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Securing Uranium *Yellowcake*: Assessing the Strategic Politics of Uranium and Their Implications for Conflict

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Submitted to the University of the Witwatersrand, Faculty of Humanities, for the degree of M.A. in International Relations

Supervised by: Dr. Amy Niang

July, 2013

Declaration

I declare that this thesis is my own unaided work and has not been submitted before for any other degree or examination in any university. It is submitted for the degree of M.A. in International Relations at University of the Witwatersrand in Johannesburg, South Africa.

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(John-Mark K. Mutua- 589332)

Dedication

This research is dedicated to all persons who have taken the brunt of the Nigerien conflict (2007-2009) and individuals and institutions that have sought to mitigate the proliferation of nuclear weapons and conflict.

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My sincere gratitude goes to the following people and institutions. Dr. Amy Niang, my supervisor, for her expertise guidance, assistance, and encouragement. Dr. Satgar Vishwas for his valuable comments. Dr. Kenneth Koech and my family for their encouragement and support. Last but not least, the Wits libraries and most importantly the Wits International Relations department for granting me the opportunity to undertake this research.

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Abbreviations and Acronyms

AFRICOM:	US-Africa Command
AQIM:	Al-Qaeda in the Islamic Maghreb
ARLNN :	*Armée Révolutionaire de Libération du Nord du Niger*
Ce^{144}:	Cerium-144
CRA:	*Coordination de la Résistance Armée*
CRIIRad:	*Commission de Recherche et d'Information Indépendantes sur la Radioactivité*
DRS:	*Département du Renseignement et de la Sécurité*
EUCOM:	United States European Command
FAN:	*Forces Armées Nigériennes*
FDI:	Foreign Direct Investment
FFR:	*Front des Forces de Redressement*
FLAA:	*Front de Libération de l'Azawak et de l'Aïr*
FLT :	*Front de Libération de Temoust*
FNIS:	*Force National d'Intervention et de la Sécurité*
FOT:	Friends of the Tuareg
FPLS :	*Front Populaire de Libération du Sahara*
GDP:	Gross Domestic Product
GSPC:	*Groupe Salafiste pour la Prédication et le Combat*
HEU:	Highly Enriched Uranium
IAEA:	International Atomic Energy Agency

ICU:	Islamic Courts Union
IND:	Improvised Nuclear Device
IPE:	International Political Economy
ISL:	In-Situ Leaching
LEU:	Low Enriched Uranium
MAR:	Minority at Risk project
MeV:	Millions of electronic Volts
MNJ:	*Mouvement des Nigériens pour la justice/* Nigerien's Movement for Justice
MW:	Megawatt
NDRC:	National Development and Reform Commission
NECs:	National Energy Companies
NGO:	Non-Governmental Organizations
NYMEX:	New York Mercantile Exchange
OECD:	Organization of Economic Co-operation and Development
ORA:	*Organization de la Résistance Armée*
OURD:	Overseas Uranium Resources Development Co., Ltd
PSI:	Pan-Sahel Initiative
RDD:	Radiological Disperse Device / "dirty bomb"
SOMAIR:	*Société des Mines de l'Air*
TNCs:	Transnational Corporations
TSCTI:	Trans-Saharan Counterterrorism Initiative
TSCTP:	Trans-Saharan Counterterrorism Partnership
U^{308}:	Uranium *Yellowcake*
UF_6:	Uranium Hexafluoride
UN:	United Nations
UNCTAD:	United Nations Conference on Trade and Development
UO_2:	Uranium Oxide
U.S.:	United States
U.S.S.R:	Union of Soviet Socialist Republics
UTN:	*Ummah Tameer-e-Nau*
UxC:	Ux Consulting Company
WNFM:	World Nuclear Fuel Market

CHAPTER 1: INTRODUCTION

This chapter outlines a comprehensive overview of the study. First, the chapter establishes the background of the study, research problem and the purpose for the research. Thereafter, the significance of the study to international relations, the methodology, and the limitations of the study are assessed. Finally, the chapter synopsis is outlined.

1.1 Background of the Study

On the 9th of February 2007, a Tuareg led group attacked a military unit base near Iferouane in Northern Niger killing three soldiers and confiscating military materials.[1] A few months later, a group unknown so far, *Mouvement des Nigériens pour la justice/* Nigerien Movement for Justice (MNJ), headed by Agaly Alambo and Captain Mohamed Acharif, ex- *Forces Armées Nigériennes*/ Nigerien Armed Forces (FAN), gathered around 1,000 combatants in Northern Niger's Air Mountains, claimed responsibility for the attacks and put up a platform of formal political rights.[2]

Essentially, the MNJ demanded a larger role in governance at both local and national levels, a fair distribution of uranium rent exploited in Northern Niger, and socio-ecological rights for the pastoral Tuareg majority residing in uranium-producing Northern Niger.[3] The rebel group similarly accused a major uranium player- China of the poor state of her mines and of arming the Nigerien state, having seized Chinese made arms during a military raid at an installation in Tazarzatt.[4] Conversely, former Nigerien President Mamadou Tandja faulted the French for arming and financing the operations of MNJ after having lost lucrative uranium mining concessions to the Chinese.[5]

Against a backdrop of escalating MNJs dissident activities in uranium rich Northern Niger, the Nigerien government would approve more than US$60 million to FAN in order to possibly avert a

[1] Allamok E. Country report or human rights practices for 2007 (Washington: Government Printing Office, 2011), 399.
[2] Northolt S. Field of Fire: An Atlas of Ethnic Conflict (London: Troubador Publishing, 2008), 51.
[3] See IBP USA 2011, 28, Keenan 2008 & Abdalla 2009.
[4] See Serge, M., Beuret, M. & Woods, P. China safari: on the trail of Beijing's expansionism in Africa. (NewYork: Nation Books, 2010), 99.
[5] *Ibid*.

reduction in the lucrative uranium rent that had increased following the 2007 uranium boom and funded, to a large extend, Niamey's domestic expenses. With 4,000 troops deployed [among them the U.S. Pan Sahel Initiative/Trans-Saharan Counterterrorism Initiative (PSI/TSCTI) trained and equipped company of Nigerien soldiers], a state of alert declared in Northern Niger and a horrendous conflict claiming over 200 lives, a faction of MNJ expressed willingness to negotiate with the Tandja government resulting in a peace deal in early-2009 facilitated by the U.S. Institute of Peace.[6] In the aftermath of the conflict, while successive Nigerien regimes have somewhat sought to address MNJs and to a larger extent Tuareg demands, scholarly analysis on the role of uranium in the conflict has remained merger and polemic.

That said, Munna Abdalla and Jeremy Keenan's scholarships on the Nigerien conflict (2007-2009) have commanded tremendous appeal among scholars and policy makers seeking an understanding on the conflict. However, Keenan's work has remained conspicuous owing to his vast experience in the Sahel, especially in Niger. All in all, Keenan's, Abdalla's coupled with ordinary Nigerien assertions,[7] deducted from this research's questionnaires, affirm the strong influences of greed and grievances, resultant from uranium production or otherwise, on confliction in Niger (2007-2009).[8] The latter greed-grievance assertions at best in tandem with Basedau et al. (2011), Le Billon (2008), Humphreys (2005), Ross (2004), and Collier and Hoeffler's (2004) established motive, opportunity and indirect mechanisms hypotheses but most importantly emergent uranium- conflict mechanisms literature by Carlo Koos and Matthias Basedau resonant of the aforementioned three mechanisms.

These include: *motive* to institute [violence] opposition against mining firms and/or the central government as a result of the distribution of mining concessions, contamination of water sources and the atmosphere with radioactive material/waste, subjection of the uranium-bearing communities to [forceful] eviction and the distribution of revenue accrued from uranium [*yellowcake*] sales, amongst other grievances; financial and military *opportunity* for insurgents who

[6] International Business Publications USA. Niger foreign policy and Government guide (Washington: IBP USA, 2007), 28.
[7] While 5 out of the 10 interviewees expression of the greed influence on MNJ advent of armed opposition against Niamey remain statistically not robust, their input remains critical to understanding the plausible motives for organization of armed conflict against Niamey.
[8] See Jeremy Keenan, "Uranium Goes Critical in Niger: Tuareg Rebellions Threaten Sahelian Conflagration," Review of African Political Economy 35, no. 117 (2008): 452-453. See also Muna Abdalla, 2009, 9.

can potentially attack facilities, control transport routes or kidnap foreign workers given the industrial nature of uranium production that discounts the lootability of uranium;[9] and the *indirect mechanism* of uranium mining that emulates other resources, such as oil and diamonds, precipitating weak state institutions that are unable to institute and enforce protective environmental and mining regulations thereby inspiring rebellion over the negative impact of radiation and contamination during uranium extraction on the human health and the environment.[10]

Given the existence of general consensus on the incapability of the greed-grievance assertions, resonant of the above established motive- opportunity- indirect mechanism arguments, in effectively explain confliction- possibly owing to the highly intricate systems of interaction in the conflict process, there remains limited consensus on the actual role the greed-grievance variables play in the conflict process. Drawing on theoretical antecedents on mobilization by; Huntington (1968), Olson (1971), Tilly (1978), Tarrow (1994), DeNardo (1985), Lichback (1990), Gurr (2000), Reagan and Norton develop a theoretical framework that minimizes the importance of greed and grievances on the onset of conflict, instead re-emphasizing the significance of [rebel] mobilization, particularly the influences of greed and grievances in accentuating the latter, as necessary pre-conditions for the onset of conflict.[11] Most importantly, Regan and Norton observe the significance of lagged repression for the successful escalation in the level of conflict. Ideally, the authors observe that while repression is bound to stifle protest activities, soaring repression ought to increase the probability for observing rebellion and quite significantly the outbreak of a full-scale civil war/conflict.[12] In light of this revelation, analysis of the motives but most importantly the actions of the uranium conflict actors that could have accentuated the mobilization, repressive and counter-repressive processes ought to provide valuable advantages in affording a better understanding of confliction over uranium resources in Niger.

