indigenous areas, where

people are the poorest, least organized, most marginalized, and most likely to be abused (Clark: 216; Amnesty International 2017; Amnesty International 2016).

'Conflict minerals' are defined as minerals mined in conditions of armed conflict with the proceeds from the mining being used to fund continued fighting. They are associated with human rights abuses, including beatings, torture, threats, large-scale population dislocations and mass rapes, atrocities that are committed by armed groups and directed at civilians as part of orchestrated campaign designed to gain control of mines and supply routes. (Enough Project; DeVoe; Kelly) The necessary mining activities and associated consequences also have enormous implications for the environment and all species (human and non-human) dependent upon it. The combination of these impacts and abuses of human and environmental rights is a stark example of crime and harms that are often overlooked within criminology but are highlighted by a critical, green perspective (Clark: 214; South and Brisman; RCS GLOBAL Making Sure).

2) Mine control through kidnapping, mass rape and sexual violence

In DRC the rebel groups and the army are fighting for control of the mines in the eastern part of the country. Allegedly rebel groups have used mass rape and kidnappings to gain control, with the highest rape rates reported among families in villages closest to the mines. Kidnap victims are forced to work long hours under harsh and dangerous conditions, often carrying heavy bags of minerals through the forest to trading sites. As a result, many villagers have fled into the forest seeking safety, with some villages having experienced a 50 percent loss of population (Global Witness 2006). In addition, the Congolese army, which is not one cohesive group, but instead a conglomeration of various factions, is supposedly colluding with guerrillas in some areas, while operating independently in others. Unfortunately, regardless of their area of operation, the army is engaging in some of the same types of human rights violations as the guerrillas and also using profits from mining operations to pay its soldiers and to reward corrupt officials. Thus, even in areas of Congolese control, the local civilians are not protected (Clark: 217; DeVoe: 480; Global Witness 2010).

The human rights abuses in the minerals trade are largely geographically concentrated in the DRC and adjoining countries. Once mineral profits reach the hands of armed groups, they fuel and finance not only the general armed conflict in the DRC, but also the particular crisis of rape and sexual violence against Congolese women. Now the DRC has the dubious distinction of being the most dangerous place on Earth to a woman or girl. (Raj: 1027, 989; Mukwege 2016; Yancy)

In short, increasing demand for natural resources and inequalities in the distribution of these natural resources can lead to conflict between groups and environmental degradation. Rich resource can lead to competition between groups, control of access can be a cause of conflict, and exploitation of natural resources occurs as a means for competing groups to finance conflicts. The multimillion dollar global minerals trade is one of the central issues fueling the conflict and the corresponding humanitarian crisis (for example, mass slaughter and rape) in the DRC.

3.2 Mining slaves in DRC

In natural resource mining in the DRC, there are the extensive scale and diversity of slavery. In order to eradicate causal factors of enslavement, the risk of exploitation and slavery should be mitigated.

1) Conflict and slavery

Free the Slaves conducted a field investigation to document the types, nature and scale of slavery at major mining sites in South Kivu province; to analyze the characteristics that cause Congolese workers to be vulnerable to enslavement; and to recommend solutions (Free the Slaves: 5).

Many Congolese people in mining zones toil in conditions of slavery, and groups engaged in armed conflict reap the much benefit from mining. Because of very low levels of formal employment, the population of Congo migrates toward mining areas in search of work and means to support their lives. In many cases their lives become entrenched in the mines as a result of debts they have contracted, or work they are obligated to carry out. Under such precarious and dire conditions, modern slavery thrives and takes men, women, and children alike in its diverse forms (Free the Slaves: 5, 10).

Conflict and slavery have plagued DRC throughout its history. The people have paid an enormous price because of their region's natural wealth. During colonial occupation, an estimated 10 million Congolese died as Belgium ruthlessly extracted rubber and ivory. An estimated 5 million more died during wars, famines and disease outbreaks in the decades after Belgium's withdrawal. Although the so-called 'Great War of Africa' officially ended in 2002, people in eastern Congo still face terror, political and economic instability, human rights abuses and extreme exploitation. Armed groups continue to fight in order to profit from the sale of gold, cassiterite (tin), coltan (tantalum), and wolframite (tungsten). These 'conflict minerals' are used in a wide range of products, including computers, cell phones, medical devices and advanced aeronautics (Free the Slaves: 7).

2) Research sites and findings: Divers forms of slavery

In the South Kivu province of eastern Congo, three primary sites were selected, including mines in and around the cities of Kamituga and Lugushwa (Mwenga territory), and Nyamurhale (Walungu Territory) (Free the Slaves: 11).

Broadly speaking, this research revealed the existence of multiple and distinct forms of slavery across the three sites. The conditions in the mines of South Kivu favor those in power, who control and force their victims to submit to diverse forms of modern slavery, with little opportunity to gain autonomy (Free the Slaves: 16) Key findings are follows:

a) Scope of Slavery: 866 individuals were confirmed to be in various forms of slavery in three mining communities, out of 931 individuals interviewed by researchers.
b) Types of Slavery: 7 types of slavery were identified: forced labor, forced prostitution, debt slavery, worst forms of child labor, peonage, forced marriage, sexual slavery.
c) Child Slavery: 23 percent of those in slavery were under 18 years of age. (Free the Slaves: 5)

A number of people are enslaved in more than one type of slavery. Women are sexually exploited while being forced to work by members of armed groups. Children are subjected to the worst forms of child labor in the mines while also being in domestic slavery at the hands of adults or armed groups living around the mines (Free the Slaves: 16).

Characteristics of predisposing to slavery include poverty, with more than 90 percent reporting not having the financial means to sustain themselves with sufficient nutrition, pay for their children's school, or cover medical needs in the case of illness. Other common characteristics include lower formal education or literacy levels and extremely difficult living conditions (Free the Slaves: 16).

The survey findings are valuable information for a wide variety of actors working to improve the status of human rights in eastern DRC, including those focused on human trafficking, 'conflict minerals,' child rights, gender-based violence and rural poverty (Free the Slaves: 5).

In short, it is clear that the scale and diversity of slavery is extensive, despite legislative developments and national and international investment to end abusive mining. It is critically important to protect and promote human rights through strengthening the rule of law and state authority. Mitigating the risk of enslavement in eastern DRC also necessitates addressing pervasive causal factors such as poverty, lack of education, and generalized insecurity, which drive the migration of adults and children into mining communities where the risk of exploitation and slavery is significant (Free the Slaves: 29).

3.3 Institutionalized corruption and violence

1) Violent kleptocracy: A criminal state and human rights risks

In cobalt mining and trade in the DRC, corruption and violence are institutionalized to 'violent kleptocracy system'. Against this system, we must tackle transparency and human rights risks.

a) Institutionalized Corruption and violence

Cobalt benefits and motivates some of the largest corruption networks in DRC, and is an important source of finance for former President Joseph Kabila's regime. The wide spectrum of corruption in the cobalt trade combined with abuses at and around cobalt mine sites and links to state sanctioned violence and grand corruption forms a crucial pillar in DRC's 'violent kleptocratic system' (Callaway: 4; Lezhnev; Mukwege 2018).

With demand increasing and electric vehicle manufacturers and consumer electronics companies scrambling to secure their access to this critical material, there is a nearly unprecedented opportunity for companies to engage proactively and continuously in dedicated supply chain due diligence—or for corrupt networks to make millions in a climate of scarce regulation and oversight (Callaway: 4).

Cobalt is mined on both large-scale and artisanal concessions in Congo, each presenting its own set of challenges. Industrial or large-scale mining (LSM) lacks transparency in several key areas of contracting, subcontracting, and joint venture disclosure practices. Artisanal or small-scale mining (ASM) in some cobalt mining areas has links to illegal and corrupt involvement of armed military actors, nontransparent documentation of production and export data, and human rights abuses such

as child labor and hazardous working conditions. Connections back to former President Kabila and his regime emerge in both artisanal and industrial mining (Callaway: 4; Lezhnev).

b) Violent kleptocratic system

Hundreds of millions of dollars went missing from Congo's state-owned mining company, Gécamines, between 2011 and 2014.6 with direct ties from this missing money to deals with international copper and cobalt mining companies. The networks of corruption extend beyond DRC's borders to foreign commercial facilitators such as key Kabila financier Dan Gertler, whom the US. government sanctioned in 2017 for generating illicit wealth, mainly from corrupt and opaque mining deals in DRC. And several industrial cobalt and copper mining companies operating in the DRC are currently under investigation in the United States, the United Kingdom, and Canada for their potential role in corrupt activities (Callaway: 5; Global Witness 2017).

The scale of potential revenue in this trade dwarfs that of tin, tungsten, tantalum and gold—otherwise known collectively as conflict minerals. Although cobalt mines are not located in areas with a history of armed conflict, as was the case with conflict minerals in DRC's Kivu provinces, the cobalt industry is nonetheless connected to violence. The Republican Guard—the president's elite security force—has been documented illegally controlling artisanal mine sites, sometimes through use of violence or threat thereof. These abuses are in addition to child labor, sexual exploitation, and other violations of human rights (Callaway: 5).

c) Tackling transparency and human rights risks

Automotive, consumer electronics, and other end-user companies that drive global demand for cobalt have an important opportunity to implement and help enforce transparency and anticorruption measures in order to ensure that their supply chains are responsible and that Congolese citizens are able to benefit from their country's natural resources. Companies should take the opportunity to also establish rigorous processes to enhance contract and ownership transparency and illuminate the opaque linkages to grand corruption and human rights abuses in the global cobalt supply chain, conduct due diligence to mitigate the risks associated with corruption, and create a new standard operating environment in which corruption and human rights abuses are not a part of business (Callaway: 5).

2) War crime of natural resource pillage

In the mineral mining in the DRC, natural resource pillage is hanging out. Cooperating national and international court, war crime of pillage must be prosecuted and punished.

a) Human costs of minerals pillage

Often mined and transported by civilians under threat of extreme violence, minerals provide lucrative incomes to rebels, factions of the Congolese army, and the businesses with which they work, helping to sustain their violent activities. Professor Gregoire Mpungu at Kinshasa University mentioned, "Most places where minerals are being exploited, rape is also going on." In some cases, theft in eastern DRC is highly orchestrated, spanning multiple countries and involving a range of

actors. In the Great Lakes region, these networks include indicted war criminals, militias, business people, and government officials. (Dranginis: 3; UNEP-MONUSCO-OSESG)

The UN and US sanctions regimes for Congo address illegal natural resource exploitation linked to armed groups. The conflict minerals disclosure requirements of the 2010 US Dodd-Frank Wall Street Reform and Consumer Protection Act are among several new initiatives aimed at spurring more responsible supply chain management, and a number of companies have taken leading roles in reducing the global demand for untraceable minerals that may help fuel armed violence in the DRC. Many of these initiatives have helped reduce income to armed groups, stimulated more formal minerals markets, and increased transparency and accountability related to illegal activities (Dranginis: 3).

b) Prosecuting the war crime of pillage

One powerful tool to address violent conflict associated with DRC's lucrative natural resources is a criminal prosecution for the theft of those resources. Prosecuting widespread natural resource pillage would combat the impunity that allows these crimes to continue. Prosecutions could undermine the power of key actors who orchestrate criminal networks by physically removing them from crime scenes. Prosecutions invite the participation of victims and witnesses, and prosecutions can result in the seizure of a defendant's assets in order to provide reparations for victims, helping to restore dignity and cohesion among affected communities (Dranginis: 3).

The Congolese military justice system, the ICC, and national courts in numerous countries can prosecute the worst suspected perpetrators of this crime, some of whom are already facing trial in The Hague, and some of whom continue to fan the flames of conflict. Many national jurisdictions can also prosecute the individuals and companies that knowingly purchase or otherwise appropriate resources that were illegally acquired during armed conflict (Dranginis: 4).

The International Criminal Court has a number of cases in its docket addressing crimes that may have been fueled by the theft of natural resources, but the court needs specialized expertise in economic crimes and a comprehensive strategy for investigating the theft of natural resources as it relates to atrocity crimes. National jurisdictions and law enforcement agencies can address individuals and corporate entities further up the international supply chain that support, facilitate, and benefit from theft in DRC's armed conflict. By building more independent legal structures and expertise in the regions where theft in war occurs, and by encouraging better coordination among international actors with the power to investigate and apprehend individuals and entities implicated in natural resource theft, policymakers and legal practitioners could break new ground toward ending the world's worst resource-driven violence (Dranginis: 4).

4. Conclusions

The state of DRC is seriously neglecting its tasks to protect human rights and the environment. Instead, the state is using the worst forms of violence and is killing its own citizens in the process.

Hundreds of homes have been illegally demolished by police forces at CMSK, forcing inhabitants to move to tents and never compensating them. Government authorities illegally extort money from artisanal miners living and working under the most terrible conditions. The environment and public health are severely impacted by pollution caused by mining activities, but polluters are not held to account. In a context in which the rule of law is virtually absent as in Katanga, mining companies can operate almost without restriction. This has compromised public health, safety, biodiversity, quality of water, air, and livelihoods, as well as access to water.