[9] This is not to underwrite the ability to acquire and process uranium on and off the production process more so in weak states such as Niger.
[10] Carlo Koos and Matthias Basedau , Does Uranium Mining Increase Civil Conflict Risk? Evidence from a Spatiotemporal Analysis of Africa from 1945 to 2010, (2012): 6-7, available at http://www.operationspaix.net/DATA/DOCUMENT/7425~v~Does_Uranium_Mining_Increase_Civil_Conflict_Risk Evidence_from_a_Spatiotemporal_Analysis_of_Africa_from_1945_to_2010.pdf [accessed on 26/10/2012].
[11] *Ibid*, 320-321.
[12] *Ibid*, 331-334.

1.2 Research Problem

The dominant uranium actors (U.S., China, France and Niger) advent of militarizing the Nigerien army and rebels (MNJ) in light of apparent and/or less manifest interests over uranium *yellowcake* could have provided remarkable insights for theory development, assuming that the latter could be replicable across other cases. In the same light, merger yet highly polemic Nigerien conflict, emergent uranium conflict and natural resource-conflict scholarships- that elicit somewhat conceptual extrenity and contempt on the conflict process/etiology of conflict, could have provided interesting insights for theory testing. The latter and former could have inspired the advent of this research.

1.3 Purpose of the Study

1.3.1 Research Aim and Objectives

This research seeks to establish how conflict could be engendered through uranium as a strategic resource. Primarily, the study explores the dynamics and implications of uranium militarization for conflict. Drawing on the Nigerien conflict (2007-2009) as the case study, the international political economy of uranium *yellowcake* and other uranium producing-securing cases, this research inductively establishes the positive socio-economic implications of uranium's use in civil/commercial reactors, the deleterious social and politico-economic implications of the military use of uranium, and the lucrative economic value of uranium exports, collectively referred to as the strategic politics of uranium, as providing somewhat a parsimonious explanation on the susceptibility and the militarization mode of securing uranium [*yellowcake*] resources in Niger.

Equally important for this research are the ramifications of actors militarization of the Nigerien army and rebels, in light of the strategic politics of uranium and competing [sub] regional interests, in accentuating the repressive and counter-repressive capabilities of a despotic-uranium dependent Nigerien state and rebels [already mobilized around greed-grievance], thereby inspiring the onset but most crucially the escalation in the level of conflict from a rebellion to a civil war/conflict (2007-2009).

The objectives for this research include;

1. Probe the significance of greed-grievances on the conflict process.

2. Assess the influences of the strategic politics of uranium on the susceptibility and mode of securing uranium [*yellowcake*] resources.

3. Explore the influences of [lagged] repression on the level of conflict [in Niger].

1.3.2 Research Questions

The research questions for this research are;

1. What role do greed and grievances play in the conflict process?

2. What are the influences of the strategic politics of uranium on the susceptibility and mode of securing uranium [*yellowcake*] resources?

3. What are the ramifications of [lagged] repression on the level of conflict [in Niger]?

1.4 Significance of the Study to International Relations

The contribution of this study to the theory and policy realms of international relations remains tremendous. Drawing on the mobilization and civil war hypothesis and process-tracing's theory testing and building variants; this research faults the significance of greed-grievance assertions, masked beneath the motive-opportunity-indirect mechanisms, in effectively explaining the emergence of conflict in Niger (2007-2009). Instead, this research highlights the influences of the strategic politics of uranium in inducing militarization. The latter could have accentuated the repressive and counter-repressive capabilities of the Nigerien state and rebels thereby precipitating the onset but most importantly the escalation in the level of conflict. While this research recommends further interrogation on the militarizing influences of the strategic politics of uranium, the latter could provide noteworthy insights on potential confliction over uranium resources, particularly in despotic, uranium dependent and unequal states. This ought to enrich resource conflict literature that remains highly cluttered with diamond and oil [DO] analysis.

Equally, the contribution of this research to the policy realm of international relations remains insightful. Beyond the highly publicized notion of "neo-proliferation" in favor of uranium *yellowcake* that should be of concern to security pundits, this research points at emerging dynamics of Africa's [in]security in the nuclear age that have put the continent's quest for peace and development at crossroads. Since the start of the new millennia, the safeguard of liberties in the west coupled with mounting emphasis on sustainable development that have been pegged on the ability to acquire and safeguard the acquisition of uranium (*yellowcake*) could have

precipitated the [un] intentional militarization of uranium producing states that possess vulnerable and/or considerable-high quality uranium reserves. While the militarized uranium producing states, such as Niger, ought to have capitalized on the militarization of their security organs to address the rampant security challenges, these largely autocratic regimes have often used their enhanced military capabilities to crush dissenting views. The result has been obvious; the emergence of proxy- conflicts in these horizontally unequal states and an increased threat of the proliferation of conflict within and/or without national borders, given the intractability of African boundaries that eases the proliferation of arms and conflict.

1.5 Methodology

Methodology for this research encompasses theoretical approaches and the methods used to answer the research questions. Hereunder, this research describes and justifies the theoretical and research methods used for the study.

1.5.1 Theorizing the Strategic Politics of Uranium and Conflict in Niger (2007-2009)

Given the complexity of the relationship between the strategic politics of uranium, the [militarized] securing of uranium resources and confliction in Niger (2007-2009), the use of a mono-theoretical analytic approach would remain highly incomprehensive. This research therefore employs the international political economy of uranium, the strategic politics of uranium, and the mobilization-civil war hypothesis in a bid to afford a better understanding of the relationship between repression [accentuated by actors militarization of a despotic resource dependent state in light of the strategic politics of uranium or otherwise],[13] and the level of conflict in Niger, the independent and dependent variables, respectively.

1.5.1.1 The International Political Economy of Uranium Yellowcake

This research induces the international political economy (IPE) of uranium *yellowcake*, as the overarching theoretical framework. Precisely, the IPE of uranium *yellowcake* establishes and assesses the political and socio-economic dynamics of *yellowcake* production, disposal and

[13] Christian Davenport's establishes the positive effects of military resource allocations to despotic military regimes on the latter's imposition of negative sanctions (repression/coercion) on her citizenry. See Christian Davenport, "Assessing the Military Influence on Political Repression,"Journal of Political and Military Sociology, Vol. 23, Summer, (1995): 131; and Zeigenhagen, Eduard, The Regulation of Political Conflict, New York: Praeger, (1986).

subsequent enrichment for commercial/military purposes which shape analysis on the scramble, securing and confliction over uranium *yellowcake* resources in Niger.

1.5.1.2 The Mobilization-Civil War Hypothesis

In a bid to provide a better understanding of confliction over uranium *yellowcake* in Niger and/or non-resource related confliction, this research induces Regan and Norton's mobilization and civil war hypothesis. Ideally, Reagan and Norton re-emphasize the need for a more nuanced analytic approach that accommodates the complementary relationship between greed and grievances in [re] instituting rebel mobilization, especially at higher levels of conflict. Specifically, the authors identify the advantages of rebels advent of exploitable resources and other financial largesse's in obtaining the requisite finances necessary for paying selective benefits to rational soldiers seeking to defect against a backdrop of mounting state repression.[14]

More importantly, Regan and Norton establish the influences of mounting state repression, seeking to prevent further mobilization, as possessing positive influences on the escalation in the level of [intra-state] conflict from non-violent protest, to rebellion and ultimately to civil war.[15] Essentially, the authors establish that repression ought to reduce the probability for protests yet increasing the susceptibility for the escalation to rebellion and civil war.[16] The mobilization-civil war hypothesis therefore provides specific advantages in ascertaining the role of greed-grievances in confliction, against a backdrop of the preponderance of the latter assumptions in Nigerien and incipient uranium conflict studies, but most importantly grounding analysis on the etiology of conflict and this research's analysis of the relationship between repression and the level of conflict.

1.5.1.3 The Strategic Politics of Uranium

This research establishes the strategic politics of uranium [encompass the positive socio-economic implications of uranium's use in civil/commercial reactors, the deleterious social and politico-economic implications of the military use of uranium, and the lucrative economic value of uranium exports] off; the Nigerien conflict (2007-2009) actors advent of militarizing the state and rebels in their advent of securing uranium *yellowcake*, somewhat similar global uranium securing outcomes and the international political economy of uranium *yellowcake*. While the strategic

[14] Regan and Norton, 2005, 323-326.
[15] *Ibid*, 333-334.

politics of uranium could offer somewhat a parsimonious explanation for the susceptibility and militarization mode of securing uranium [*yellowcake*] resources [in Niger], the ramifications of repression, accentuated by the militarization of a despotic-uranium dependent Nigerien state and rebels in light of the strategic politics of uranium and competing [sub] regional interests, on the level of conflict remains of uttermost importance for this research.

1.5.2 Research Methods

The use of qualitative and quantitative methods of analysis has often attracted criticism founded on the incompatibility of the two methods owing to their differing epistemological bases.[17] Nonetheless, the use of the two methods could offer specific advantages in providing a complementary relationship that establishes different ways of looking at the same phenomena.[18]

Given that the use of the quantitative method of analysis could provide robust statistical analysis on the relationship between repression and the level of conflict, growing dissent over the ability of covariations to adequately establish causal inferences but most importantly the sensitivity of armament and security issues that limits the availability of accurate data on militarization, which ought to increase the repressive and counter-repressive capabilities of a despotic state and rebels, limits the use of the quantitative method of analysis for this research. This research's analysis therefore remains heavily anchored on qualitative research methods.[19] Among these include case study research and process-tracing.

1.5.2.1 Case Study Research

This research's advent of case study analysis provides a better understanding of a rare case,[20] Niger's Conflict (2007-2009), where actors on the demand and supply sides preeminence on militarization in securing uranium *yellowcake* in light of uranium's fissile, exothermic and pecuniary properties allusive of the strategic politics of uranium, coupled with greed-grievance over uranium and persistent Tuareg ostracism could have fortified the mobilization process in

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[16] *Ibid*.
[17] See Dimitra Hartas, ed., Educational Research and Inquiry: Qualitative and Quantitative Approaches, (London: Continuum International Publishing, 2010) 26.
[18] See Tero Mamia, Quantitative Research Methods (2012:10), Retrieved from http://www.uta.fi/~tm47874/opetus/luennot/lecture1.pdf on 30/05/2012.
[19] Given the existence of ambiguity over the classification of the term "qualitative", Van Maanen establishes that the term "qualitative" represents an umbrella term which covers a variety of techniques, "…which seek to describe, decode, translate and otherwise come to terms with the meaning, not the frequency of certain more or less naturally occurring phenomena in the social world." See Van Maanen, 1979, 520.
[20] The use of Niger as the case study encapsulated elements of heuristic and theory testing case studies.

addition to the state and rebels repressive and counter-repressive capabilities thereby precipitating the onset and escalation in the level of conflict in Niger (2007-2009). Given this research's overriding aim of explaining how the Nigerien conflict could have been engendered through uranium as a strategic resource, the Nigerien conflict (2007-2009) case study could similarly gain attributes of instrumental case study analysis which seek an understanding on the existence of phenomena beyond ordinary case analysis.

Mindful that case study analysis run the risk of limited generalization and unreplicability across studies,[21] the incorporation of comparative case study analysis can only be over-emphasized. However, owing to constraints of time and space, comparative case study analysis will not be used for the study. Instead, this research employs the before and after method of analysis in a bid to afford a better understanding of the influences of repression on the level of conflict, before 2007 and after 2007. This is against a background of a rich Nigerien conflict history.

1.5.2.2 Process-tracing

The complexity of causal interactions in the Nigerien conflict (2007-2009) provides interesting insights for theory testing and development. This research therefore induces process-tracing's theory development, theory testing, and explanatory outcome variants of process-tracing in a bid to not only establish the sway of the strategic politics of uranium in inducing actors militarization of the Nigerien state and rebels, but most importantly identify the intervening causal processes, causal chains and the causal mechanisms between repression-resultant from the (un)intentional militarization of a despotic- resource dependent Nigerien state in light of the strategic politics of uranium and the level of conflict [protest, rebellion and civil war/conflict] in Niger.[22]

The development of theoretical forecasts without adequate/requisite data has often attracted severe criticism from methodologists. Drawing on the Nigerien conflict/uranium actors' advent of securing uranium *yellowcake* in light of the pecuniary, fissile and exothermic properties of uranium and somewhat similar securing incidences, this research establishes the strategic politics of uranium that attempt to provide somewhat a parsimonious explanation on the susceptibility and militarized mode of securing uranium [*yellowcake*] resources [in Niger]. First, the research starts

[21] George and Bennett, (2005: 220).
[22] Alexander George and Andrew Bennett, 2005: 206.

with priori specification of the constructs in a model-the factors allusive of the strategic politics of uranium (i.e. the deleterious social and politico-economic implications of the military use of uranium, the positive socio-economic implications of uranium's use in civil/commercial reactors, and the lucrative economic value of uranium exports). Thereafter, the research proceeds to test the influences of the three factors allusive of the strategic politics of uranium on actors' preeminence on militarization in securing uranium [*yellowcake*] resources in Niger in addition to other multiple cases. In the end, broader generalizations are asserted on the influences of strategic politics of uranium in inducing militarization in uranium producing states.

Dissimilar to the aforementioned inductive approach, this research's advent of deductive process tracing's theory testing and explanatory outcomes are preceded by theoretical forecasts on the influences of greed, grievances, and repression in confliction. Subsequently, the research induces a detailed narrative on Niger's conflict history. In the end, the research introduces a discussion that seeks to ascertain the influences of greed-grievances, the uranium factor and the influences of repression on confliction in Niger. While process-tracing has often been commended for accommodating equifinality, the inability to acquire adequate data has often been cited as the biggest impediment to the successful use of the method. As such, the researcher's ability to amass adequate data can only be overstated.

1.5.2.3 Research data and definition of terms

The compatibility and resourcefulness of co-opting primary and secondary sources of data remains advantageous for any given research. Given that over-reliance on primary sources could have compromised the quality of data obtained owing to the widespread time-span elapsed between the Nigerien conflict and the advent of this research, this research remains heavily anchored on the secondary sources of data. However, this is not to limit the significance of co- opting primary sources in corroborating and complementing secondary resources. As such this research induces a survey questionnaire that brings to perspective the preeminence of the greed perspective resonant of Nigerien conflict actor's actions, an outlook that is largely under-emphasized in the secondary sources.[23] Similarly, the incorporation of the primary sources provides noteworthy advantages in validating the primacy of the uranium factor in the conflict in addition to actors on the demand and supply sides advent of militarizing the Nigerien state/army and rebels in light of the fissile,

exothermic and pecuniary properties of uranium which typify the strategic politics of uranium. The results of the questionnaire are incorporated within the text.

The secondary sources of data used include but are not limited to; published books, academic journals, reports, newspapers, magazines and online sources. While the use of online sources has often raised serious queries over the credibility of data, Ruszkiewicz, Walker and Permberton observe that the role of evaluating the credibility of online sources rests on the shoulders of the researcher- a role previously held by publishers and librarians.[24] As such, this research's choice of internet sources is fundamentally guided by; the availability of contact information on the web page, the verifiability of data used i.e. inclusion of a bibliography, the incomparability of primary data in the analysis and the time elapsed since the last update, amongst other factors. This is in a bid to ensure the identified online sources remain credible.

More specifically, the advent of secondary sources, and to a lesser extend primary sources, strives to obtain data on the alchemy of uranium, international political-economy of uranium, nuclear terrorism, counterterrorism, resource-conflict link, the militarization of resource management, Niger's social and politico-economic history, the etiology of conflict, and the role of the different actors in Niger's conflict.[25] The aforementioned data remains crucial in establishing the relationship between repression and the level of conflict [nonviolent protests, rebellion and civil war/conflict] in Niger.

This research adopts Christian Davenport's definition of repression as governments regulatory action directed against those challenging existing power relationships.[26] While protests and rebellion could effortlessly be defined as non-violent and violent largely unorganized activities respectively,[27] the definition of civil war has attracted extensive debate around Collier's popularized 1,000 battle deaths versus Uppsala Conflict Data Program and Ostby's posited 25 battle deaths. This research adopts Ostby's requisite 25 battle related deaths in addition to Doyle and Sambani's established properties of a war that; challenges the sovereignty of an

[23] For more information on the questionnaire, see appendix 1.
[24] Ruszkiewicz, Walker and Permberton, 2006.
[25] Terrorism is defined herein as the premeditated use or threat of use of force by individuals or subnational groups to obtain a political or social objective through the intimidation of a larger audience beyond that of the immediate victim. See Todd Sandler and Walter Enders, 2008, 17.
[26] See Christian Davenport, 1995, 119.
[27] Reagan and Norton, 2005, 327.

internationally recognized state, occurs within the recognized boundary of that state, involves the state as one of the main combatants, and the rebels are able to mount violent organized military opposition against the state and inflict significant casualties on the state,[28] as constituting the definition of civil war for this research. To reduce redundancy within the text, this research interchanges civil war with civil conflict.

1.6 Limitations of the Study

Given this research's ground breaking analysis on the securing and confliction over uranium resources, the acquisition of clear-cut resources on the subject remained challenging. While the acquisition of ample data on the militarized securing of uranium could have been limited by the sensitivity of uranium matters that discounts the accessibility of such data, the availability of adequate data on the Nigerien conflict (2007-2009), de-classified material on the recurrent (2002-2009) armament and training of the Nigerien army by the U.S. through the PSI and the TSCTI/P,[29] the IPE of uranium *yellowcake* and the alchemy of uranium with which to draw valuable deductions on the relationship between the militarized securing of uranium, repression and the level of conflict provided specific advantages in circumventing the resource challenge.

Similarly, this research's projection of the influences of the positive socio-economic implications of uranium's commercial use coupled with the lucrative returns of uranium [*yellowcake*] exports in inducing actors on the demand and supply sides advent of militarization in a bid to safeguard the latter and former could have provided a not-so-robust correlation given the existence of a dip in the demand for nuclear energy in the aftermath of the Hiroshima debacle. However, the abovementioned projection ought to make limitless sense in the future given the prediction of the importance of sustainable [nuclear] energy sources that ought to trigger the militarized securing of uranium resources in light of the abovementioned factors allusive of the strategic politics of uranium. As such, this research recommends that the above cited suppositions be revisited by future studies.

Finally, this research's advent of nuclear physics, in addition to a multi theoretical approach, amongst other additional approaches i.e. nuclear physics, could have earned the study [analytic]

[28] See Doyle and Sambani's; 2000, 2006.

eclecticism. Given that the latter could have opened the leeway for criticism founded on analytic muddle within the text in addition to the deviation from the widely accepted norm in social sciences of fostering simplicity, the advantages of eclecticism cannot be gainsaid. As Schimmelfenning ought rightly puts it, "…eclecticism is the unintended result of research that seeks to explain specific events as well as possible."[30]

1.7 Chapter Synopsis

This research is divided into six chapters that are structured as follows:

Chapter 1: Covers the introduction; the background of the research, research problem, purpose of the study, significance of the study to international relations, methodology, limitations of the study and the chapter synopsis.

Chapter 2: Assesses the international political economy of uranium *yellowcake*. In addition to establishing the basic nuclear gen and the status of uranium in the nuclear cycle, the chapter establishes and assesses the implications of the political and socio-economic dynamics of the *yellowcake's* production, and subsequent enrichment for military/commercial uses on the new scramble for the *yellowcake* and internal cohesion in *yellowcake* producing states. Most importantly, the chapter provides an over-arching framework for subsequent analysis on the securing and confliction over uranium *yellowcake* in Niger.

Chapter 3: Re-examines the Nigerien conflict (2007-2009) and scholarly analysis on the conflict. Primarily, the chapter tests the viability of dominant scholarship's posited uranium-confliction mechanisms against Reagan and Norton's mobilization-civil war hypothesis that ought to provide fairly a standard rationale for validating the significance of resource and/or non-resource related mechanism in confliction.