Unfortunately, cobalt production in the DRC is increasingly tied to grand corruption which undermines peace and democracy, and is the main sources of funds for the 'violent kleptocracy' that former President Joseph Kabila presides over. Cobalt production in DRC is also marked by human rights abuses, including child labor at the mines. Because of the devastating impact that the sourcing of cobalt for the products has on Congolese citizens, urgent action is required to shed light on the insidious linkages in DRC's cobalt trade, to alter the incentive structure away from violence, corruption and human rights abuses towards a transparent, peaceful and responsible supply chain.

The theft of minerals and other natural resources has fueled and motivated some of the most brutal atrocities in modern history, leaving millions of people dead or disenfranchised. Pillage and atrocities will continue and leave lasting legacies of trauma, mistrust, and poverty even with advances in regulatory reforms and military efforts unless there is justice. It is essential that advocates of criminal accountability in DRC use strategies that address natural resource pillage as a driver of atrocity crimes as well as a grave war crime in its own right. Accountability is critical for deterring future atrocities in DRC, promoting regional stability, and developing jurisprudence for prosecutions in other resource-rich countries beset by brutal armed conflict. With robust financial crimes investigations, the growth of strong independent justice institutions in DRC, and better protective measures for local advocates, prosecuting natural resource pillage in DRC and at the ICC is possible. Without justice for this crime, efforts to combat the illicit trade in natural resources will be incomplete, and peacebuilding in DRC will falter.

Now it is the right time to act. In recent months, more governments, primarily in Europe and Asia, have announced plans to ban sales of vehicles powered by petrol or diesel engines or set sales targets for electric vehicles. These government policies are promising in terms of addressing climate change, but they ignore the wider human rights picture. Governments must now go beyond policy statements and require companies to act responsibly by producing ethical batteries not associated with human rights abuses or environmental harm. This is not just a question of cobalt. Recent research has shown that the mining of other raw materials that are used in batteries, as well as the production of batteries, can have negative human rights and environmental impacts. The goal must be to develop not only an ethical cobalt supply chain but also ethical batteries to power the 'clean energy revolution'.

[Notes]

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[References]

Amnesty International. (2017). *Time To Recharge: Corporate Action and Inaction to Tackle Abuses in the Cobalt Supply Chain*. London: Amnesty International.

Amnesty International. (2016). *"This Is What We Die For": Human Rights Abuses in the Democratic Republic of the Congo Power the Global Trade in Cobalt*. London: Amnesty International.

Amnesty International. (2014). *Bulldozed: How A Mining Company Buried The Truth About Forced Evictions In The Democratic Republic Of The Congo.* London: Amnesty International.

Amnesty International. (2013) *Profits and Loss: Mining and Human Rights In Katanga, Democratic Republic Of The Congo*. London: Amnesty International.

Brisman, A., N. South, and R. White (2015). Toward a Criminology of Environment-Conflict Relationship. In A. Brisman, N. South, and R. White (Eds.), *Environmental Crime and Social Conflict: Contemporary and Emerging Issues* (pp.1-38). Surrey: Ashgate.

Brisman, A., and South, N. (2013). Resource Wealth, Power, Crime, and Conflict. In R. Walters, D. S. Westerhuis, and T. Wyatt (Eds.), *Emerging Issues in Green Criminology: Exploring Power, Justice and Harm* (pp.57-71). Hampshire: Palgrave Macmillan.

Burnley, C. (2011). Natural Resources Conflict in the Democratic Republic of the Congo: A Question of Governance? *Sustainable Development Law and Policy 12(1)*, 7-11, 52-53.

Callaway, A. (2018). *Powering Down Corruption: Tackling Transparency and Human Rights Risks from Congo's Cobalt Mines to Global Supply Chains*. The Enough Project. Netherlands/Milieudefensie, SOMO and the GoodElectronics Network.

Clark, R. D. (2013). The control of conflict minerals in Africa and a preliminary assessment of the Dodd-Frank Wall Street Reform and Consumer Act. In N. South and A. Brisman (Eds.), *Routledge International Handbook of Green Criminology* (pp.214-229). London and New York: Routledge.

Congolese Cobalt and Consumer Electronics (2015). *Katanga Calling*. Friends of the Earth

DeVoe, A. (2011). Carrying a Piece of Congo in Our Pockets: Global Complicity to Congo's Sexual Violence and the Conflict Minerals Trade. *Seattle Journal for Social Justice 10*, 463-507.

Dranginis, H. (2015). *Grand Theft Global: Prosecuting the War Crime of Pillage in the Democratic Republic of the Congo*. The Enough Project.

Enough Project (2010). *Getting to Conflict Free*. Washington, DC: Enough Project.

Firger, D. M. (2010). Transparency and the Natural Resource Curse: Examining the New Extraterritorial Information Forcing Rules in the Dodd-Frank Wall Street Reform Act. *Georgetown Journal of International Law 41*, 1043-95.

Free the Slaves. (2013). *Congo's Mining Slaves: Enslavement at South Kivu Mining Sites. Investigative Field Report June 2013*. Free the Slaves.

Global Witness (2017). *Regime Cash Machine: How the Democratic Republic of Congo's .booming mining exports are failing to benefit its people.* London: Global Witness.

Global Witness (2010). *The Hill Belongs to Them: The Need for International Action on Congo's Conflict Minerals Trade*. London: Global Witness.

Global Witness (2006). *Digging in Corruption: Fraud, Abuse and Exploitation in Katanga's Copper and Cobalt Mines*. Washington, DC: Global Witness.

Katunga, J. (2006-2007). Minerals, forests, and violent conflict in the Democratic Republic of Congo. *Environmental Change and Security Program Report 12*, 12-19.

Kavanagh, M. J. (2019, January 26)). This is Our Land. *The New York Times*, pp.9, 11.

Kelly, J. (2010). *Rape in War: Motives of Militia in DRC*. Washington, DC: United States Institute of Peace.

Lezhnev, S. (2016). *A Criminal State: Understanding and Countering Institutionalized Corruption and Violence in the Democratic Republic of Congo*. Violent Kleptocracy Series: East & Central Africa. Enough.

Mukwege, D. (2018, December 22-23). How to save Congo from chaos? *The New York Times International*, 12.

Mukwege, D. (avec Akerlund, B.) (2016). *Plaidoyer Pour La Vie* [Championship of The Life]. Paris: L'Archipel.

Polgreen, L. (2008, November 16). Congo's Riches, Looted by Renegade Troops. *The New York Times*, pp.1, 14-15.

Raj, S. (2011). Blood Electronics: Congo's Conflict Minerals and the Legislation that Could Cleanse the Trade. *Southern California Law Review 84*, 981-1033.

RCS GLOBAL Making Sure (2016). *The Emerging Cobalt Challenge: Competition, Concentration, and Compliance. Understanding the Cobalt Supply Chain and How to Respond*.

Scheele, F., Nkumba, E. U., Ben-Bellah, D., and Bwenda, C. (2016). *Cobalt blues: Environmental pollution and human rights violations in Katanga's copper and cobalt mines*. Amsterdam: SOMO in collaboration with Afrewatch, ACIDH and Premicongo.

South, N., and Brisman, A. (2013). Critical Green Criminology, Rights and Crimes of Exploitation. In S. Winlow and R. Atkinson (Eds.), *New Directions in Crime and Deviance* (pp.). London: Routledge.

Ten Kate, A., and Kiezebrink, V. (2016). *Responsible mining: Cobalt*. Amsterdam: GoodElectronics Network.

Torchia, C. (2018, October 7). Mass rape as a weapon. *The Japan Times*, p.4.

UNEP-MONUSCO-OSESG (2015). *Experts' background report on illegal exploitation and trade in natural resources benefitting organized criminal groups and recommendations on MONUSCO's role in fostering stability and peace in eastern DR Congo. Final report. April 15th 2015. Available at www.unep.org.*

Yancy, G. (2019, July 11). When killing women isn't a crime. *The New York Times International,* 14-15.

Chapter 4

The Nile River Water Conflicts and Cooperation: The Grand Ethiopian Renaissance Dam Construction and 'Hydro-Hegemony' Change

Abstract

A large part of the Nile basin is considered as one of the poorest regions of the world. Water scarcity is a major challenge for this already closed basin. The challenge is further exacerbated by climate variability. Thus, the immediate national interests of the riparian countries are taking priority over the basin based strategy. After a decade of failed attempts to initiate cooperation, the countries of the Nile basin have again started adopting conflicting postures over the water. Political tensions between Egypt and Ethiopia as a result of the unilateral construction of the project GERD, and the Ethiopian refusal to halt construction until the required studies were concluded have fed the historical mistrust between the two countries. Each country has sought to maintain old alliances and form new regional relations to influence the interests of the other in the Nile basin and the Horn of Africa. This approach continued even after the two countries reached a general understanding on resolving the crisis over the GERD. It is necessary for the important riparian states of the Nile basin to abandon their state-centric water development approach and develop sustainable cooperation over the shared water to meet the climate change challenges.

1. Introduction

Water, as a vital resource not only for human beings but also for whole life on the Earth has become one of the most important issues in international relations. Even though water is a renewable resource, degradation on ecological systems, mostly due to human activities of last centuries, has begun to destroy water cycle which ensures the sustainability of waters on Earth. Whilst the quantity of freshwater on the world is limited and main freshwater resources -rivers and lakes- are not distributed evenly, struggle on these resources, especially on transboundary waters, turns into a challenging problem. The developing ecological cooperation set up for fair, equitable, and sustainable use and sharing of transboundary waters would eliminate security risks in the basin and could ensure the development of a common objective towards the improvement of socio-economic, political and ecological conditions.

In this chapter, dealing with the Nile River water case, the current situation of water resource conflicts are analyzed: first, sustainable development and water: conflict or cooperation; second,

conflict on the Nile: transboundary water disputes; third, water management in Africa: the modern water disputes in Nile River Basin; fourth, challenges for water sharing in the Nile Basin: changing geo-politics and changing climate; fifth, transboundary rivers within ecological security perspective. Then, in order to mitigate or solve problems, the necessity of introducing the international environmental court is discussed.

2. Sustainable Development and Water Control

2.1 Source of Conflict or Opportunity for Cooperation

Water is an important component of sustainable development, Rani explains, and without it survival is not possible. Though it is available in great quantity but accessibility to fresh water is limited, which makes it an important element for lives. Water supply has become unhygienic to people due to reasons like lack of economic infrastructure and poor conditions. There are several countries in the world which face acute water shortage as well as poor water quality. It hampers their water security and also brings negative impacts on food security and the livelihood of people as well. Lack of water resources invites droughts which further make lives of people more miserable, exacerbate starvation and causes malnutrition. Global warming has made water a restricted resource which is very much important for human lives. Therefore the proper management of water resources is to bring sustainable development. Water plays a vital role in strengthening the economic and social existence of human beings (Rani: 1). The term water security means when there is a threat to sustainable and secure water utilization from both natural and manmade forces on water resources. It is also society's ability to ensure sustainable access to safe, hygiene and sufficient water resources (Rani: 4).

There have been several examples of countries which are dependent on other/neighboring countries for water resources, according to Rani. Six European countries (Switzerland, Liechtenstein, Austria, Germany, France and Netherlands) share the water content of Rhine River. Nile River, the longest river in the world, is a source of life for countries like Rwanda, Burundi, Uganda, Congo DR, Tanzania, Kenya, Ethiopia, Eritrea, South Sudan, Sudan and Egypt. Mekong River flows through China, Myanmar, Laos, Thailand, Cambodia and Vietnam. The river acts as a main trade route between China and Southeast Asian countries (Rani: 4-5).

The competition to acquire more water resources has led to conflict between countries, Rani continues. Those which are already sharing water resources are fighting for the quantity and quality of its water content (Rani: 5). There is serious concern of gradual decrease in water quantity and quality which may cause internal instability in a country in future. It can also become a reason of conflict between particular groups or within states which can further affect the security environment at international level (Rani: 8). Global water crisis is a serious concern to human security. Millions of people lack access to sufficient quantity of fresh and safe water for their wellbeing. At present this is the greatest threat humans are facing. To counter the threat of water crisis and conflict, countries

should frame better policies for the management of scarce water resources (Rani: 9; Petersen-Perlman et al.; Waslekar et al.; Kliot et al.).

In short, Rani concludes, water management is significant for achieving sustainable development as "sustainability is not just minimizing the personal needs; it is optimizing them for the future generations. If we manage water resources now then only we will be able to save it for our future. In this context a quote of M.K. Gandhi perfectly fits in here who once said, "The earth, the air, the land and the water are not an inheritance from our fore fathers but on loan from our children. So we have to handover to them at least as it was handed over to us." If we maintain and sustain the available water resources at present only then we and the generations to come will be able to use it for long term in the future. And countries should also make efforts to keep all the resources of water clean so that living beings can use it for their survival now and in the coming future. This goal of sustainable water security can be achieved with mutual cooperation only. Therefore the water resources should be converted in to a source and opportunity for cooperation rather than merely conflict for sustainable development (Rani: 9; Wouters).