Chapter 4: Drawing on results obtained in the third chapter, the fourth chapter attempts to provide a parsimonious explanation; the strategic politics of uranium, for the uranium-conflict link off the Nigerien conflict actors militarized securing the *yellowcake* and somewhat similar cases.

[29] Yonah & Kraft 2008.

Fundamentally, the chapter establishes the influences of the strategic politics of uranium in [un]intentionally inducing militarization of the state and rebels thereby propping-up the repressive an counter-repressive capabilities of the [Nigerien] state and [MNJ] rebels.

Chapter 5: Induces process-tracing in a bid to establish the role of the uranium factor/ the strategic politics of uranium but most importantly ascertain the influences of [lagged] repression on the level of conflict in Niger (2007-2009).

Chapter 6: Recaps on the major themes and arguments in the study. Most importantly, the chapter establishes the implications of the latter on the theory and policy realms of international relations. Recommendations for future studies are also noted.

[30] See Schimmelfenning and Katzenstein, 2010, 191.

CHAPTER 2: THE INTERNATIONAL POLITICAL ECONOMY OF URANIUM *YELLOWCAKE*

2.0 Introduction

In the recent past, uranium *yellowcake* has taken the fore in global security, sustainable development and Nigerien resource curse debates.[31] The ability of the *yellowcake* to transcend the political and economic realms of development provides a compelling motivation for the integration of the international political economy (IPE) of uranium *yellowcake* as the overarching theoretical framework for this research. Precisely, this chapter establishes and assesses the implications of the political and socio-economic dynamics of the *yellowcake's* production, and subsequent enrichment for military/commercial uses on the new scramble for the yellowcake and internal cohesion in *yellowcake* producing states. The latter ought to provide specific advantages in grounding subsequent analysis on the militarized securing of the *yellowcake* resources, given the existence of a fine line between the scramble and securing, but most importantly confliction over *yellowcake* resources in Niger, possibly in light of actor's advent of wealth and power.[32] Hereunder, the alchemy of uranium, the implications of the *yellowcake's* production and uranium's use, coupled with of the dynamics of the new scramble for the *yellowcake* and its implications on internal cohesion in Africa are assessed.

2.1 Alchemy of Uranium

While the study of alchemy has intermittently been associated with scientific and mystic overtones, the definition of alchemy herein adopts a scientific description as the process of transforming a common substance, usually of little value or no value, into a substance of great value.[33] Fundamentally, analysis of the alchemy of uranium evaluates the transformation of low-quality

[31] At the center of the global security debates; nuclear terrorism and weapon proliferation stands uranium *yellowcake* that could have provided a new lifeline for clandestine weapon developments and nuclear terrorism, against a backdrop of ostensive global initiatives that have curtailed the probable acquisition of intact nuclear devices and enriched uranium. The above debate is further elaborated in the chapter. Additionally, uranium's ability to provide low-cost and low carbon foot-print nuclear energy following the acquisition and subsequent enrichment of the yellowcake puts the resource at the center of human activities, economic growth and most importantly sustainable development. See OECD and Nuclear Energy Agency, Nuclear Energy Today (Paris: OECD, 2003), 74.

[32] AS Robert Gilpin out rightly puts it, IPE becomes critical in establishing an understanding of the reciprocal and dynamic interaction of international relations of the pursuit of wealth and power.

[33] Randall Clark, Alchemical Regeneration in the works of Taylor, Poe, Hothorne, and Fuller. (Westport, CT: Greenwood Publishing, 2000), 1.

uranium ore, to high-quality enriched uranium for use in commercial nuclear reactors and/or nuclear weapons. The incorporation of the alchemy of uranium and nuclear physics provides specific advantages in; bridging the general public's opacity on basic nuclear gen, identifying the status of uranium *yellowcake* in the nuclear cycle, and most importantly affording a better understanding of the exceptional fissile and exothermic properties of uranium, essentially isotope U^{235}, that shapes subsequent analysis on the implications of uranium's military/commercial uses and the strategic politics of uranium. The main sub-processes in the transformation of uranium ore that are assessed include; mining/milling uranium ore, conversion, enrichment, fuel fabrication, and fission in commercial/military uses.[34]

2.1.1 Mining /Milling Uranium Ore

The two main uranium mining methods currently under use are; conventional mining and in-situ leaching (ISL). Depending on the depth of the uranium ore, surface (open-pit/open-cast) or sub-surface (underground) conventional mining methods could be used. In conventional mining, the uranium ore is extracted using mechanical means such as blasting, drilling, pneumatic drilling, picks and shovels, and then transported to the surface.[35] At the surface, milling plant, the ore is pulverized and treated with a strong acid or leach with the resultant precipitate being dried to obtain a yellow-brownish substance- uranium *yellowcake*.[36] For in-situ leaching, a chemical solution is injected through a drilled hole into the periphery of the uranium deposit flushing out uranium from the rock.[37] The solution, rich in uranium, is then pumped to the surface where it undergoes solvent extraction or ion-exchange followed by precipitation to remove uranium from the solution.[38] After high temperature drying, a bright yellow precipitate, uranium *yellowcake*, is packaged into 200-litre drums for shipment.[39]

Notwithstanding the use of either convectional mining or in-situ leaching, uranium *yellowcake* represents the final product of the mining and milling processes and the first intermediate product

[34] See appendix 3.
[35] IPPNW. How is Uranium Mined? Dated 26th August 2010, available at http://www.ippnw.org/pdf/uranium-factsheet3.pdf [accessed on 13/06/2012], 1.
[36] *Ibid*.
[37] D.C Siedel, 1981, 24.
[38] Ian Hore-Lacy & World Nuclear Association, Nuclear Energy in the 21st century (Waltham, MA: Academic Press, 2006), 56.
[39] *Ibid*.

between uranium ore and fuel for a nuclear power plant or a nuclear bomb.[40] Given that uranium *yellowcake* can hardly be used in civil/commercial and/or military nuclear reactors, the *yellowcake* must first be converted into uranium hexafluoride gas (UF_6).[41] Thereafter, the latter is set for enrichment and use in civil/commercial and/or military purposes.

2.1.2 Conversion

In the conversion process, the *yellowcake* is purified, chemically reacted with hydrochloric acid to form uranium hexafluoride (UF_6) gas, and then transferred into cylinders, where it cools and condenses to a solid.[42] Uranium hexafluoride contains two isotopes of uranium- heavier U^{238} and lighter fissionable U^{235} which makes up to approximately 0.7% of uranium by weight.[43] After conversion, uranium hexafluoride is set for enrichment.

2.1.3 Enrichment

Given that uranium naturally exists as three isotopes: U^{234}, U^{235} and U^{238} with relative abundances of 0.0055%, 0.72% and 99.275%, respectively,[44] the comparative abundance of U^{238}, whose extra three neutrons reduce its ability to fission in natural uranium, uranium *yellowcake* and/or uranium hexafluoride, dictates that the latter must undergo enrichment in order to increase the percentage of fissile isotope U^{235}. Using either uranium enrichment technologies; gaseous diffusion, gas centrifuge and/or laser enrichment, uranium enrichment seeks to increase the capability of uranium to fuel a nuclear chain reaction, either in nuclear power plants or in nuclear weapons, by increasing the percentage of fissile U^{235} by between 3-5 percent.[45]

2.1.4 Fuel Fabrication

In commercial nuclear reactors in a process generally referred to as fuel fabrication, fuel is supplied in the form of cylindrical pellets of uranium oxide.[46] The pellets, measuring 1.35cm in length and 0.8cm in diameter, are then placed inside fuel rods.[47] The former are later packaged in units

[40] *Ibid*.
[41] Lowly enriched uranium (LEU) and highly enriched uranium (HEU) are predominantly used in commercial and military nuclear reactors for the production of electricity and nuclear weapons, respectively. There are, however, exceptions where highly enriched uranium could be diluted for use in commercial nuclear reactors.
[42] Mary Beth Nikitin, Managing the Nuclear Fuel Cycles: Policy implications of Expanding Global access to Nuclear Power. (Darby, PA: Diane Publishing, 2010), 12.
[43] *Ibid*.
[44] Michael McElroy, 2010, 193.
[45] Nikitin, 2010, 12.
[46] Michael McElroy, 2010, 196.
[47] *Ibid*.

referred to as bundles/assemblies before being introduced to the nuclear reactor.[48] Given the relative abundance of U^{235} isotopes in the bundles/assemblies, collision between a slow moving (thermal) neutron and U^{235} causes the nucleus of U^{235} to splinter into two distinct components of unequal mass releasing enormous amounts of energy.[49]

2.1.5 Nuclear Fission in Commercial/Military Uses

Averaging over all possible products, Michael McElroy notes that the fission of U^{235}, in addition to the provision of large quantities of energy, leads to the production of approximately 2.5 neutrons per fission event, sufficient in principle to allow for a self-sustaining chain of further fission reactions.[50] When the fission reaction results in an additional fission process, the state of affairs is said to be critical- a condition that characterizes commercial nuclear power generation.[51] Moderators; light water, heavy water and graphite, nonetheless become essential in controlling the flux of neutrons available for fission.

To appreciate the production of energy from nuclear interactions, Robert Mozley emphasizes an understanding of Einstein's formulae, $E=mc^2$ (where E is the energy, m is the mass and c is the velocity of light), in assessing the relationship between mass and energy.[52] Michael McElroy points that the net binding energy of the neutrons and protons composing the nucleus provides a measure of stability for the nucleus.[53] The energy with which these articles are bound in a stable nucleus is typically orders of magnitude greater than the energy with which atoms are combined in a molecule.[54] This is ultimately the source of the enormous amount of energy, millions of electronic volts (MeV), which is released after the dense uranium isotope U^{235} reacts with a thermal neutron in nuclear power plants and in nuclear weapons.[55] In a typical nuclear reaction, U^{235} reacts with a thermal neutron resulting in the production of isotopes barium, krypton and 2.5(approximately 3) neutrons.

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[48] *Ibid*.
[49] *Ibid*.
[50] Michael McElroy, 2010, 195.
[51] *Ibid*.
[52] *Ibid*, 196.
[53] Robert Mozely, The politics and technology of nuclear proliferation, (Washington: University of Washington Press, 1998), 30.
[54] Michael McElroy, 2010, 193.
[55] The average energy of neutrons produced by fission of U^{235} ranges between 1 and 2 MeV. See Ibid, 195.

$$N + U^{235} \rightarrow U^{236} \rightarrow Ba^{144} + Kr^{89} + 3n$$

Nonetheless, the barium and krypton isotopes produced remain unstable.[56] In less than a minute, barium-144 decays to Cerium-144 (Ce^{144}) emitting energy in the form of beta radiation in the process.[57] In a boiling water reactor, the energy released is used to heat water to obtain steam, which drives a turbine connected to the generator ultimately producing electricity.[58]

While commercial nuclear power generation seeks to ensure a single additional fission in any given reaction, the opposite is the requirement for the military use of uranium in nuclear bombs/weapons. Whereas this research does not seek to assess the intricacies of the bomb making process for reasons of security and space, it is worth noting that nuclear bombs seek to attain a supercritical state of affairs by ensuring the number of successive fission events increase with time.[59] Nonetheless, highly enriched uranium must first be obtained and pressed into a bomb.[60] Given that the successful development of a nuclear weapon is not a guarantee even with the acquisition of enough fissile material and the availability of the requisite technology and expertise, the ability to acquire and use such a weapon could come with remarkable politico-economic upshots.

2.2 Implications of the *Yellowcake's* Production and Use

The implications of *yellowcake's* production, disposal and subsequent enrichment for military and/or commercial uses on the socio-economic and political realms of development remain profound. Notably, uranium production, unlike the production of other resources, has often been charged with generating unprecedented environment havoc in addition to negating the health of miners and individuals who could potentially get into contact tailings.[61] In addition to uranium

[56] *Ibid*, 194.
[57] *Ibid*.
[58] World Nuclear Association, The Nuclear Fuel Cycle, dated June 2011, available at http://www.world-nuclear.org/info/inf03.html [accessed on 4/7/2012].
[59] Michael McElroy, 2010, 195.
[60] While nuclear weapons require highly enriched uranium (U235) enriched to 90%, once uranium has been enriched to 3% for reactor fuel, much of the work has been done to enrich it to weapons grade. The availability of the 3% uranium reactor fuel coupled by presence of an active enrichment facility therefore provides specific advantages in enriching the uranium reactor fuel to weapon grade highly enriched uranium. See Jim Falk & Rodger Bodman. Uranium Enrichment (November 2008: 1) Available at http://www.energyscience.org.au/FS07%20Enrichment.pdf [accessed on 2/6/2012].
[61] Tailings, the solids remaining after uranium is extracted, contain most of the radio-active material in the ore, such as radium that could decay to random gas thereby increasing the propensity for individuals who could potentially get into

mines and their surrounding areas natural exposure to radiation, measured in Millisievert (mSv) with 5 mSv being of serious concern, uranium production have also been charged with negating the quantity and quality of water resources, loss of biodiversity, and the environmental decimation emanating from development of mine infrastructure.

In spite of the latter and the fact that uranium in typically mined outside countries that use it, the *yellowcake* is sold to countries and nuclear plants seeking to enrich the former for use in civilian and/or military nuclear reactors.[62] However, it was not until the start of the 1960s that uranium mining countries, brokerage firms, geologists, economists, national and international institutions sought to facilitate the sale and purchase of uranium *yellowcake* by turning uranium ore into a commodity governed by economic mechanisms instead of political ones.[63] The aforementioned actors created what Michael Callon and other sociologists have called market devices-technologies that generate knowledge and practices which create markets and define their means of commercial exchange.[64] Primarily, these (market) devices served as tools for denuclearizing uranium *yellowcake*, turning it into a banal commodity subject to the laws of the market.[65]

All other factors held constant, *yellowcake* exporting states have often accrued lucrative economic returns derived from *yellowcake* trading. The latter ought to have spurred or hampered socio-economic and political progress, depending on demographics and the former states distribution of the *yellowcake* rent. Beyond the lucrative economic returns accrued from the sale of the *yellowcake*, uranium producing states such as; Kazakhstan and Niger, have similarly gained geo-strategic significance, thereby obtaining somewhat political leverage when pit against immediate non-uranium producing states. The former at best conferred by state and non-state groups conscious and in pursuant of the pecuniary and exceptional technological capability of uranium's military and/or commercial uses.

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contact with either the latter or former developing of cancer and other disorder. See Ian Hore-Lacy & World Nuclear Association, Nuclear Energy in the 21st century (Waltham, MA: Academic Press, 2006), 56.

[62] Nikitin, 2010, 11.

[63] Gabrielle Hecht, 2012, 36.

[64] *Ibid*.

[65] *Ibid*, 35.

The military use of uranium, heralded by the successful *Trinity Explosion* in Mexico and use in Japanese cities of Hiroshima and Nagasaki in 1945 by the U.S.,[66] put nuclear weapons and uranium a pedestal above other conventional weapons and strategic resources. The atomic bomb, a rather primitive design, shattered 90 percent of the infrastructure of the entire Hiroshima city and everything within a radius of one mile where the bomb had exploded.[67] The atomic bomb would claim around 400,000 lives in Hiroshima and Nagasaki with a sizable number of people dying as a result of the after-effects of the atomic bomb.[68] In the aftermath of the atomic bomb use in Japan, development defined in social, political and/or economic terms had been shattered.[69]

Paradoxically, while the use of the atomic bombs ("little boy" and "fat boy") devastated the Japanese political and socio-economic realms of development, the opposite was the case for the U.S. There is general consensus that the Hiroshima and Nagasaki nuclear use incidences put to light the unrivalled power of the American army thereby setting the stage for the rise of the American hegemony. The U.S. preponderance of power, reminiscent with her perpetuation of the neo-liberal agenda after the fall of the cold-war, could have seen her amass further economic gains that could have positively impacted on her socio-economic realms of development. The 9/11 attacks, which fall a little lower than a nuclear terrorist attack, dented the political and socio-economic realms of development in the U.S.[70] Most importantly, the attacks put into retrospect the potential implications of rogue state and non-state group's acquisition and use of nuclear weapons on the U.S. political and economic ascendancy.

The impeccable political and economic clout amassed by the U.S after Hiroshima and Nagasaki could have prompted additional state advent of nuclear weapons. While the new weapon states acquisition of nuclear weapons could have provided an impeccable external balancing option, the

[66] James Arnold & Roberta Wiener. Cold War: The Essential Reference Guide (Santa Barbara, California: ABC-CLIO, 2012), 165.
[67] Jeremy Bernstein. Nuclear Weapons: What you Need to Know (New York: Cambridge University Press, 2008), 5.
[68] Darrell Fasching, Dell Dechant and David Lantigua. Comparative Religious Ethics: A Narrative Approach to Global Ethics (Hoboken, NJ: John Wiley & Sons, 2011).
[69] In the case of hydrogen bombs use, the latter would crumble the universe and humanity in the apocalypse that would ensue.
[70] Cumulative cost of 9/11attacks has been approximated at $10 trillion. In addition to reversing political and social progress in the apocalyptic situation that would ensue, Keefer and Loayza (2008:18) note that terrorist incidents, essentially involving nuclear weapons use, would have negative economic consequences, essentially; loss of human resource, destruction of infrastructure, redirecting public investment funds to security or limiting trade, and diverting Foreign Direct Investment(FDI). Cumulative cost of 9/11attacks has been approximated at $10 trillion.

acquisition of nuclear weapons within national boundaries could have similarly provided significant advantages in perpetuating political power by intimidating political dissent. The assumption herein being that the opposition groups/ political parties are conscious of the exceptional nuclear capabilities that the state they indent to oppose wields. Also, the new weapon states, while accorded political leverage above other non-weapon possessing states, have been subjected to economic [mis]fortunes, in light of recurrent global nuclear disarmament initiatives. Nuclear experiences in Iran, North Korea, Japan and South Africa could provide classical examples of economic [mis] fortunes; defined in terms of economic sanctions or aid, initiated under the context of global nuclear disarmament initiatives. Worth noting are the socio-economic advantages of commercial electricity production that remain profound.

While the civil use of uranium in; improving medical diagnosis, protecting livestock health, developing water resources through desalinization, preserving food, promoting agricultural productivity, treating human illnesses, enhancing human nutrition, advancing environmental science, eradicating virulent pest and strengthening industrial quality control,[71] possesses positive advantages on the social realm, the implications of commercial nuclear electricity on the socio-economic realms of development remain tremendous. Henriquez notes the remarkable advantages of nuclear power as a sustainable development technology owing to its infinite supplies, its superior safety record among major energy sources, its zero-carbon foot print, its ability to preserve valuable reserves for future generations, its competitive cost and its declining waste that can be securely managed over the long-term.[72] In their analysis of the economics of nuclear energy, Leonard Brookes and Homa Motamen affirm Henriquez assumption in addition to establishing the advantages of nuclear energy owing to its ability to reduce cost related inflation that would normally typify the use of fossil fuels.[73] The two authors similarly affirm nuclear energy's ability to stimulate economic activity and growth through savings on imported oil or coal,

[71] Silverio Henriquez,2012, 3.
[72] Silverio Henriquez. The Importance of Nuclear Energy in the Global Economy (January 2008) 12.Retrieved from http://www.pntl.co.uk/pdf/nuclear-energy-economy-henriquez.pdf on 10/06/2012.
[73] Leonard Brookes & Homa Motamen (ed.) The Economics of Nuclear Energy (Ney York: Taylor & Francis, 1984), 376.

provided a favorable balance of payment is maintained.[74] *Ceteris paribus*, all other factors held constant, economic growth would then stimulate social/ human development.[75]

While the Three Mile Island (1979) mishap, Chernobyl (1986) disaster and most importantly the recent Fukushima (2011) incident,[76] could have reversed the above-established positive socio-economic trajectory of commercial nuclear use in addition to reversing commercial nuclear power plants developments, nuclear energy's ability to provide low-cost, sustainable and environmentally friendly energy sources necessary for sustainable socio-economic development ought to increase greater competitiveness in the nuclear sector in the future.[77]

2.3 Dynamics of the new scramble for Uranium *Yellowcake*

There exists uncertainty on the existence of a scramble for uranium *yellowcake* in the present period. This is so given the unfavorable pricing of the *yellowcake* that discounts the existence of a scramble, yet expanding uranium exploration/production activities that somewhat affirms an existent demand and scramble for uranium *yellowcake*. Nevertheless, this research establishes that the scramble for uranium *yellowcake* could have set off around the start of the millennia. Dissimilar to the first and second states-led scramble's for uranium ore, precipitated by Soviet Union's successful nuclear weapon test in 1949 and the commissioning of the Obninsk nuclear reactor in 1954,[78] the third/new scramble for uranium *yellowcake* has seen the rise in the number of non-state groups, in addition to state groups, interested in acquiring the *yellowcake* in light of; growth in the international economy, quest for external balancing prospects, and declining ODA compounded by the negative implications of "democratization".