2.2 Conflict over Common Property Resources (CPRs): Global Strategies over Water Management

In the present world, proper management of common property resources (CPRs) are crucial, Ahmad explains, since CPRs are present on the earth in abundance and people tend to over-exploit for their economic and political interests. Particularly in the case of transboundary CPRs such as water, unsustainable and political interests based utilization results in disputes among riparian. Therefore, proper management is required for sustainability of transboundary water resources for its dependent countries (Ahmad: 1).

CPRs are owned by a community and managed by government or other such potential organization. Additionally, Ahmad continues, no rules restrict consumption of these common resources that results to overexploitation and to the disturbance and degradation of ecological niche. Water resource management is a complex procedure, particularly in the case of transboundary water resources as they don't recognize human made political boundaries which hold major water management challenges. The possibility for conflicts seems to be highest where most of the land is either arid or semi-arid and much of the untapped water resources are there in international water courses (Ahmad: 14).

In short, since transboundary waters are serving for more than half of the global population, Ahmad insists, their appropriate planning, management and development are vital to satisfy our present and future demands for water and to avoid possible water scarcity, crisis and conflicts in future. However, unfortunately most of waters have been and continuously inappropriately managed and developed. This trend is emerged due to lack of adequate agreements among the riparian countries and to some extent due to the lack of financial resources, particularly in developing

countries. Consequently, these waters have been the roots of several conflicts among the water sharing countries (Ahmad: 14)

3. The 'Grand Ethiopian Renaissance Dam' Construction and 'Hydro-Hegemony' Change in the Nile River Basin

3.1 Transboundary Water Disputes and Conflicts over the Nile River

The impacts of the Nile on the politics of the North African region have been so significant that they threaten to spark an interstate conflict, which could potentially destabilize the whole area. The countries in the Basin depend heavily on the Nile, which is the only major renewable source of water in the area; consequently, it is essential to their food and water security (Di Nunzio: 1).

The Egyptian and Sudanese monopoly over the water resources in previous years had served to exacerbate regional tensions, Di Nunzio explains. The signing of various agreements during colonial times allowed for this distribution; the two most prominent agreements were signed between Egypt and Britain (1929) and Egypt and Sudan (1959). Increased co-operation between upstream nations has resulted in the binding *Entebbe Agreement,* which is restructuring allocations and control over the Nile's resources. The geo-political shift in the region has led to a proliferation of upstream developments, including dams and irrigation networks. These developments are often met with threats from Egypt, which is extremely protective over its decreasing share of the Nile's water. Egypt, however, must engage in peaceful interstate co-operation to secure its water supplies. The Nile faces an uncertain future amid developmental and environmental pressures (Di Nunzio: 2; Swain 2008).

Egypt's extreme reliance on the Nile for its electricity, water and food security is the major source of conflict in the river basin, Di Nunzio continues. A tenth of Egypt's electricity generation capacity comes from the Aswan Dam alone. Egypt already overdraws on its water allocation but is still extremely water scarce. As the population booms, the country will require more water than it currently has available; however, shifting geostrategic alliances among upstream nations mean that its allocation is likely to decrease. Unless it embarks on a large-scale overhaul of its inefficient water networks, Egypt could experience major water crises in coming years that could trigger conflicts with its neighbors (Di Nunzio: 4). More recently, Ethiopia's GERD, 50 kilometers from the Sudanese border, has drawn substantial criticism, largely due to Egypt's hostile response to its construction. Sudan, on the other hand, has been largely peripheral in the disputes over the GERD, downplaying the dam's potential negative effects and throwing its support behind Ethiopia. Egypt views the construction of Africa's largest dam as a threat to its national security, given the vulnerability of its declining water supplies (Di Nunzio: 6).

In short, Di Nunzio concludes, though international conflict still presents a risk, several factors, including pre-existing domestic unrest in the region, leave the countries with little option other than co-operation and thus diminish its likelihood. The internationally recognized *Entebbe Agreement* leaves Egypt and Sudan outnumbered, while other geo-strategic alliances severely limit Egypt's

military options. It is in the interests of all the riparian nations to preserving regional stability. As already mentioned, even in the absence of international tensions over its distribution, the river's water resources would still be depleting; consequently, the ensuing situation will demand other alternatives, which could stabilize North Africa's water and food security. International cooperation is thus the only viable and peaceful solution to this growing problem (Di Nunzio: 8-9; Mohamed et al.).

3.2 Modern Water Disputes and Management in Nile River Basin

In 2011, Abdellatif referes, Ethiopia —the greatest contributor to the stream flow, supplying around 86% of the Nile's water — lunched the Grand Ethiopian Renaissance Dam project, which to be considered the largest in the world. The huge reservoir behind the dam will hold up to 67 billion cubic meters of water, and will take up to seven years to reach its capacity. This matter aroused the Egyptian concerns as the Nile flow into Egypt could be cut by 25% during the filling period, while most of the water resources of Egypt and Sudan originate outside their boundaries: 77% and 97% respectively (Abdellatif: 1; Ahmed et al.)

Over the past five years, Abdellauf explains, a dispute has aroused between Egypt, Sudan, and Ethiopia. While Egypt holds to the no-harm doctrine, and its historical rights based on the colonial treaties; Ethiopia argue that the unfair treaties made by the colonists should not be in action after the independence of the riparian states. Finally on March 2015, the three countries signed an agreement which defines the main principles of water use and rights (Abdellatif: 1). Egypt's argument has always been based on its historical rights in the water of the Nile, and the no-harm doctrine; while the Ethiopian argument is based on the equitable use principle and territorial sovereignty over its own resources. Due to the weak authoritative power of the NBI over the basin, it could not resolve the dispute between the countries. That dispute has shown the disability of the NBI in front of the power and interests of the riparian states (Abdellatif: 9). The colonial agreements are mostly the reason behind the dispute. The negative effects of those treaties are still traceable, which were formulated to serve the sovereignty of the Britain colony and its hegemony over the water resource of the Nile River. The complexity of the dispute comes from the Egyptian persistence on its historical rights based on the colonial agreements, and the planned massive development projects of Ethiopian on the Blue Nile, which will give it a total domination over the main water source of the river. Therefore the only way to resolve the current dispute would be through multi-lateral agreements between the countries, but it will not be a guarantee of non-occurrence of other future disputes. (Abdellatif: 9)

The unbalanced distribution of power and interests in the basin still puts a burden on formulating a strong governance framework, Abdellauf insists. The absence of a strong regional authoritative entity —like the European Union in Europe— which can resolve the disputes, led to a trembling political relation between the riparian states. The formation of such an entity can raise the trust between the states, and set down the main principles of governing the Nile River (Abdellatif: 10). It

was hard to implement a bottom-up approach in the governance of the Nile River basin, due to the weak political situation of most of the riparian states and the unbalanced distribution of power. The riparian states were left to meet on the common ground of the international principles of the UN convention. However, the top-down norm diffusion was not successful in the case of the Nile River basin, mostly due to the left traces of the treaties made under the colonial rule. These traces were represented in the norm clash between the up-stream countries and the down-stream countries, where the up-stream countries used the equitable utilization and the territorial sovereignty principles as their argument, while the down-stream countries used their historical rights and the no harm doctrine as theirs (Abdellatif: 10).

In short, the UN Convention principles have not met the interests of most of the riparian states. This was clear in the voting for the adoption of the UN convention principles, in which most of the states abstained. Egypt, Ethiopia, Rwanda, Tanzania have abstained; while Burundi voted against it; Eritrea, Uganda, and DRC were absent; and only Kenya and Sudan voted in favor of the principles. Egypt and Ethiopia —who have opposite political interests— have both abstained which shows that neither the up-stream nor the down-stream riparian states believed that the convention principles do not serve their arguments (Abdellatif: 10).

3.3 Confrontation of Nile Riparian 'Hydro-Hegemony'

Freshwater is essential to life, intrinsically, according to Nielsen, so the fight to secure access to water becomes the fight to secure the survival of a civilization. In certain regions of the world, the groundwater – and the rainfall that replenishes it - is so scarce that the civilizations have to rely solely on rivers that originate thousands of kilometers away. Egypt is such a civilization, prompting the Greek historian Herodotus to comment "Egypt is a gift of the Nile" - it would simply not exist without this river (Nielsen: 3-4)

The Nile is shared by eleven riparian states, Nielsen continues, but the allocation of water shares is highly asymmetric. Historically, Egypt receives the lion's share of the benefits but attributes no water to the Nile, while Ethiopia as the main contributor of water utilizes a meager 1 percent of its available water from the Nile. However, in recent years Ethiopia has challenged Egyptian hydro-hegemony on multiple arenas and through a multitude of tactics (Nielsen: 71). At the source of the Nile, Ethiopia is battling against recurring famines, drought and enduring poverty. The Nile represents an enormous potential to alleviate this hardship. Contrary to Egypt, which has already built an industry around the Nile that it wishes to protect, Ethiopia has little industry but is eager to harness the power of the Nile to develop the country's economy and living standards (Nielsen: 4).

Through the analytical framework of 'hydro-hegemony', Nielsen emphasizes the role of *power asymmetry* in establishing and maintaining a favorable position in regional hydro political questions. Hydro-hegemony is a reflection of one state's ability to dictate the agenda on a transboundary river basin through tactics such as; *coercion-pressure; treaties; knowledge construction,* etc. Due to

historical factors, Egypt has been able to successfully maintain its hydro-hegemonic status through employing an array of the tactics mentioned above (Nielsen: 71; Obengo; Okascha: Ibrahim).

Political tensions between Egypt and Ethiopia as a result of the unilateral construction of the project GERD, and the Ethiopian refusal to halt construction until the required studies were concluded, according to Tawfik, have fed the historical mistrust between the two countries. Each country has sought to maintain old alliances and form new regional relations to influence the interests of the other in the Nile basin and the Horn of Africa. This approach continued even after the two countries reached a general understanding on resolving the crisis over the GERD; pointing to continuing mutual suspicion that will require time and effort to overcome. This raises doubts about the contribution of the GERD to cooperation beyond the project. More generally, the visions of Egypt and Ethiopia for the bases of regional cooperation remain at odds (Tawfik: 39; Abdelhady et al.; Martens).

However, Bodin mentions, recent political events – stemming from the Arab Spring – has some scholars saying that a paradigm shift will sweep the basin, and the hydropolitical dynamic will be restructured. And the construction of the Grand Ethiopian Renaissance Dam is expected to make Ethiopia a contender for the hydro-hegemon title. Scholars are saying issue constitutes the Nile question today. However, Bodin argues that this is a shortsighted assessment. Instead, the real issues that need addressed are much more odious. Explosive population growth, climate change effects, unresolved differences among riparian states, and extensive selling and leasing of arable basin land to foreign states and multinational corporations threaten to diminish the Nile's water volume and flow, which will lead to a massive humanitarian crisis. Bodin insists that the only way these issues can be resolved is if the 11 riparian states find common ground and form a comprehensive water management regime which can effectively tackle the four issues (Bodin: 2; Tsega; Mckenzie; Al Hajjaji; Yimer).

In short, Grandi concludes, the historical inter-state dispute over the allocation and utilization of the Nile River waters has endured ever-evolving patterns of intra-basin relationships, multi-level dynamics of water policy making and fluctuating intensity in conflictive and cooperative interactions. The transboundary nature of the Nile waters reveals the interconnectedness of the Nile states, which rely upon the Nile ecosystem not only for the satisfaction of economic, social and cultural needs, but also for the maintenance of peace and security in the region (Grandi ix).

The absence of an effective integrated mechanism for the management of the Nile flows has resulted in the persistence of asymmetries among the riparian countries over the control and use of an essential resource, Grandi insists. The critical assessment over inter-state power asymmetries uncovers the relational process of compliance and contestation to the consolidated hydro-hegemonic regime in the Nile Basin, providing an original analysis over material and discursive structures that constitute both hegemonic and counter-hegemonic mechanisms of water control. In so doing, the investigative process formulates assumptions over the complex dynamics that shape the current Nile hydropolitics, while at the same time tracing historical processes of intra-basin negotiations over the

management of transboundary water resources, as well as exploring possible future scenarios in terms of both geophysical projections and policy recommendations towards an effective integrated management of the Nile flows (Grandi ix).

4. Changing Geo-Politics, Climate Change and Ecological Security

4.1 Challenges for Water Sharing in the Nile Basin: Changing Geo-politics and Changing Climate

For most of the 20th century, Swain explains, the Nile River has been the source of political tensions and low-intensity conflicts among three of its major riparian countries (Ethiopia, Sudan and Egypt). However, since the late 1990s, the Nile basin countries—with the encouragement and support of the international community—have made some attempts to establish basin-wide cooperative institutions. This process of engagement and collaboration is presently under severe stress due to increasing demand and decreasing supply of water resources in the basin. This situation may be complicated further by the global climate change, which is anticipated to result in long-term changes in the volume and pattern of runoff in the Nile River system. Moreover, the emergence of China as a major player in the power politics of the Nile basin has facilitated a number of unilateral initiatives for large-scale water development projects (Swain 2011: 687).