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[74] *Ibid*, 379.

[75] Contenting ideologies contest the relationship between economic growth and growth human development. On one hand are those who point to the relatively high levels of per capita in advanced industrial countries to a number of social indicators, such as access to higher education, better health services, upward mobility etc. in their support of human welfare increase as a result of economic growth. On the opposite side, there are those who question the significance of higher GNP per capita and point to other indicators, such as pollution, crime, declining durability of products etc. While these research does not seek to pass judgment of the above relationship, it would be pragmatic to assume that higher economic growth would provide solutions to social issues such as unemployment, inflation etc. See Leonard Brookes & Homa Motamen, 1984, 362-363.

[76] See Fred Bortz. Meltdown: The Nuclear disaster in Japan and our Energy Future (Minneapolis: Twenty-First Century Books, 2012).

[77] Energy, and essentially sustainable energy sources remain key to attaining sustainable economic development. See Robert Ayres and Edward Ayres. Crossing the Energy Divide: Moving from Fossil Fuel Dependence to a Clean-Energy Future (New Jersey: Pearson Prentice Hall, 2010), 1.

[78] See William Lambers, 2006, 15. See also Robert Rapier. Power Plays: Energy options in the Age of peak oil (New York: Apress, 2012), 22.

2.3.1 Growth in the International Economy

Growth in the global economy compounded with a parallel urge for sustainable [nuclear] energy/electricity sources could have increased the demand for uranium *yellowcake*.[79] Analysts have often credited the rise in the demand for uranium *yellowcake* to an emergent Asian nuclear order. Specifically, China and India, collectively referred under the neologism "chindia",[80] rapid economic growth and their unabated demand for nuclear energy could have necessitated their approval of plans to build 50 and 20 new reactors, thereby driving the demand for uranium *yellowcake*.[81] The latter coupled with the favorable pricing of the *yellowcake* that stood at an impressive $138 a pound in 2007,[82] up from an all-time low of $ 7 a pound between 1980 and 2000,[83] the large scale of uranium mining,[84] in addition to global climate change concerns and volatility of fossil fuels could have sent states seeking to acquire uranium *yellowcake*, their national energy companies (NEC) alongside uranium mining TNCs around uranium producing countries.[85] The most obvious destinations have been; Kazakhstan, Australia, Canada, Namibia and Niger.

However, Russia's monopolization of Kazakh uranium reserves and the shrewd uranium regulatory regimes in Canada and Australia could have impeded actors on the demand side of uranium advent of uranium ventures in the latter and former countries. As such, Africa's uranium reserves approximated at around 30 per cent of global uranium deposits coupled with her poor mining regime that ought to guarantee maximum profiteering could have put the continent at the center of the global scramble for the *yellowcake*.[86] Among the uranium mining TNCs and NECs that have sought to acquire Africa's uranium include; Paladin energy, Areva, Rio Tinto,

[79] See Alison Watson. An Introduction to International Political Economy (London: Continuum International Publishing, 2004,) 20.
[80] Daniel Moran and James Russell (ed.), 2009, 214.
[81] Hiscock, 2012, 108.
[82] The law of demand and supply states that in a free market, the forces of supply and demand generally push the price towards the level at which quantity supplied and quantity demanded are equal. See Baumol & Blinder, Economics Principles & Policy (Stamford: Cengage Learning, 2011), 65.
[83] See Paul Mladjenovic, Precious metals investing for dummies (Hoboken: Wiley Publishing, 2011).
[84] See Shiva, Vandana, Soil not Oil: Environmental Justice in a time of Climate Crisis, (Cambridge: MA: South End Press, 2008).
[85] There exists day light between multinational companies (MNCs) and transnational companies (TNCs). The nature of modern mining companies that encompass conglomerates of two or more foreign companies that are somewhat of the same size could possibly describe TNCs. MNCs on the other hand remain less complex and could be defined as companies headquartered in one country but running similar yet locally adapted operations in different countries. A classic example of an MNC would include re-known food chain McDonald's.
[86] Almaz Zewde, Sorting Africa's development Puzzle: The participatory social learning theory as an alternative approach, (Lanham: University press of America, 2010), 128.

Sino Uranium, uranium one, First uranium and AngloGold Ashanti.[87] Essentially, the latter TNCs were responsible for the 15.9 per cent increase in *yellowcake* production, translating to around 7,749 tons, in Niger, Namibia and South Africa in 2007.[88]

An exponential increase in the scale of interest in new uranium exploration could have led to the Namibian Ministry of Mines and Energy suspension of new prospecting licenses in 2007.[89] The result: a shift in interest in favor of Niger. Besides uranium mining French Areva, that remained the sole uranium producer in Niger prior to 2006, other uranium mining TNCs prospecting for the lucrative uranium mining concessions in Niger included; the Bayswater uranium Corporation, North Atlantic Resources and a group of companies led by China National Uranium Corporation.[90] Besides global actors scramble for Namibia's and Niger's *yellowcake*, emergent scholarly debate on the recent French incursion of Mali in January 2013 in light of "islamists concerns" has often cited the French advent of securing *yellowcake* resources in not only Mali but also in Niger.

While OECD Nuclear Energy Agency and the International Atomic Energy Agency forecast of a rise in the global demand for uranium, *yellowcake*, from 67,320 tons per annum at the end of 2004 to between 82,275 and 100, 760 tons per annum by 2025 has since been reviewed in the wake of the 2011 Fukushima nuclear meltdown,[91] there is renewed optimism that the nuclear option ought to remain the most viable/sustainable energy option in the near future. This could positively impact on the demand for the *yellowcake* in addition to probable illicit weapon developments. This is however not to assume a robust synergy between intensification of commercial nuclear developments and proliferation of nuclear weapons.[92]

[87] Oliver Schatz, A brief review of uranium mining in Africa, available at http://www.infomine.com/library/publications/docs/Mining.com/Sep2008f.pdf [accessed on 12/10/2012].
[88] *Ibid*.
[89] See Padraig Carmody, 2011, 126.
[90] International Business Publications, 2007, 204.
[91] HoSTIC, 2006, 29.
[92] Stephan Fruhling and Andrew O'Neil refute the existence of a strong correlation between commercial energy expansion and development of nuclear weapons by observing, the development of over 1,000 nuclear plants, since the aftermath of the first military use of uranium, has resulted in the proliferation of commercial nuclear technology for use in nuclear weapons in merger 10 states. See Enrico Fels, Jan-Fredrik Kremer, Katharina Kronenberg (eds.) Power in the 21st Century: International Security and International Political Economy in a Changing World, Berlin: Springer, 2012, 89.

2.3.2 External Balancing Prospects

Whereas the Non-Proliferation Treaty recognizes Britain, China, France, Russia and U.S. as the nuclear weapon states, the exceptional military capability and power attached to nuclear weapons could have prompted additional states [among them India, Pakistan, Israel, North Korea etc.] advent of acquiring nuclear weapons.[93] The latter states acquisition of nuclear weapons could have not only earned them somewhat political leverage above other non-weapon possessing states, but most importantly guaranteed external balancing prospects. This research discerns the influences of Israel's destruction of Iraq's Osirak 70-megawatt uranium- powered reactor that put to question Israel's de facto nuclear monopoly in the Middle East,[94] coupled with the American preponderance of power and her democratic enlargement policies after the cold war that may have been viewed as threatening by numerous states such as Iraq and Iran, as well as terrorist groups such as Al Qaeda,[95] as prompting the latter and former group's acquisition of nuclear weapons against their nemeses, in this case Israel and the U.S., as an impeccable external balancing option. The centrality of religious extremism and the parallel absence of a caveat on the use of force in the aforementioned rogue state and non-state groups could have further vindicated the choice of the nuclear balancing option.

While non-state group's ability to develop nuclear weapons has often been ridiculed, Sarah Diehl and James Molt single out al-Qaeda and Aum Shinrikyo for their relentless pursuit of nuclear and radiological weapons.[96] Mindful of the validity of the U.S. Commission on Intelligence report on weapons of mass destruction, the latter similarly affirmed the fast growing non- conventional weapon capabilities of al-Qaeda that further accelerated with the fall of the Taliban government.[97] The latter rogue non-state coupled with state group's advent of acquiring nuclear weapons for external balancing prospects and/or for use against their nemeses would negate Nina Tannenwald's

[93] William Lambers. 2006, 51.
[94] Lucien Vandenbroucke, The Israeli Strike Against OSIRAQ: The dynamics of fear and proliferation in the Middle East, 1984, available at http://www.globalsecurity.org/wmd/library/report/1984/vanden.htm [accessed on 20/10/2012].
[95] Robert Marrs. Nuclear Terrorism: Rethinking the Unthinkable (Hawaii: University Press of the Pacific, 2004), 1.
[96] Sarah Diehl & James Moltz (2008) single out the two terrorist group's relentless pursuit for nuclear and radiological weapons. An Indian national security adviser similarly advices U.S. Security personnel in June 2008 of terrorists manifest attempt to get fissile material and their technological expertise to manufacture an explosive devise beyond a mere dirty bomb. See the Daily Telegraph. al-Qaeda "is planning a dirty bomb". Dated 2/2/2011, available at http://www.telegraph.co.uk/news/worldnews/wikileaks/8296956/WikiLeaks-al-Qaeda-is-planning-a-dirty- bomb.html [accessed on 2/6/2012].
[97] David Albright, 2012, 1-4.

posited existence of a moral opprobrium on nuclear use.[98] In light of these developments, the global non-proliferation regime has intensified efforts seeking to limit rogue state and non-state groups ability to acquire nuclear weapons, whether for external balancing options or for use in acts of terror. Given that the escalating weapon developments after the cold war affirm the limited success of such initiatives, the more widely accepted explanation has been rogue state and non-state group's pursuit of illicit weapon developments through the black market.