Most of the areas covered by the Nile River basin are projected to become warmer during this century, Swain continues, increasing the demand for freshwater. On the supply side, there are quite a few question marks over water availability. There is still lack of consensus about the projected changes in the basin's climatic means and extremes. Due to substantial inter-model differences of precipitation, quantitative estimates of projected water supply changes are not easy to determine in an exact manner. There is also the possibility of local climate changes making it further difficult to assess a basin wide trend. However, there is a strong likelihood that the climate change is going to multiply the uncertainty factor of the Nile River flow and may bring steady and significant reduction to it (Swain 2011: 697).

Moreover, Swain insists, climate change can further influence the sharp variability of the Nile water flows, which can possibly pose serious challenges for the water management in the basin. As global climate change might bring long-term changes to the volume and pattern of runoff in the Nile River systems, it is crucial to assess the quality and capability of on-going sharing arrangements to address this challenge. Climate-related changes require comprehensive adjustments in the on-going water management structure of the Nile River. This comprehensive effort might ask for the water sharing arrangements to be flexible and adaptable in allocating reduced and surplus water flow, maintaining a certain water quality level, sustaining ecosystems, controlling flood and protecting existing water development infrastructures. Thus, the river sharing arrangements need to have provision for information sharing, conflict management mechanisms, flexibility to adjust to

uncertainties and endeavor for basin-based development strategy (Swain 2011: 698; Zedan; Mostafa et al.).

In the Nile basin, Swain analyzes, the agreement among the disputing lower riparian countries to constitute the Nile Basin Initiative in 1999 was certainly a right step towards basin-based water management. However, more than a decade has passed, and no concrete progress has been made. In reality, very little progress has taken place to establish effective and cooperative water management institutions in the basin. Most of the riparian countries seriously continue to pursue large-scale unilateral dam construction. The international community, particularly the World Bank, has been claiming the credit since 1999 for creating a platform for a basin-based water cooperative framework; however, the on-going stand-off between Egypt and Sudan with the upper riparian countries over an article of the Cooperative Framework Agreement shows shallowness in the claim. In fact, the Nile basin is far from achieving a basin-based water management institutional structure (Swain 2011: 698; Woldetsadik).

In short, Swain concludes, a large part of the Nile basin is considered as one of the poorest regions of the world. Water scarcity is a major challenge for this already closed basin. The challenge is further exacerbated by climate variability. Thus, the immediate national interests of the riparian countries are taking priority over the basin based strategy. After a decade of failed attempts to initiate cooperation, the countries of the Nile basin have again started adopting conflicting postures over the water. It is necessary for the important riparian states of the Nile basin to abandon their state-centric water development approach and develop sustainable cooperation over the shared water to meet the climate change challenges (Swain 2011: 701).

4.2 Transboundary Rivers within Ecological Security Perspective

Beyond the sustainable security, Atvur explains, the concept of ecological security which brought a new discussion to the security literature, also offers an appropriate basis for linking environmental protection, and equal and fair distribution of natural resources by developing binding regulations for states or elaborating new international regimes. Maintaining a dynamic balance between nature and human societies, needs of human beings and other species is the focus of the ecological security. Furthermore, ecological security could be linked to common security by prioritizing “interdependence, complexity, uncertainty, harmony and sustainability” for preserving the long-term ecological equilibrium. In this article ecological security approach has been chosen in order to discuss the cooperation on transboundary waters. As ecological security emphasizes the link between ecological balance and security of socio-political systems and individuals, it is assumed as a useful basis in order to reduce the political tension related to transboundary waters between riparian states, to develop socio-economic conditions in sharing basin and to improve the transboundary cooperation by conserving ecosystems dependent to transboundary resource. In order to comprehend the role of ecological security approach on transboundary cooperation, security concerns on transboundary waters should also be assessed (Atvur: 230).

Water, as the source of life on Earth, Atvur continues, could become at the same time a source of conflict and insecurity. Degradation of water resources like other ecosystems due to anthropogenic harms such as pollution, overuse or the impact of climate change have been creating an unprecedented threat with multi-dimensional effects. Even though water related problems have been linked mostly to state security, this perspective has started to be changed in 21st century's world. The importance of water for life and the pursuit of ecological cycles that guarantees the functioning of ecosystems shifted the global agenda in order to cope with deepening interdependent problems and new challenges. In this context, ecological security is one of the new approaches that offer a new perspective to environmental problems by changing classical security agenda. In an ecological perspective, the nature is the core value; ecological approach underlines the interconnections, mutual benefits and harms with the aim of dealing with the main cause of the environmental issues and related security problems. Especially by improving water security concept which is accepted as an important tool for ensuring social, political, economic and environmental stability, it is possible to set new regulations for management and protection of water resources. Moreover, regarding transboundary waters which have been at the focus of security and conflict studies, it is argued that ecological security approach would deepen cooperation instead of conflict between riparian states, and also improve the natural condition of watercourses as ecological entities (Atvur: 239; Swain 2012; Paisley et al.).

In this perspective, Atvur analyzes, the Nile Basin as a transboundary river with its potential of conflict and cooperation is examined in order to discuss the possibilities and difficulties to elaborate ecological security. It is obvious that transboundary water issues have generally been linked to state politics or positions regarding state interest, even though international conventions suggest a balanced structure considering ecological priorities, social development and state's sovereignty. The Nile case shows that despite conflicts or disagreements between riparian states, transboundary cooperation with the aim of environmental protection could be built and it can be functional for solving the transboundary problems. However, whilst there are no coercive mechanisms or binding regulations towards cooperation and protection, different challenges to the ecological integrity and security in the region continue (Atvur: 239-240).

Even though the riparian states' interests have mostly been controversial, Atvur insists, transboundary impacts of ecological degradation and interconnection between ecological, socio-economic and political problems necessitate the cooperation and elaboration of a common perspective. It could be suggested that ecological security which considers natural resources as an independent entity and aim to ensure the safety of common interests, would help to solve existing problems in transboundary basins through the cooperation. Transboundary cooperation might be improved by applying strict regulations and sanction mechanisms to rebuild ecological balance, by constructing more egalitarian, equitable and fair use -principals agreed by international conventions- of transboundary resource. Moreover, ensuring the multi-level participation in decision making process,

especially of groups most vulnerable to the risks of ecological security is another option for the improvement of ecological cooperation (Atvur: 240).

In sum, Atvur concludes, cooperation between riparian countries instead of competition would be an important step towards conservation, equitable sharing and inheritance to next generations of these vital resources. Ecological security of the transboundary river maintained by cooperation could become the keystone of egalitarian, ecological and fair regime that would ensure equitable use of water resources. Hence, if security concerns prioritize interdependent ecological problems instead of states' interests or strategic superiorities, cooperation in transboundary basins might solve ecological, socio-economic and political problems, contribute to ensure regional stability and peace between riparian states and protect ecological integrity of the transboundary resource. Adoption of ecological security approach by riparian states could transform political choices towards common interests and cooperation for sustainable protection of natural resource and peace at the basin level as well. So the cooperation developed with ecological concerns would be a win-win situation through which all riparian states could protect their interests by reaching a consensus (Atvur: 240).

5. Conclusions

Global climate change will pose a wide range of challenges to freshwater resources, altering water quantity, quality, system operations, and imposing new governance complications. For countries whose watersheds and river basins lie wholly within their own political boundaries, adapting to increasingly severe climate changes will be difficult enough. When those water resources cross borders, affecting multiple political entities and actors, sustainable management of shared water resources in a changing climate will be especially difficult.

Shared waters can be a source of conflict, but they can also be a source of cooperation and negotiation. Future pressures, such as population and economic growth and climate change, could increase tensions, even in areas that in the past have been characterized by cooperation. Yet, shared challenges may also be a platform for developing new institutional arrangements to plan for the future.

Joint monitoring programs can improve cooperation among nations and data collection capacities. This exchange of information provides a number of benefits, including expanding and deepening our understanding of climate change impacts and vulnerabilities, and improving hydrological and socioeconomic models. Such programs should include water flow and a range of water-quality parameters. Additionally, early warning systems should be developed in order to reduce the impacts of extreme events.

Riparian countries should work on common scenarios and models to develop a joint understanding of possible impacts. Transboundary cooperation can broaden our knowledge base, enlarge the range of measures available for prevention, preparedness and recovery, and so help identify better and more cost effective solutions.

[Notes]

1) This chapter is based on the paper titled 'Intensifying Global Natural Resource Conflicts, Climate Change, and Introducing International Environmental Court', and presented at the 75th Annual Meeting of the American Society of Criminology, 13-16 November 2019, San Francisco, CA, U.S.A.
2) This chapter is a part of research results of 'Research on Environmental- and Eco-crimes by Progress of Scientific Technologies and Development of Societies and Measures against Them 2015-2019) (Subject Number: 15K03181), and 'Research on North-South Integrated Global Green Criminology and the Foundation of International Environmental Court 2019-2023' (Subject Number: 19K01353) supported by the Grant-in-Aid of Scientific Research by Japanese Ministry of Education, Culture, Sports, Science and Technology.

[References]

Abdelhady, D., K. Aggestam, D.-E. Andersson, O. Beckman, R. Berndtsson, K. B. Palmgren, K. Madani, U. Ozkirimli, K. M. Persson, and P. Pilesjö (2015). The Nile and the Grand Ethiopean Renaissance Dam: Is there a Meeting Point between Nationalism and Hydrosolidality? *Journal of Contemporary Water Research and Education* 155: 73-82.

Abebe, D. (2014). Egypt, Ethiopia, and the Nile: The Economics of International Water Law. *Chicago Journal of International Law* 15(1): 27-46.

Abdellatif, M. (2015). *Water Management in Africa: Nile River Basin Case study and the modern water disputes*. Hamburg: HafenCity Universität.

Ahmad, I. (2018). Conflict over Common Property Resources (CPRS) – Global Strategies of Water Management. *International Research Journal of Human Resources and Social Sciences* 5(12):1-17.

Ahmed, A. T., and M. H. Elsanabary (2015). Hydrological and Environmental Impacts of Grand Ethiopian Renaissance Dam on the Nile River. *Eighteenth International Water Technology Conference, IWTC18, Sharm ElSheikh, 12-14 March 2015*. 336-347.

Al Hajjaji, S. A. D. (2013). The long empty canyon: A study of the old/new legal problems of the Nile basin. *Journal of Water Resources and Ocean Science* 2(5): 141-154.

Atvur, S. (2019). Transboundary Rivers within Ecological Securityperspective: The Nile River Case. *Pamukkale Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, sayi 35, Denizli: 227-243.

Bodin, D. L. *On the 'Real' Nile Question: Confronting Riparian Hydropolitics and Wrangling for Dominance*. The Pennsylvania State University.

Bruce, S. An International court for the environment? *Climate 2020*. 64-6

Chelkeba, A. (2018). The Influence of the UN Watercourses Convention on the Development of the Nile River Basin Cooperative Framework Agreement (CFA). *Mizan Law Review* 12(1): 165-190.

Cooley, H., J. Christian-Smith, P. H. Gleick, L. Allen, and M. Cohen (2009). *Understanding and Reducing the Risks of Climate Change for Transboundary Waters*. Oakland, California: Pacific Institute.

Di Nunzio, J. (2013). *Conflict on the Nile: The future of transboundary water disputes over the world's longest river*. Future Directions international.

Grandi, M. (2016) *Hydropolitics in Transboundary Water Management: Conflict, Cooperation and Governance along the Nile River*. Pisa: Scuola Superiore Sant'Anna di Studi Universitari e di Prefezionamento.

Ibrahim, A. M. (2011). The Nile Basin Cooperative Framework Agreement: The Beginning of the End of Egyptian Hydro-Political Hegemony. *Missouri Environmental Law and Policy Review* 18(2): 283-313.

Kliot, N., D. Shmueli, and U. Shamir (2001). Institutions for management of transboundary water resources: their nature, characteristics and shortcomings. *Water Policy* 3: 229-255.

Martens, A. K. (2011). *Impacts of Global Change on the Nile Basin: Options for Hydropolitical Reform in Egypt and Ethiopia*. International Food Policy Research Institute.

McKenzie, S. O. (2012). Egypt's Choice: From the Nile Basin Treaty to the Cooperative Framework Agreement, an International Legal Analysis. *Transnational Law and Contemporary Problems* 21:571-599.

Mekonnen, D. Z. (2010). The Nile Basin Cooperative Framework Agreement Negotiations and the Adoption of a 'Water Security' Paradigm: Flight into Obscurity or a Logical Cul-de-sac? *The European Journal of International Law* 21(2): 42-440.

Menga, F. (2017). Hydropolis: Reinterpreting the polis in water politics. *Political Geography* 60: 100-109.

Mohamed, Y., and M. Loulseged (2008). *The Nile Basin Water Resources: Overview of Key Research Questions Pertinent to the Nile Basin Initiative*. Colombo, Sri Lanka: International Water Management Institute.

Mostafa, H., H. Saleh, M. E. Sheikh, and K. Kheireldin (2016). Assessing the Impacts of Climate Changes on the Eastern Nile Flow at Aswan. *Journal of American Science* 12(1): 1-9.

Nielsen, M. D. (2015) *The Water of the Nile: Ethiopia Challenging Regional Hydo-Hegemony*. Copenhagen: Center of African Studies, University of Copenhagen.

Obengo, J. O. (2016). Hydropolitics of the Nile: The case of Ethiopia and Egypt. *African Security Review* 25(1): 95-103.

Okascha, R. (2012). *Water Scarcity and Regional Security in the Nile Basin*. Marburg: Philipps-Universität Marburg.

Paislay, R. K., and T. W. Henshaw (2013). Transboundary governance of the Nile River Basin: past, present and future. *Environmental Development* 7: 59-71.

Petersen-Perlman, J. D., J. C. Veilleux, and A.T. Wolf (2017). International water conflict and cooperation: challenges and opportunities. *Water International* 42(2): 1-16.

Rani, N. (2018). Sustainable Development and Water: Source of Conflict or Opportunity for Cooperation. *American Research Journal of Humanities and Social Sciences* 4: 1-11.

Swain, A. (2008). Mission not yet accomplished: Managing Water Resources in the Nail River Basin. *Journal of International Affaires* 61(2): 201-214.

Swain, A. (2011). Challenges for water sharing in the Nile basin: changing geo-politics and changing climate. *Hydrological Sciences Journal – Journal des Sciences Hydrologiques* 56(4): 687-702.

Swain, A. (2012). Global climate change and challenges for international river agreements. *International Journal of Sustainable Society* 4(1/2): 72-87.

Tawfik, R. (2015) *Revisiting Hydro-hegemony from Benefit-Sharing Perspective: The Case of the Grand Ethiopian Renaissance Dam*. Bonn: Deutsches Institut für Entwicklungspolitik.

Teshome, R. G. (2015). The Disagreement on Utilization of Nile River-Ignited by the Construction of the Grand Ethiopean Renaissance Dam (GERD): A Quest for A Legal Regime. *International Journal of Legal Studies and Research* 4(2): 123-147.

Tsega, A. H. (2017). *The Geopolitics of Water Negotiations succeeding the GERD Projection in the Nile River Basin: The Case of Ethiopia, Egypt, and Sudan*. Ihh Insani ve Sosyal Arastirmalar Merkezi/ Ihh Humanitarian and Social Research Center.

Waslekar, S., and I. Futehally (2015). *Water Cooperation Quotient*. Mumbai: Strategic Foresight Group.

Woldetsadik, T. K. (2017). The Nile Basin Initiative and the Cooperative Framework Agreement: Failing Institutional Enterprises? A script in Legal History of the Diplomatic Confront (1993-2016). *Mizan Law Review* 11(1): 196-228.

Wouters, P. (2013). *International Law – Facilitating Transboundary Water Cooperation*. Stockholm: Global Water Partnership.

Yimer, M. (2015). The Nile Hydro Politics: A Historic Power Shift. *International Journal of Political Science and Development* 3(2): 101-107.

Zedan, B. A. (2013). Water Conflicts in the Nile River Basin: Impacts on Egypt Water Resources Management and Road Map.

Chapter 5

'Drought and Flood (Climate Change) – Social-Ecological System Destabilization – Conflict Nexus' in East Africa: Climate Change-induced Environmental Degradation, Food Insecurity, Migration and Violence around Mt. Kilimanjaro

Abstract

Climate change leads to environmental degradation which has an impact on natural resources. Competing livelihood systems are subject to stiff competition, leading to social tensions and violence. In other incidences, environmentally induced migration has contributed to competition over shrinking resources in host communities, and is a recipe for violence. Droughts or floods are examples of extreme weather events, which are categorized under climate variability and characterized by their severe effects on people's livelihoods, especially on agricultural production and associated food security. The current drought situation in the Horn of Africa is worryingly familiar, and the situation is deteriorating faster than expected. Severely erratic and below average rainfall has resulted in widespread food insecurity and malnutrition, deteriorating livestock conditions, and the mass movement of populations within and across borders. In this research, focusing on the region around and near Mt. Kilimanjaro, Tanzania, the following questions are cleared; first, how climate change over a period of time disrupts the normal functioning of the ecosystem that interacts with humans, and affects how they access certain vital resources for their survival; second, how climate change hazards create imbalances in the socio-ecological system that have the potential to exacerbate or even trigger violence in some contexts.

1. Introduction

Climate change leads to environmental degradation which has an impact on natural resources. Competing livelihood systems are subject to stiff competition, leading to social tensions and violence. In other incidences, environmentally induced migration has contributed to competition over shrinking resources in host communities, and is a recipe for violence. Droughts or floods are examples of extreme weather events, which are categorized under climate variability and characterized by their severe effects on people's livelihoods, especially on agricultural production and associated food security. The current drought situation in the Horn of Africa is worryingly familiar, and the situation is deteriorating faster than expected. Severely erratic and below average rainfall has resulted in

widespread food insecurity and malnutrition, deteriorating livestock conditions, and the mass movement of populations within and across borders.

In this article, focusing on the region around and near Mt. Kilimanjaro, Kenya, the following questions are cleared; first, how climate change over a period of time disrupts the normal functioning of the ecosystem that interacts with humans, and affects how they access certain vital resources for their survival; second, how climate change hazards create imbalances in the socio-ecological system that have the potential to exacerbate or even trigger violence in some contexts.

2. Climate Change, Environmental Threats, Migration, and Human Rights

2.1 Climate Change, Environmental Degradation and Migration: Complex?

Greenpeace explains that the risk to humans of being displaced through sudden natural disasters is 60 percent higher today than it was forty years ago. Today an average of 25.4 million people is displaced every year as a consequence of natural disasters. Climate change contributes to the increase in extreme weather events and weather-related natural disasters, and to the increasing number of people who lose their life support base and are forced to flee their homes and migrate to other places. Climate change and environmental degradation are already much stronger drivers of migration flows than many of us may be aware of. We need to understand the complex relationships between climate change, environmental degradation and migration, and to provide insight into current research as well as political initiatives (Greenpeace: 6).

The climatic and environmental factors driving migration are often ignored because it is difficult to isolate them from other motives, Greenpeace continues. Climate and migration researchers therefore attempt to investigate climatic and environmental factors in differentiated ways and to explore and reveal the many ways in which they are connected to other factors. Climate change and environmental degradation are multipliers of additional problems and crises that lead to displacement and migration. The more differentiated our understanding of complex contexts is, the better governments and society can prepare for these challenges and support the people affected (Greenpeace: 6).

Greenpeace concludes that the correlations between climate change and environmental destruction are already complex. The International Organization for Migration (IOM), outlining the links between climate change, environmental changes and migration, has derived the concept of environmental migration now used more and more frequently: climate change leads to environmental degradation, to which other factors, such as the excessive use of natural resources, also contribute. Environmental degradation destroys people's livelihoods and increasingly exposes them to the risk of natural disasters. Therefore, the link between climate change and migration is environmental degradation. As climate change progresses, environmental destruction increases, as does the pressure to migrate. The working definition of 'environmental migrants' used by the IOM describes them as "persons or groups of persons who, predominantly for reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual

homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad." In order to explore the climate change factor, it is useful to use the term 'environmental migration' (Greenpeace: 6).

2.2 Dynamics of Migration, Climate Justice, and Human Rights

At present, Greenpeace insists, an important issue in legal research on climate change is to explore how the gap in protection can be closed for people who migrate due to environmental changes or natural disasters. Research on climate change and migration has expanded enormously and become differentiated in the past ten years. Understanding of the reasons, dynamics, and extent of migration has improved, and yet many questions remain unanswered. Many research projects and political initiatives are based on a common understanding and goal—that migration is an important step in adapting to climate change. The common objective is to provide better support to particularly vulnerable population groups and to migrants fleeing the effects of climate change and environmental degradation. The aim is to boost the resilience of people in vulnerable areas to prevent unwanted migration and to enable desired migration. One focus of current research is to find out which opportunities migration offers to both the communities and states losing their populations and the communities and states taking in migrants. Researchers are making efforts to overcome the widespread image of migrants as threatening or passive victims. "Societies affected by climate change are societal actors who actively shape and change their life circumstances to find common solutions. A constructive approach strengthens the positive interrelationships between migration, human development, and adaptation to climate change" (Greenpeace: 7).

In conclusion, Greenpeace mentions, a special right to protection for environmental migrants is substantiated in the context of justice and human rights. Floods, storms, drought and famine can deprive people of their basic rights: the rights to life, personal freedom and security, food, housing, water, health, and education. This makes environmental migration part of the human rights debate. Those countries and social groups which have contributed the least to global warming will continue to be especially vulnerable to the effects of climate change. Providing highly affected populations and migrants with substantial support can be understood as a first step toward more 'climate justice' (Greenpeace: 7).

2.3 Climate Change, Environmental Threats, and Human Rights

Human Rights Watch explains that, over the past century, the average annual temperature on earth has increased, the oceans have warmed, snow and ice caps have diminished, and sea levels have risen. Although evidence of climate change, and its causes, has been debated for more than two decades, there is now scientific consensus that climate change is occurring and is due to human activity. Climate change is being felt in countries throughout the world, from low-lying countries such as Bangladesh and the Maldives, to temperate countries in the northern hemisphere, to countries in Africa's arid and semi-arid Sahel. Climate scientists have attributed both the increasing frequency of specific extreme weather events (such as drought, flooding, and heat shocks) and the slow but steady

change in long-term features of the environment (such as receding glaciers and melting permafrost) to rising temperatures caused predominantly by anthropogenic (i.e. human) sources. They predict that these, and other, observed climate changes will become more severe in coming years (Human Rights Watch: 1).

These changes in the climate are imposing an increasing burden on governments, Human Rights Watch continues, especially in countries with limited resources, in their efforts to protect vulnerable populations and realize human rights. Changing precipitation patterns such as drought, and shorter but more intense rainfall, can have negative direct and indirect impacts on health and contribute to desertification and flooding, food insecurity, migration and increased conflict. Indigenous populations, poor and socially marginalized individuals, women, and people with disabilities, are often most affected. The United Nations Office of the High Commissioner for Human Rights (OHCHR) has identified climate change as posing particular risks to the rights to life, food, water, and health. In the past decade, the UN Human Rights Council and other human rights bodies have as well, adopting several resolutions highlighting the consequences of climate change on the full realization of human rights. UN human rights experts have also repeatedly stressed that the response to climate change must respect, protect, promote and fulfil human rights (Human Rights Watch: 1-2).

In conclusion, Human Rights Watch insists, one reason for the attention to the relationship between climate change and human rights is the recognition that climate change is having an uneven impact across the world. Countries with tropical or subtropical climates (such as those in Africa) are projected to experience the effects of climate change most intensely, and low-income countries are least able to prevent and prepare for the impact of climate change (Human Rights Watch: 2).

2.4 Climate Justice and Knowledge: Contingent?

Climate change has divided societies but also generated avenues to unify them, Mihr mentions, for example, a human rights-based approach to climate migration can support the most affected communities. 'Climate justice' is about how resources, wealth and access to a good quality of life are guaranteed under dramatically changing conditions that do not stop at borders of any kind. It endorses the human rights of people to development, freedom and a healthy and sustainable environment, and reflects the full spectrum of international human rights law (Mihr: 47)

Climate change is perceived as an environmental as well as a socio-ecological and economic threat that causes human rights violations, he insists, particularly against the poor and the marginalized. It is reinforcing the intensity and frequency of extreme weather events, including floods, storms, heatwaves, droughts and tornadoes. These, in turn, have profound consequences on human development and human rights. Women's and indigenous people's rights, along with the more general rights to life, food, health, water, adequate housing, culture and self-determination, are all affected by climate change. UNDP has warned that allowing such a tragedy to develop would cause a systematic violation of human rights of the world's poor and future generations and represents a step back from universal values. Therefore (Mihr: 47).

Baldwin insists that the knowledge of climate change, migration and human rights is not universal but situated. While climate change is a matter of pressing concern, to manage its migration effects through human rights law is a very particular and thus political undertaking. Acknowledging the contingent nature of this knowledge is important because it allows us to widen the terms of responsible action. It allows us to pose questions about whether this form of knowledge is indeed best suited for managing the migration effects of climate change or whether other forms of knowledge, such as indigenous knowledge, might equally be up to the task. Indeed, if climate change demands that we ask fundamental questions about what it means to live in the world today or about what kind of life is possible as we stand on the threshold of profound global environmental change, then perhaps answers to these questions can be found in the experiences of human life and living that are not synonymous with what we understand to be modernity today (Baldwin: 224).