Against a backdrop of the proliferation of classified information on weapon technology and experts, in addition to ostensive counter-proliferation/terrorism initiatives that have significantly increased weapon possessing states culpability and securing of nuclear weapons, this research discerns a paradigm shift from the traditional rogues state and non-state group's pursuit of nuclear war heads to the illicit acquisition of highly and or less fissile material with which to develop fully-fledged weapons, improvised nuclear devices (INDs), i.e. a gun-type explosive design, or radiological disperse devices (RDDs).[99] Most notably, this research observes a slanting decline in the quantity and quality (enrichment percentage) of smuggled nuclear material between May 1992 and July 2001.[100] Essentially, the smuggling of a noteworthy quantity and quality of 1.5 kilograms of 90 percent HEU in May 1992 regresses to a minimal 0.005 kilograms of HEU towards the beginning and after the new millennia.[101] Intensified counter-proliferation initiatives, essentially border radiation detection technology,[102] could have possibly accounted for the detection of radiation, noted among the reasons leading to the seizure of the smuggled nuclear material, but most importantly the slanting decline in the smuggling of substantial quantities of highly enriched uranium.

Akin to the above established trajectory characterized with the declining smuggling of highly fissile nuclear material between 1992 and 2001, the beginning of the new millennia saw a rise in the smuggling and acquisition of a less fissile nuclear material: uranium *yellowcake*. At the helm of

[98] Nina Tannenwald. "The Nuclear Taboo: The United States and the Normative Basis of Nuclear Non-Use",International Organization, Vol. 53, No. 3, (1999): 437.
[99] See Michel Levi and Henry Kelly, Weapons of mass disruption, (2002): 78-81, available at http://www.fas.org/ssp/docs/021000-sciam.pdf [accessed on 9/10/2012].
[100] See appendix 2.
[101] *Ibid*.
[102] *Ibid*.

this new scramble for uranium *yellowcake* included rogue state and non-state group's Iraq, Iran, and Al-Qaeda.

In June 1999, an Iraqi Businessman allegedly approached the Nigerien Prime Minister, Ibrahim Mayaki, and insisted that Mayaki meets an Iraqi delegation to discuss the "expansion of commercial relations" between Niger and Iraq.[103] Mayaki, like most analysts, interpreted "expanding commercial relations" to mean that Iraq was interested in discussing *yellowcake* sales.[104] Weary of UN sanctions on Iraq,[105] Mayaki met the delegation but steered off discussions on "trade issues".[106] Given that debate on Iraq's supposed acquisition of 550 tons of *yellowcake* from Niger remained highly fabricated from the onset, it is unrivaled that Iraq had indeed re-intensified her efforts to acquire uranium *yellowcake* from uranium producing [weak] states for her reconstituted nuclear weapon program.[107] In 2002, Newspaper and intelligence reports would also affirm Iraq's inability to acquire uranium ore and/or uranium *yellowcake*, through her agents, in thirteen uranium producing African states, among them; Somalia, D.R Congo and most infamously Niger.[108]

Iran's attempts at acquiring uranium *yellowcake* remain little less convoluted. Intensified global counter- proliferation initiatives seeking to curtail the illicit acquisition of highly enriched uranium,[109] accelerating Iranian weapon developments,[110] coupled with diminishing supplies of 600

[103] United States Congress/Senate Select Committee on Intelligence. Report of the Select Committee on Intelligence on the U.S. Prewar Intelligence Assessments on Iraq together with additional views, volume 108, no. 301 (2004),43, available at http://intelligence.senate.gov/108301.pdf [accessed on 1/07/2012].
[104] In 1999, uranium yellowcake and agricultural products e.g. onions remained, among, the leading export revenue earners for Niger. It would therefore be illogical to assume that a nuclear reverberated Iraq had sought to acquire Nigerien onions in discusses on expanding commercial relations between Iraq and Niger.
[105] See UN resolution 687 (1991).
[106] United States Congress/Senate Select Committee on Intelligence, 2004, 43-44.
[107] Allegations of Iraq's (un)successful acquisition of yellowcake from Niger, her procurement of aluminum tubes, intent of acquiring magnets in addition to her quest of obtaining machines to balance centrifuge rooters could haveperhaps strengthened claims of Iraq's reconstituted nuclear program.
[108] London Times, "Saddam's Nuke Shopping Tour", Dated September 25th 2002. available at http://www.foxnews.com/story/0,2933,64007,00.html See also Derek et al., The Iraq-Niger controversy and the outing of CIA agent Valerie Plame Wilson, available at http://www.historycommons.org/timeline.jsp?timeline=niger_plame&niger_plame_iraqniger and_uranium=niger_plame_iraqi_uranium_and_nuclear_devices [accessed on 17/9/2012].
[109] See Al-Sharq al-Awsat "Bulgarian Sources: US Tracking Ring Smuggling Uranium, Plutonium to Iraq, Iran, " in FBIS Document GMP20001227000062, 27 December 2000.
[110] On the 6th of February 2002, CIA Director George Tenet testified before a Senate hearing observing Iran's accelerating weapon developments. He notes that Iran may be able to make adequate fissile material for a nuclear bomb by 2010 or sooner if Tehran were to acquire fissile material elsewhere. See George Gedda, "US Says Iran

tons of *yellowcake* supplied by South Africa, probably from Namibia, between 1988-1989,[111] could have sent Iran on a wild spin around *yellowcake* producing states around the start of the new millennium. Like Iraq, Mai Manga, a former Nigerien Minister for Energy and Mines, observes that an Iranian delegation quest to acquire 400 tons of uranium *yellowcake* from Niger in 1998 would be unsuccessful after the Niamey refused to sign the contact.[112] In March 2002**,** the Middle East Intelligence Bulletin identified the location of the Rudan Nuclear Research Center near the city of Shiraz.[113] The facility was believed to focus on the conversion of uranium *yellowcake* into uranium hexafluoride gas, plausibly in anticipation of Iran's successful acquisition of uranium *yellowcake* and/or her development of Iranian uranium ores.

Iran's botched attempt at acquiring uranium *yellowcake* from Congo's Lubumbashi mine in 2005 could have put Western officials on the offensive. Britain, U.S., France and Germany would soon embark on extensive diplomatic efforts in a bid to dissuade major uranium producers from selling the *yellowcake* to Iran.[114] The former would nonetheless not halt Iran's commercial nuclear developments. In 2006, a report by the UN Monitoring Group on Somalia expressed concern over Iran's alleged attempt at acquiring uranium from a Somali rebel group, the Islamic Courts Union (ICU), in exchange for arms.[115] More recently, the 2010 Iran-Zimbabwe uranium deal affirmed Tehran's re-intensified quest to obtain uranium *yellowcake* for "peaceful purposes".[116]

Like Iraq and Iran, terror group Al Qaeda has similarly shown interest in acquiring the *yellowcake*. After the fall of the Afghan Taliban government in 2001, the media sought to unveil information on al Qaeda's quest for nuclear weapons and weapons of mass destruction.[117] In an

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Making Headway on Nuclear Weapons Program," Associated Press, 11 February 2002; Available at www.lexis-nexis.com [accessed on 22/10/2012].

[111] Leonard Spector and Jacqueline Smith, Nuclear Ambitions: The Spread of Nuclear Weapons, 1989-1990 (Boulder: Westview Press, 1990), 205.

[112] United States Congress/Senate Select Committee on Intelligence, 2004, 44.

[113] See Michael Rubin, "Iran's Burgeoning WMD Program," Middle East Intelligence Bulletin, March/April 2002, available at www.meib.org [accessed on 22/10/2012].

[114] See Robin Pagnamenta, Michael Evans and Tony Halpin, "Iran in Fresh Scramble for Uranium Supplies" dated January 24th 2009, available at http://daneshjoo.org/publishers/currentnews/printer_17975.shtml [accessed 15/12/2012].

[115] Mark Fitzpatrick (ed.), Nuclear Black Markets: Pakistan, A.Q. Khan and the rise of Proliferation networks (London: The International Institute for Strategic Studies, 2007).

[116] Itai Mushekwe and Harriet Alexander. Iran Strikes Secret Nuclear Mining Deal with Zimbabwe, dated 24 April 2010, available at http://www.telegraph.co.uk/news/worldnews/africaandindianocean/zimbabwe/7628750/Iran-strikes-secret-nuclear-mining-deal-with-Zimbabwes-Mugabe-regime.html.

[117] David Albright, 2012, 2.

office off the lobby of Kabul's Intercontinental Hotel, CNN found a cache of fascinating documents revealing al-Qaeda's effort at acquiring nuclear weapons that were in their early stages, serious in nature and likely accelerating.[118] The documents detailed a meeting between Osama Bin Laden, his associates, and a Pakistani nuclear scientist/Taliban supporter, Sultan Bashir Mahmood, where deliberations on chemical, biological and nuclear weapons were extensively held.[119] The documents would similarly reveal an ambitious plan by Mahmood, through his company-UTN, of establishing conglomerates with other companies to create banks and a wide range of industries, among them uranium mining companies.[120]

Conscious of the validity of the material, the documents put into context emerging illicit weapon developments centered around the acquisition and subsequent enrichment of uranium *yellowcake*.[121] American troop's discovery of uranium *yellowcake* in lead canisters in a tunnel near an al-Qaeda base in Kandahar in December 2001, coupled with Japanese terror cult, Aum Shinrikyo, alleged purchase of a farm in Australia with the intend of mining and enriching the *yellowcake* for use in [crude] nuclear weapons could have further affirmed the increasing significance of uranium *yellowcake* in illicit nuclear weapon developments by rogue state and non-state groups[122]. Recently, unsuccessful *yellowcake* smuggling incidences; in China,[123] D.R Congo,[124] Moldova,[125] and Namibia,[126] could affirm the emergent shift in the illicit nuclear material acquisition and weapon developments.