3. Climate Change, Migration and Conflict

3.1 Africa: Climate Change, Escalating Conflict/Violence and Migration

(1) Climate change, escalating violence and continental migration

Greenpeace mentions that the extent of the drought in the Horn of Africa, which currently threatens the lives of some 20 million people in Yemen, Somalia, Kenya, South Sudan und Ethiopia, is reminiscent of the famine in the Sahel region in the 1970s and 1980s. More recently, the Horn of Africa experienced a prolonged drought in 2010 and 2011. The climate in this region is influenced by fluctuating sea surface temperatures in the Indian Ocean. Similarly to El Niño and La Niña in the Pacific, sea surface temperatures off the coast of East Africa and Indonesia also oscillate between a warm and a cold side. When sea surface temperatures off the coast of East Africa are cold, less water evaporates and the northeast trade winds, which bring rain to the interior of the region, are weakened or completely absent. Droughts on the African continent in recent decades have not only become more frequent, but also lasted longer. When the intervals between recurring droughts become shorter, the ability of the population to recover from the most recent drought and prepare for new droughts diminishes. If extreme climatic events are accompanied by violent conflict, as in Yemen, Somalia, and South Sudan, then people try to reach refugee camps to obtain some degree of protection for themselves and their families and to ensure survival through food aid (Greenpeace: 26-27).

(2) Climate change, migration and conflict

Since the 1960's, according to ICCA, Africa has experienced a general warming trend with certain regions experiencing more warming than others. Kenya has experienced general rise in temperatures. Moreover, high evapo-transpiration rate reduces surface water especially in the northern Kenya where pastoral system is dominant. Despite the fact that pastoralists have been migrating in the past in search of water and pastures, conditions have become much tougher as the region is prone to frequent episodes of droughts forcing them to venture beyond their original migration zones. During migration, they encounter hostile communities who resist invasion in order to protect resources

within their borders. This has led to incessant conflicts and migrations in the arid and semi-arid lands (ASALs) (ICCA: 2).

Repeated reporting of these conflicts in these communities indicates either the absence of suitable conflict resolution mechanisms and approaches, or their ineffective implementation, ICCA continues. Many communities resort to violence as a way of "managing" their conflicts without sustainably resolving them. Use of violence increases tension between the involved communities, causing fear among community members and inevitably forcing people (in particular women, children and other vulnerable groups) to leave their homeland (ICCA: 2).

Considering that the environment is already stressed, ICCA explains, it is most likely that the number of conflicts and casualties will increase, causing more people to take refuge. However, there is still a lot of hesitation by the international community to acknowledge the existence of climate refugees and their eligibility to seek asylum. Kenya like many other Africa countries is yet to ratify the Kampala convention on Internally Displaced Persons. This framework may address displacement caused by natural disasters that influence human life, peace, stability, security and development. Thus, the implementation of such frameworks is essential to improving the Government's response to the protection needs of IDPs (ICCA: 2).

In short, UNFCCC recognizes climate change as one of the greatest human rights challenge of our time (Human Rights Watch, 2015). Similarly, Stockholm and the Rio Declaration have acknowledged the link between environmental quality and the human rights (ICCA: 2).

3.2 Kenya: Climate Change-Induced Conflicts and Migration

(1) General remarks

According to the analysis of ICCA, only 20 percent of the land in Kenya is arable whilst the rest of the country in the northern, north eastern and much of the southern areas are arid and semi-arid lands (ASALs) which constantly experience incessant conflicts especially over pasture and water resources. These areas experience unpredictable, non-equilibrium weather conditions. Against this background, nomadic pastoralism is the dominant livelihood system. Migration as an adaptation and coping mechanism leads to competition over the dwindling natural resource base. The scarcity results in violent inter-community conflicts leading to migration. Lately, there has been an increase in migration trends both in space and time among pastoralists causing severe competition resulting into conflicts which hinder accessibility to critical resources. Inter-communal conflicts have been exacerbated by dwindling land and water resources as well as socio-political, economic and cultural factors alongside institutional oversights such as drawing communal boundaries without consideration to pastoralist's mobility needs (ICCA: ix).

There is an emerging correlation between climate variability and violent conflict in Northern Kenya, where most conflicts were resource based, ICCA continues. Thus, up scaling the findings from the two case studies to regional, national or elsewhere will be insightful for forward perspective in the future. It was evident land use had changed significantly as reflected in the species composition in both counties' shrinking forests. In addition, precipitation was associated with increased variability

as witnessed in the increased frequency of droughts over the last 10 year with shorter cycles of about 3-5 years. Moreover, we can note a correlation between droughts and conflicts; these conflicts have led to displacement of communities, loss of livelihood and migration. Moreover, migration is influenced by the search for opportunities and in other instances; there has been forced migration due to incessant cycles of conflicts (ICCA: ix-x).

(2) Climate change and natural resource conflicts

Following the analysis of ICCA, underdeveloped societies are at high risk of environmental problems which have accumulated changes such as rising sea levels, land degradation, and declining freshwater resources resulting to relatively more permanent and dispersed effects. Such societies are relatively more likely than developed societies to exit the affected area, because they are highly vulnerable, as is the case in Least Developed Countries (LDCs) whose borders were carved by colonial powers leading to a push effect of societies to more resourceful areas which over time result to conflicts over dwindling resources (ICCA: 13).

The competition for natural resources is the root cause of conflicts, ICCA explains. The current conflicts and displacements have been reinforced by a number of factors and key among them are the changing climate regimes. For instance, in Wajir and Garissa Counties, climate change has dramatically increased the region's vulnerability to droughts and floods. This has imperiled the rather fragile livestock based livelihoods and ruled out possibilities of sedentary agriculture. Conflicts over resources (pasture and water) are on the rise as influx of refugees from Somalia intensifies population pressures in the County (ICCA: 13).

- Mandera County which is located on the North Eastern tip of Kenya and borders Somali on the Eastern side and Ethiopia on the Northern is arid with few water resources. It has only one permanent river (River Dawa) flowing from southern Ethiopian highlands down through Mandera into southern Somalia and the rest of the County is served by water pans, natural springs and boreholes, which are owned by resident communities. During dry periods when scarcity worsens, community elders usually come up with complex schedules for sharing the water resources. Failure by a group to adhere to these schedules usually results into conflict (ICCA: 13).
- Marsabit County borders Wajir, Isiolo, Samburu and Turkana Counties all of which are arid and semi-arid. Marsabit County is dry with the exceptions of small patches of mountainous arable areas in central and northwestern parts. As such, natural resource-based conflicts over pasture and water are prevalent. Land in Marsabit is categorized as Trust land which is held by the local authorities in trust for the people. As such, there is no individual land tenure. This predisposes the area to conflicts between nomadic communities as property rights are loosely defined. The County has no major water source and therefore the residents rely on water springs, underground water and seasonal rivers. These are communal resources which could easily trigger conflict in times of scarcity. Droughts also increase vulnerability and exacerbate conflict (ICCA: 14).

- The Turkana in the North western tip of Kenya is bordered by equally hot and dry Counties. The County is prone to famine and cattle rustling due to constant migration by pastoralists from its different parts and from neighboring Counties in search of pastures for their livestock and occasionally has experienced cross border conflicts from indigenous groups from Uganda, South Sudan and Ethiopia. Climate variability has caused degradation of the environments leaving it worse off than before. Further, Lake Turkana is drying up and receding due to climate change not to mention creation of dams upstream by the Ethiopian government on River Omo (ICCA: 14).
- Baringo County shares borders with quite a number of neighbours namely, West Pokot, Elgeyo Marakwet, Nakuru, Laikipia and Uasin Gishu Counties. Some of its neighbours have serious security concerns, in particular the border between Baringo and West Pokot; and Laikipia counties are porous and in the hands of cattle rustlers who are in possession of small arms. Communities from the three Counties habitually raid each other to steal livestock. The primary economic activity within the County is livestock keeping. Inevitably this leads to conflicts as communities have to fight for pasture in the dry seasons. These seasons also coincide with rites of passage which create demand for activities such as cattle rustling. The conflicts that arise in these situations are for pasture and water (ICCA: 14).

On displacement and migrations, a report by UNOCHA (2014) shows that in Turkana 1730 people were displaced, in Mandera-125,107 people were displaced; in Wajir, 84,980 people were displaced between January and November 2014, ICCA mentions. Displacement figures have sharply increased due to increase in number and frequency of droughts leading to resource based clashes. Mandera County has particularly suffered from struggle from political representation and its proximity to both the Somali and Ethiopian borders. Although the causes of conflicts differ according to the report, a good number of the reported cases include struggles for control and use of dwindling resources-in particular water and land for pastures. Figures for 2013/14 show that almost 500 people in Mandera were killed and more than 55,000 people were displaced as a result of inter-communal violent conflicts. That means the number of people displaced by conflicts in the first half of 2014 was almost four times the number of people displaced in the entire previous year (2013) (ICCA: 14-15).

(3) Areas most affected by inter-communal conflict

Areas most affected by inter-communal conflicts in Kenya include semi-arid districts of Turkana, Isiolo, Samburu, Wajir, Moyale and Mandera in the north of the country, ICCA continues. Apart from the traditional causes of conflicts in these areas which have mainly been cattle rustling and clan or tribal conflicts over political representation, recent conflicts are either caused or exacerbated by the effects of climate changes which include scarcity of water and pastures for pastoral communities who make the majority of the resident communities in these areas. A report by IDCM revealed 95 percent of the 220,000 displaced people in 2014 were from Kenya's north-east where pastoralism is the primary means of livelihood. Conflicts and displacement are as a result of pressure on scarce resources as the region hosts the largest pastoralist groups. Furthermore, the deteriorating security

situation was resulting from threats from terrorist groups and proliferation of small arms and lastly, historical grievances and the effects of new power structure relating to marginalization and failed struggle for secession after Kenya gained independence (ICCA: 15).

The Kenyan climatic land condition leaves the majority of ASALs' residents susceptible to weather disasters as the climate changes over time, ICCA mentions. In the last decade, frequency and severity of natural disasters in Kenya have affected larger numbers of people (NCPD, Kenya Population Situation Analysis, 2013). For example, before 1990s, drought events occurred at five to ten-years intervals and on average affected less than 50,000 people per year (UNISDR, 2012). This statistics dramatically changed over the 2000-2009 decade when drought events occurred every one to three years and affected an annual average of 1.5 to 4.5 million people (UNISDR, 2012) (Boko, Niang, & Nyong, 2007). The 2008/2009 drought alone affected 10 million people, and decimated over 20 percent of livestock population in the arid and semi-arid lands (ICCA: 15).

Furthermore, ICCA continues, the international disaster database (CRED, 2002) 1993-2010, a total of 73 natural disaster events including droughts, epidemics, flood, landslides and a tsunami, occurred in Kenya. These events affected accumulative total of 48.46 million people. Droughts had the highest impact (39.2 million people) epidemics (6.9 million people and floods (2.4 million people) (ICCA: 15-16).

(4) Conclusion

In conclusion, ICCA mentions, natural resource based conflicts among different ethnic groups due to competition over access to scarce resources has always existed. However, they have become more frequent and deadly despite peace initiatives and measures in place to enhance communities' resilience to cope with severe droughts. Most conflict incidences were reported during dry spell, an indication that climate change has exacerbated their occurrence. Pastoralists are migrating beyond their original migration routes due to reducing pasture within their grazing belt. Therefore, interactions between different ethnic groups spark conflict. There is a positive correlation between increase in drought episodes and conflicts. Moreover, decreasing natural resource base in Turkana as indicated in the land use land cover (LULC) has exacerbated unprecedented forced migrations to territories crossing over to the neighboring international community's especially to Uganda, South Sudan, and Ethiopia (ICCA: 70).

Natural resources (grazing land and water) account for a sizeable share in fueling conflict, ICCA insists. Therefore, clear policy guide lines on issues to do with management and utilization of water resources are required. The study also noted that conflicts are likely to arise at water points especially in pasture areas. However, other factors such as political interests and traditional customs could not be ruled out. In both case study areas, conflicts have increased economic hardship as the only livelihood option, pastoralism, has been ravaged. Despite government taking proactive steps to protect pastoralists by deploying more security personnel, its effectiveness is not clear. The study noted that inadequate security enforcement in both Turkana and Samburu Counties is because

security personnel are either unable or unwilling to confront cattle rustlers who are well armed. Insecurity leads to formation of local vigilante groups popularly known as home guards who acquire small and light weapons for self-defense. The weapons used by these vigilante groups are also used during cattle rustling leading to more conflicts (ICCA: 70).

4. Global Environmental Change, 'Environmental Refugee' and International Human Rights Law

4.1 Environmental Refugee in International Human Rights Law

(1) Impact of climate change on people's lives

Whereas it has been demonstrated that phenomena linked to climate change are among the main causes of population movement, according to Piacentin, it is also true that these people do not belong to any well-defined category of subjects of international law that can guarantee their protection. In 2013, people obliged to flee their habitat by disasters were almost three times as many as those forced to flee their homes by conflicts. In 2015 98.6 million people were affected by disasters and, according to UNISDR, "Climate was a factor in 92% of those events." The natural disasters producing the greatest impact were droughts: in comparison to the ten-year annual average, drought rates have more than doubled in number, affecting 50.5 million people, particularly in Africa. Floods were the phenomenon that had the second greatest impact in 2015 (Piasentin: 33).

Scientists agree that climate change, he continues, in combination with other factors, will cause an increase of people displacement in the future. Moreover, according to the IPCC report, "Displacement risk increases when populations that lack the resources for planned migration experience higher exposure to extreme weather events, in both rural and urban areas, particularly in developing countries with low income." It has been reported that 97% of disaster-related displacement, between 2008 and 2013, occurred within developing countries. In addition, climate change is also expected to have an indirect impact on increased risk of violent conflicts, such as civil war and inter-group violence (Piasentin: 34).

(2) Protection of people on the move in international law

While it is clear that climate change produces a serious impact on migration and displacement, he analyzes, it is also true that it is quite difficult to identify a direct link between the two phenomena. The reason is that different communities perceive the impacts of climate change differently, depending on their political, economic and social conditions. Their ability to cope with the same type of sudden or slow-onset disaster and their resilience are therefore different. This obviously affects people's mobility decisions. It is more common that displaced people affected by a sudden or slow-onset disaster stay within the borders of their home country. In this case, the state has the obligation, under national and international law, to respect their rights and to protect them. On the other hand, when they move to a foreign country, there is no specific legal instrument that regulates how these

migrants have to be treated for what concerns their permission to stay and their protection (Piacentin: 34-35).

He continues that refugees are a very precise legally-defined category of people including anyone who, "Owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country." When a sudden or slow-onset disaster happens, only if the state discriminates against some specific group of people in giving assistance, can those people who do not receive protection be considered as persecuted and therefore entitled to international protection. In the same way, if the disaster is caused by some action or inaction imputable to a discriminatory attitude by the state towards a particular group of people, these people could fall into the refugee category (Piacentin: 35).

However, he adds, migrants who cross borders for reasons connected to climate change and cannot demonstrate persecution by the criteria defined in the Convention cannot be considered refugees. Even if some decide to live and work in a foreign country do so as a consequence of the impact of climate change on their country of origin, it does not mean that they are entitled to international protection. In addition, the Convention does not guarantee the right to be admitted to or stay in a foreign country (Piacentin: 35-36).

(3) Way forward

In conclusion, he mentions, international human rights law does not address the issues of people's admission to and stay in a foreign country following a sudden or slow-onset disaster connected to climate change. However, the international community is in the process of identifying a practical solution to this legal protection gap. It seems that for the time being an international convention is not feasible: it would need complex negotiations and would take time. The Nansen Initiative, for instance, is a state-led consultative process led by Norway and Switzerland aimed at building international consensus on a protection agenda to address the needs of people displaced abroad following the impact of climate change. The Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change (Protection Agenda) was endorsed by 109 governmental delegations during a global intergovernmental consultation in October 2015 (Piacentin: 36-37).

In September 2015, he adds, at an historic UN summit, the 2030 Agenda for Sustainable Development was adopted, including 17 Sustainable Development Goals (SDGs) that universally apply to all. These goals aim to end all forms of poverty, fight inequalities, tackle climate change and improve environmental protection. With the 2030 Agenda for Sustainable Development, it was finally recognized that climate change is already affecting public health, food and water security, migration, peace and security, and there are some specific goals that address these impacts. Moreover, with the historic climate agreement reached in December 2015 in Paris, the international community in its entirety has further demonstrated its concern about the issue of climate change and its willingness

to enact an effective response to the threats it poses to the world's population. Hopefully, this is particularly a positive moment to address the issue of the international protection of people displaced by the impact of climate change, in a framework of multi-level cooperation and solidarity (Piacentin: 37-38).

4.2 Future Challenges and Opportunities

The report of Government Office for Science considers migration in the context of environmental change over the next 50 years. The scope of this report is international: it examines global migration trends, but also internal migration trends particularly within low-income countries, which are often more important in this context. The report has the following key conclusions:

- Environmental change will affect migration now and in the future, specifically through its influence on a range of economic, social and political drivers which themselves affect migration. However, the range and complexity of the interactions between these drivers means that it will rarely be possible to distinguish individuals for whom environmental factors are the sole driver ('environmental migrants').
- Powerful economic, political and social drivers mean that migration is likely to continue regardless of environmental change.
- The impact of environmental change on migration will increase in the future.
- The complex interactions of drivers can lead to different outcomes, which include migration and displacement.
- Environmental change is equally likely to make migration less possible as more probable.
- Consequently, in the decades ahead, millions of people will be unable to move away from locations in which they are extremely vulnerable to environmental change.
- Preventing or constraining migration is not a 'no risk' option (The Government Office for Science: 9).

According to the report of GOS, the challenges of migration in the context of environmental change require a new strategic approach to policy. Policy makers will need to take action to reduce the impact of environmental change on communities yet must simultaneously plan for migration. Critical improvements to the lives of millions are more likely to be achieved where migration is seen as offering opportunities as well as challenges.

- Measures prevent harmful environmental changes, reduce their impact, and build resilience in communities.
- Migration can represent a 'transformational' adaptation to environmental change, and in many cases will be an extremely effective way to build long-term resilience.
- Cities in low-income countries are a particular concern, and are faced with a 'double jeopardy' future (The Government Office for Science: 10).

In summary, the report mentions, the key message of this report is that migration in the face of global environmental change may not be just part of the 'problem' but can also be part of the solution.

In particular, planned and facilitated approaches to human migration can ease people out of situations of vulnerability. In light of this, international policy makers should consider the detailed evidence from this report in a range of areas, with the following of particular priority:

1) Many of the funding mechanisms for adaptation to environmental change are currently under discussion.
2) Whilst the twin challenges of population growth and environmental change will pose an increasing threat to urban areas in the future, cities in many countries are already failing their citizens (The Government Office for Science: 10).

The cost of inaction is likely to be higher than the costs of measures discussed in this report, the report of GOS concludes, especially if they reduce the likelihood of problematic displacement. Giving urgent policy attention to migration in the context of environmental change now will prevent a much worse and more costly situation in the future (The Government Office for Science: 10).

5. Critical Exploration of the Non-linear Relationship among Climate Change, Migration and Conflict, and Catastrophe, and Insecurity

5.1 Dire Forecast: Theoretical Model of the Impact of Climate Change on Crime

Agnew explains that climate change will increase crime and other harmful acts through its effect on social conflict. Climate change will contribute to conflict through several mechanisms, with perhaps the most important being increased competition between groups over scarce resources. Such conflict will increase crime and harmful acts in a variety of ways (Agnew: 34-35).

Criminologist typically explain crime in terms of individual traits and features of the social environment, he continues. They have devoted little attention to the direct and indirect effects of the natural environment on crime, with the limited exception of temperature. Therefore research should focus on the criminogenic consequences of such things as habitat change (especially land degradation); extreme weather events, including both sudden-onset (e.g. hurricanes) and slow-onset events (droughts); and food and freshwater shortages. Such factors may directly affect crime (e.g. food shortages as a type of strain, which directly prompts crime); and they may indirectly affect crime (e.g. food shortages are a source of malnutrition, which impairs cognitive development). However, criminologist should keep in mind a key point, 'the future will not be the same as the past' (Agnew: 37).

As climate change proceeds, he adds, its effects will become more widespread, frequent, and severe. People will also become more likely to experience multiple effects (e.g. coastal flooding, extreme weather events, and food and freshwater shortages). Further, the context in which these effects occur will change. As individuals, groups, and states struggle to cope with the effects of climate change, their ability to legally adapt to further effects will decline. Also the way in which the effects of climate change are interpreted will change. Most notably, individuals and groups will become increasingly likely to view these effects as unjust. These changes increase the likelihood that climate change will lead to crime (Agnew: 38).

However, he concludes, researchers can roughly approximate certain of these changes. They can test for 'threshold effects' or the idea that 'certain of the independent variables do not affect crime until they have passed a certain level. And they can determine whether a range of factors condition the response to climate change, including factors that influence or directly index coping ability and perceptions of injustice. Such research is critical, although tentative given the evolving state of climate change (Agnew: 38).

5.2 Climate Change, Migration and Conflict Nexus

Burrows and Kinney analyzes that the potential link between climate change, migration, and conflict has been discussed in the academic for several decades. However, despite this growing concern and focus on climate change and conflict, uncertainty remains regarding the pathways linking climate change to migration to conflict. This uncertainty is partly brought about by the inherent complexity of climate change projections. It is furthered by the challenges of accurately projecting population growth and movements, identifying the outbreak of conflict, and determining the significance of climate and migration as drivers of conflict relative to other stabilizing or destabilizing forces. Despite these challenges and inherent uncertainty, the potential consequences are so severe that it is essential that further research be conducted to better understand the possible linkages between climate change, migration, and conflict (Burrows and Kinney: 1).

The potential for global environmental change to result in conflict has been discussed since the 1980s, they explain. A number of different pathways between climate change and conflict have been proposed and discussed. These include declines in agricultural productivity leading to food shortages, water scarcity, and competition for mineral resources. Among the most frequently cited link between climate change and conflict is the potential for increased migration. The climate-migration-conflict pathway has received increased focus from policy makers and the media. A popular view has emerged in these circles that climate change will lead to a dramatic increase in movement of people away from impacted areas and will result in increased conflict with populations in areas receiving migrants. Despite and in response to the fact that this issue is viewed as relatively linear and even deterministic in the media, scholars have been increasingly cautious when discussing the climate-migration-conflict pathway. In fact, there remains no real consensus about whether or not this pathway exists, whether it can be considered causal, and how future research could fill critical knowledge gaps (Burrows and Kinney: 2).

At present there appears to be no clear consensus as to how substantial an impact climate change will have on worldwide conflict or the role which migration may play as a part of that pathway, they continue. Despite this uncertainty, it is clear that climate change is one of the most significant threats that mankind will need to address in the coming decades, and the potential impacts of climate variability and change on migration and conflict will remain an important area of research and policy planning. The major contention in this research surrounds the importance of climate and migration as drivers of conflict compared to other potential factors which may either enhance or suppress risk

of conflict. Given the complexity of this issue, future research should seek to understand how climate interacts with other key governance, economic, cultural and social factors. In order to address the interactions of these multiple drivers more thoroughly, future research will be especially valuable to the extent that it can be focused on specific places and contexts (Burrows and Kinney: 10).

In short, they conclude, there has been increasing recognition of the complexity of the systems linking climate, migration and conflict, and the extent to which this system depends on social, demographic, economic, and political drivers which interact with climate variability and change. All of these are very location-dependent. Thus, future research can help to inform our understanding of the contexts in which climate might increase risk of conflict by focusing on the local interplay of these multiple drivers.

5.3 Conflict, Catastrophe, and Securitization of Resources

White explains that, in response to real and perceived threats and risk linked to climate change, issues of security are generating angst among people. The securitization of natural resources is emerging as an important climate-related issue, especially in regard to food, water, land and air quality (White 2018: 59).

Natural resources need to be protected and secured for the public benefit of those living within nation-states, he continues. The rich and powerful will continue to use their resources to secure productive lands, restrict access to food and water, exploit the financial hardships of others, and impose their own coercive rule (private security). The moral and material universe within which these trends occur is one that is generally supportive of this sort of natural resource exploitation. The ravaging of nature generally takes place with the consent of its beneficiaries, among whom are the general populaces of advanced industrialized countries. It is the relative privilege of those in the Global North that outweighs concern for the plight of their neighbors in the Global South (White 2018: 74).

The social construction of 'security' in an environmental context frequently privileges the rights and interests of the powerful over the public interest, he mentions. Environmental security is basically a form of securitization which protects financial interests rather than ensuring fair and equal access for all. In pursuit of the ownership and control over natural resources, and to exploit these for particular purposes, governments and companies have singularly and in conjunction with each other worked to break laws, bend rules and undermine participatory decision-making processes (White 2018: 74).

Catastrophe and the responses to it are defined by those most affected, he insists. Worldwide, disasters related to climate change have tended to have most impact upon the poor and vulnerable. Those with the capacity to build stronger, higher and better are those most likely to survive. They are also those who have the resources to rebuild and to thrive afterwards. For the rest, the options are less clear, the option reduced. While those who have, want to retain, those who do not have, do what

they can to survive. In this gulf between have and have-not lie many struggles and fundamental conflicts. The result is insecurity for all (White 2018: 77).

Ultimately we need to go beyond parochial viewpoints and those perspectives that frame harm in terms of national or regional interests, he adds. Our loyalty has to be to the planet as a whole, rather than being bound by a narrow prescriptive patriotism based on nation. The nation-state remains an essential platform for concerted action to deal with the causes of environmental harm, as well as mitigating the worst symptoms of such harm. But the global nature of the problem – climate change – means that inevitably our collective survival will require planetary cooperation and worldwide action. For eco-global criminology, this is best undertaken under the guidance of an eco-justice framework, rather than protection of existing privilege or might makes right strategies. For the latter only lead to further violation of rights, and the downward spiral to our mutual destruction (White 2009: 35).

5.4 Environmental Insecurity: Approaching a Tipping Point?

South mentions that problems of climate change and environmental damage may be approaching a tipping point (Hoggins et al.). Climate change has produced differentiated social vulnerabilities to natural resource scarcity, and environmental changes and harms pose a challenge to the security and sustainability of nations and their populations. They say that the concept of 'security' must be broaden to embrace broader political, economic, social and environmental concerns and recognition not just of the need for protection of the state but also of individuals and their communities. The concept of 'human security' was given emphasis by the 1994 Human Development Report of the United Nations Development Programme (UNDP 1994) with the subsequent Commission on Human Security (2004), emphasizing that human security is about protecting people's fundamental rights, such as freedom, peace and safety, access to resources and the basic necessities of life, and that this also encompassed an environment which does threaten health and well-being (South 2012: 100, 104, 106-107).

What is vital in contemporary calculations of sustainability and security is the factor of change, he insists. Security is not about protecting a stable status quo from external threat but about developing an economic system which reduces dependence on a single resource, dynamic system which can accommodate change. This does not fit easily into traditional understanding of defense or national security, which is the whole point of trying to rethink security. One way to do this rethinking has been to explore the idea of environmental security in the context of the pre-eminent change of our times. Climate change is producing a new set of global dividing lines, now between those at most risk and those at least risk. This 'climate divide' is recognized in many ways but arguably not on a widespread basis or with full appreciation of what it really means. In essence, the climate divide represents a further extension of the inequitable state of the affairs of humanity, one in which the conditions producing climate change are contributed to most overwhelming by rich consumer societies but which will impose the greatest costs and resultant miseries on the already poor and newly developing nations (South 2012: 108-109).

In conclusion, he mentions, it might be argued that the concept of environmental security is simply stretching the 'security' umbrella too far because it encompasses and blurs with many other and well-understood aspects of security --- political, economic and social. Inevitably, it is also entwined with social injustice, poverty, differential vulnerability, weak political structures, population growth, unsustainable economies, industrialization and resource demand. It would be good if we could begin to characterize the twenty-first century as one in which we strive to preserve both human rights and human security but also recognize that such goals cannot be fully realized unless we demonstrate similar regard for environmental rights and environmental security --- both now and into the future which subsequent generations will inherit (South 2012: 109-111; South 2009).

6. Conclusions

Today, climate change and environmental degradation are already important triggers of displacement and migration. The consequences of climate change, such as prolonged heat waves, more frequent droughts, sea level rise, floods and an increase in extreme storms are destroying the livelihoods of a growing number of people. Extreme weather events already displace twice as many people as war or violence do. Moreover, millions of people are leaving their homes because gradual environmental degradation – to which climate change is often a contributor – is destroying their livelihoods. Even measures such as the use of land for the cultivation of biofuels, exporting food, and flood protection barriers, which are designed to protect our climate and facilitate adaptation, can result in further displacement. Scientists fear that if the release of greenhouse gases into the atmosphere is not stopped, by the end of this century every tenth person will be living in an area affected in multiple ways by the consequences of climate change.

Displacement and migration should be understood as a signal to finally take seriously the fight against climate change, to promptly implement the goals of the Paris Climate Agreement, and expedite the phaseout of fossil fuels. There are no reliable figures on how many people are suffering from long-term displacement and have been living, often for years, in the slums of growing cities, makeshift camps and emergency shelters. The major share of environmental migration takes place in the Global South and within national boundaries. However, it is difficult to predict how migration flows would change if global warming progresses.

In addition to a further increase in migration, the forced immobility of trapped populations is likely to increase considerably. These include populations whose livelihoods have been destroyed, or who are exposed to tremendous risks, but who lack the resources to migrate, or have no access to escape routes and places of refuge. The current humanitarian crisis in the Horn of Africa and Yemen is a frightening example of helplessly trapped populations. The precarious living conditions of people who are particular affected by the consequences of climate change and environmental degradation show that great efforts must be made to better protect them.

Kenya is already vulnerable to existing climate variability because of its high-dependency on natural resources and low-adaptive capacity to cope with climate-related impacts. To ascertain this, it is important to note a few examples of such impacts as:

(a) The cost of climate change is estimated to be 2.6% of Kenya GDP each year by 2030.

(b) The costs of the 1998/2000 drought were estimated at US$2.8 billion. In some regions, up to one third of all livestock perished due to the most recent drought.

(c) Four (4) million people in Kenya are at risk of hunger because of the prolonged drought.

Against this background, building resilience to the impacts of climate change such as frequent or prolonged droughts and flash flooding in the arid and semi-arid areas of Kenya should have been given priority (ICCA: 7).

The real problem of international migration and refugee policy is not the lack of international statements of intent, but rather the behavior of key players. As long as the challenge posed by the major transition to a post-fossil economy and society has not been recognized and accepted by everyone, and as long as the corresponding changes in behavior of all those involved – individuals, groups and states – are not addressed more seriously, the planet will continue to experience natural disasters which do not (yet) affect some of us, but bring great suffering to the poorest of the poor who are the least to blame for their occurrence. We can simply no longer afford to continue to underestimate and ignore these catastrophic events.

[Notes]

1) This chapter is based on the paper titled "Drought or Flood (Climate Change) – Social-ecological System Destabilization –Conflict Nexus in East Africa: Rainfall-induced Environmental Degradation, Food Insecurity, Migration and Violence around and near Mt. Kilimanjaro" and presented at the 18th Annual Conference of the European Society of Criminology, 29 August - 1 September 2018, Sarajevo, Bosnia and Herzegovina.

2) This chapter is a part of research results of 'Research on Environmental- and Eco-crimes by Progress of Scientific Technologies and Development of Societies and Measures against Them 2015-2019) (Subject Number: 15K03181) supported by the Grant-in-Aid of Scientific Research by Japanese Ministry of Education, Culture, Sports, Science and Technology.

3) In order to make a research on 'current situation of climate change-induced environmental degradation, food insecurity, migration and violence around and near Mt. Kilimanjaro', the author visited the relevant places: Masai Mara National Reserve, Amboseli National Park, etc. in August 2018.

4) The author is most grateful to his colleagues, Professor Shem O. Wandiga (University of Nairobi) and members of his research group, for their help.

[References]

Agnew, R. (2011). Dire forecast: A theoretical model of the impact of climate change on crime. *Theoretical Criminology* 16(1): 21-42.

Baldwin, A. (2017). Conclusion: On the politics of climate change, migration and human rights. In D. Manou, A. Baldwin, D. Cubie, A. Mihr and T. Thorp (eds.) *Climate Change, Migration and Human Rights: Law and Policy Perspectives*. London and New York: Routledge.

Burrows, K., and Kinney, P. L. (2016). Exploring the Climate Change, Migration and Conflict Nexus. *International Journal of Environmental Research and Public Health*13 (443): 1-17.

Greenpeace Germany (2017). Climate Change, Migration, and Displacement: The Underestimated Disaster. Hamburg: Universität Hamburg.

Higgins, P., Short, D., and South, N. (2012). Protecting the planet after Rio – the need for a crime of ecocide. *CJM* 90: 4-5.

Human Rights Watch (2015). *"There is No Time Left" Climate Change, Environmental Threats, and Human Rights in Turkana County, Kenya*.

Institute for Climate Change and Adaptation, University of Nairobi (2016). *Report on Climate Change-Induced Conflicts and Migration in Kenya*. Nairobi: University of Nairobi.

Mihr, A. (2017). Climate justice, migration and human rights. In D. Manou, A. Baldwin, D. Cubie, A. Mihr and T. Thorp (eds.) *Climate Change, Migration and Human Rights: Law and Policy Perspectives*. London and New York: Routledge.

Nyaoro, D., Schade, J., and Schmidt, K. (2016). *Assessing the Evidence: Migration, Environment and Climate Change in Kenya*. Geneva: International Organization for Migration.

Piasentin, E. (2016). Escaping climate change: who are the "environmental migrants" in international law? *Freedom from Fear*, Issue No.12: Migrant Deadlock – The Abyss of Civilization. 32-38.

South, N. (2012). Climate Change, Environmental (In)Security, Conflict and Crime. In S. Farrall, T. Ahmed and D. French (eds.) *Criminological and Legal Consequences of Climate Change*. Oñati International Series in Law and Society. A Series published for the Oñati Institute for the Sociology of Law. Oxford and Portland Oregon: Hart Publishing. 97-111.

South, N. (2009). Ecocide, Conflict and Climate Change: Challenges for Criminology and the Research Agenda in the 21st Century. In Kangaspunta, K., and I. H. Marshall (eds.) *Eco-Crime and Justice: Essays on Environmental Crime*. Turin: UNICRI. 37-53.

The Government Office for Science (2011). *Foresight: Migration and Global Environmental Change*. Final Project Report. London: The Government Office for Science.

White, R. (2018). *Climate Change Criminology.* Bristol: Bristol University Press.

White, R. (2009). Dealing with Climate Change and Social Conflict: A Research Agenda for Eco-Global Criminology. In Kangaspunta, K., and I. H. Marshall (eds.) *Eco-Crime and Justice: Essays on Environmental Crime*. Turin: UNICRI. 13-35.

Chapter 6

Arguments for and against Introducing International Environmental Court

The number of disputes before international courts and tribunals that involve environmental concerns is growing, whether they arise from domestic law, environmental treaties or economic treaties. This trend is driven in part by the increasing awareness of, and tensions between, exploiting the natural environment for economic gain and its conservation for sustainable health, cultural, social, economic, scientific and other purposes (Bruce: 64).

There is no specialized international court or tribunal with competence over international environmental matters, Bruce mentions. This is despite the fact that much modern-day activity within individual states causes transboundary and global environmental harm and contributes to ever-worsening global climate change. Whether an international adjudicative body for the environment would be feasible or beneficial is hotly contended. Two key issues are addressed: (i) whether existing international institutions can adequately address modern disputes involving the environment, and, if not, whether they can be modernized; and (ii) whether it would be beneficial to create a new, specialized adjudicative body for the environment that functions within the global dispute settlement system (Bruce: 64).

Many argue that generalist courts such as the ICJ, or specialized bodies such as the ITLOS, are more appropriate forums for hearing state-to-state disputes that involve the environment, due to their broad jurisdictional competence and ability to engage experts, and that arbitral tribunals are better suited to private disputes, Bruce continues. Others note the deficiencies in the constitution and/or practice of existing bodies in addressing environmental issues and suggest that it is because of these challenges, along with the increasing global nature of environmental concerns, that a specialized institution should be created (Bruce: 65-66).

Two key criticisms are:

i) Existing tribunals can be inflexible in dealing with complex, technical and scientific environmental data, even though their rules may allow the appointment of experts.

ii) Non-state actors are increasingly either contributors to transboundary environmental harm, for example through burning fossil fuels that contribute to climate change, or victims of it. However, non-state actors generally cannot bring claims or be sued under international law and do not have standing before international adjudicative bodies (Bruce: 66).

There are many potential benefits of an international environmental court, Bruce explains. First, the court could provide a centralized system of dispute settlement that is accessible to a range of actors, including individuals, corporations and civil society. Second, a pool of dedicated scientific experts could assist the judges and arbitrators. Third, it would strive to clarify legal obligations, harmonize international law related to the environment and complement existing regimes, thereby increasing legal certainty and predictability. Fourth, it could encourage the use of preventative and, where necessary, injunctive measures to minimize ongoing environmental damage. Fifth, it could become the standard compliance and dispute settlement mechanism for environmental treaties (of which over 500 exist), such as the UN Framework Convention on Climate Change, Kyoto Protocol and the Convention on Biological Diversity, thereby reducing the financial and human resources burden associated with the proliferation of treaty bodies. Sixth, it could help to build trust among states, individuals and the business community through the provision of workable solutions to modern environmental concerns (Bruce: 66).

In practice, Bruce suggests, there are two pathways to forming a new court or public tribunal: through an international treaty, either within or external to the UN system, or by UN resolution. Some conceptualize the body as an arbitration tribunal (rather than a UN tribunal) that is geographically mobile. In that model, the quickest, cheapest and easiest way to set it up would be by mutual agreement between parties to a dispute involving the environment to submit to the jurisdiction of the arbitral tribunal and to be bound by its award. One alternative could be to carefully design a new, specialized international court for the environment. Political support for this concept has been mixed since the late 1980s, but appears to be gaining ground in some quarters. At present, however, most states would not support the concept, despite calls in the 1992 Rio Declaration, the 2012 UN Conference on Sustainable Development and the 2015 Sustainable Development Goals, among others, for better public and open participation in international disputes, including those related to the environment (Bruce: 66).

It also seems a bit out of place in relation to the present discourse to argue for an environmental court, Anderson insists, when the broader sustainability concept has overtaken the narrower concept of environment. It is very difficult to single out issue areas that are exclusively environmental. More fundamentally, the bilateral approach of the ICJ does not fit the complex realities of environmental issues in which collective-action problems for a large number of actors are the name of the game (Andresen: 78).

In short, it is unlikely that an international court or tribunal for the environment would become the sole solution to environmental governance and dispute resolution. It is, however, an idea worth considering and has been recommended by the International Bar Association as a potential long-term endeavor. In the interim, contemplating better models for resolving international environmental disputes can provide solutions to modernize the existing dispute settlement regime (Bruce: 66).

[References]

Bruce, S. An International court for the environment? *Climate 2020*. 64-66.