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[118] *Ibid*, 3-4.
[119] David Albright and Holly Higgins, Pakistani Nuclear Scientists: How Much Nuclear Assistance to Al Qaeda? August 30, 2002, http://www.exportcontrols.org/pakscientists.html [accessed on 13/10/2012].
[120] David Albright, 2012, 3.
[121] Sarah Diehl & James Moltz (2008) single out the two terrorist group's relentless pursuit for nuclear and radiological weapons. See the Daily Telegraph. al-Qaeda "is planning a dirty bomb". Dated 2/2/2011, available at http://www.telegraph.co.uk/news/worldnews/wikileaks/8296956/WikiLeaks-al-Qaeda-is-planning-a-dirty- bomb.html [accessed on 2/6/2012].
[122] See Paul Williams, Chertoff‟s "Gut Feeling" could be a Nuclear Detonation, dated 16/07/2007, available at http://archive.newsmax.com/archives/articles/2007/7/15/230035.shtml [accessed on 10/08/2012]. See also Mathew Bunn. The Threat of Nuclear Terrorism: What's new? What's true? Dated March 2012, available at http://nuclearsummit.org/files/nuclear_terror_threat_dossier_2012.pdf [accessed on 12/9/2012].
[123] Stephanie Leiggie. Uranium Smuggling Case in China Raises Concerns, dated October 2007, available at http://cns.miis.edu/other/wmdi071008c.htm [accessed on 3/6/2012].
[124] Global Security Newswire. African Mine could Draw Uranium Smugglers, dated January 26th 2009, available at http://www.nti.org/gsn/article/african-mine-could-draw-uranium-smugglers/ [accessed on 1/8/2012].
[125] CNN. Moldovan Authorities Seize Smuggled Uranium, dated August 24th 2010, available at http://articles.cnn.com/2010-08-24/world/moldova.uranium.discovered_1_yellowcake-uranium-radioactive-material?_s=PM:WORLD [accessed on 9/9/2012].
[126] Homeland Security News Wire. Insider Threat Problem topic of a GovSec Panel, dated 23rd February 2011, available at http://www.homelandsecuritynewswire.com/insider-threat-problem-topic-govsec-panel [accessed on 3/9/2012].

This research discerns that intensified counter-proliferation initiatives, that could have ostensibly checked the acquisition of intact nuclear devices and highly enriched uranium/plutonium, coupled with the ambiguity over the classification of uranium *yellowcake*- commercial nuclear material versus weapon material, and the proliferation of weapon technology and experts could have provided a new lifeline for security conscious rogue state and non-state groups seeking clandestine weapon developments. While Iraq's alleged acquisition of a sizable amount of uranium *yellowcake* from Niger in early 2000 and the subsequent invasion of Iraq by the U.S forces remains highly over-emphasized and polemic, debate ought to go beyond mere rhetoric.[127] Whereas an Iraq-Niger *yellowcake* synergy was already existent following Iraq's acquisition of around 300 tons of the *yellowcake* from Niger around the start of 1980, Gabrielle Hecht notes that the illicit acquisition of sizable amounts of uranium *yellowcake* could indeed provide a *prima facie* evidence of a military program.[128] Nonetheless, a requisite minimum of 5 tons necessary to make a basic nuclear weapon, and significant resources; finances, expertise and time, would need to be committed in enriching the *yellowcake* for use in nuclear weapons. Most importantly, terrorist group's advent of acquiring IND would successfully be accomplished in cooperation with either state entities or indigenous industries and in weak states, which provide the perfect unwitting location for weapon developments (weapon development, testing and launch).[129]

In cognizance of the above state of affairs, the IAEA has often re-emphasized the need for an all comprehensive approach for successful counter-proliferation initiatives. At the helm of the IAEA probable proliferation conduits stands the importance of securing the diversion/acquisition of a significant amount of produced uranium *yellowcake* for further concealed processing in the mining/milling phase.[130] While not underrating the significance of tougher regulatory measures on the use of the gas centrifuge enrichment technology that had remained notorious for clandestine nuclear weapons success stories in Pakistan, Iran, Libya, North Korea and

[127] Nancy Reyes. "Non existent" Yellowcake moved from Iraq to Canada, dated 6/7/2008, available at http://www.bloggernews.net/116579 [accessed on 4/5/2012].
[128] Gabrielle Hecht, 2012, 3.
[129] See David Albright, "Terrorists Acquisition of Nuclear Weapons: The Dangerous Synergy between Weak States and Illicit Nuclear Procurement", (Washington, Fund for Peace, 2012), 2-6, available at http://www.isn.ethz.ch/isn/Digital-Library/Publications/Detail/?ots591=0c54e3b3-1e9c-be1e-2c24-a6a8c7060233&lng=en&id=46250 [accessed on 6/4/2012].
[130] See IAEA, Guidance for the Application of an Assessment Methodology for Innovative Nuclear Energy Systems:INPRO Manual- Proliferation Resistance (November 2008: 67-68).

Germany,[131] special attention ought to be paid to securing the *yellowcake*, in light of an emerging illicit paradigm shift in favor of less fissile uranium *yellowcake* and the vulnerability of the latter in uranium producing slacker states.[132]

2.3.3 Declining ODA and the negative implications of 'democratization'

Amidst a global recession that could have prompted budget cuts coupled with William Easterly's intuitive appeal on the weak synergy between foreign aid, development and democracy, amongst other factors, donor aid flows to African countries have declined. The latter coupled with an increasing African populous compounded by a corresponding increase in the cost for development financing could have sent African bureaucrats from the corridors of Washington to their resource rich backyards. The resource rents obtained have often bridged the shortfall in development assistance that had initially financed domestic expenses. However, the acquisition of resources has not been without a tussle.

This research observes the influences of the democratization process, that imparted basic freedoms and rights on the African masses, as having put this newly "democratized" states at odds with their now enlightened resource bearing communities thereby making the acquisition of natural resources far from easy. In this new state of affairs, the "democratized" authoritarian regimes have had to seek consent from the resource-bearing community in order to exploit natural resources. Given the commonest scenario where resource bearing communities apprehensive of their governments' ability to guarantee their socio-economic and ecological rights, enshrined under [economic] democracy, have often opposed resource extraction, the state has had to forcefully induce the extraction of resource wealth. In this state of affairs, the state could be perceived as having induced an internal scramble for its resources. The Nigerien states advent of forcefully acquiring uranium *yellowcake* in uranium rich Niger against a backdrop dissenting Tuareg demand on equitable resource distribution and socio-ecological rights could have affirmed the above

[131] See R. Scott Kemp. "Gas centrifuge theory and development: A review of U.S. programs,"Science and Global Security 17, (2009) 1-19.Available at http://scienceandglobalsecurity.org/archive/sgs17kemp.pdf [accessed on 1/6/2012].

[132] Carafano defines slacker states as nations with lax laws or enforcement means which allow transnational terrorist or criminal groups to operate within their borders or are powerless to prevent other state and non-state group's from exploiting their territory for malicious activity. See James Carafano, Wiki at war: conflict in a socially networked world, (Texas:A & M Press, 2011), 96.

projection. Other classical examples include forceful resource extraction experiences in Nigeria's Niger Delta and Sudan's Abyei region.

2.4 Africa and the new Scramble for Uranium *Yellowcake*

Worth noting is the limited scope of the scramble for the yellowcake, in light of the above mentioned factors, that has restricted the acquisition of the *yellowcake* to Africa. This research establishes that in addition to the considerable- high quality uranium resources that the continent possesses and the continents frail mining regimes that ought to guarantee maximum profiteering, the geo-strategic positioning of the continent, *vis a vis* importing countries, coupled with the presence of uranium producing slacker states, that provide the perfect unwitting location for illicit *yellowcake* acquisitions, could have put the continent, essentially Niger, at the center of the global scramble for uranium *yellowcake*.

The scramble for the *yellowcake* ought to have provided Niger with tremendous bargaining power on *yellowcake* production and sales, which ought to have increased revenue derived from *yellowcake* sales. This is in addition to massive opportunities for employment and diversification of the economy thereby fostering sustainable economic growth, socio-economic development and internal cohesion. Regrettably, the scramble for the *yellowcake* has only entrenched resource dependence, authoritarian leadership and confliction in Niger (2007-2009). While the latter could have reinforced a widely held assumptions that enlists the existence of networks of constraint that would prevent global actors scrambling for resources direct confrontation yet the inevitability of conflagration in resource rich-nations at the center of the scramble, the dynamics of confliction in Niger over uranium, *yellowcake,* deserves further interrogation. Analysis of the Nigerien conflict (2007-2009), where a majority of this research's interviewees believe that the uranium factor was dominant,[133] ought to provide tremendous advantages in establishing how conflict could be engendered through uranium as a strategic resource. However, debate must first be situated within the context of an overview of Niger's conflict (2007-2009) and discussion on the viability of dominant Nigerien conflict scholarships posited uranium-conflict mechanisms.

[133] All except 1 of this research's 10 interviewees affirm the overriding influence of the uranium factor on confliction in Niger.

2.5 Summary

The production of the final product of uranium's mining process, uranium *yellowcake*, its disposal and subsequent enrichments for commercial and/or military uses possesses tremendous socio-economic and political implications. Among these include: the lucrative economic returns from *yellowcake* sales that ought to spur the socio-economic realms of development depending on the demographics and resource revenue distribution; the positive implications of commercial nuclear electricity production on economic and social development; and the paradoxical implications of nuclear weapon use that ought to guarantee despicable devastation on the socio- economic and political realms of development yet increase the political clout of the weapon-use state whose further preponderance of power could spur socio-economic realms of development. The acquisition of nuclear weapons could further provide impeccable balancing options that could spur and/or hamper the socio-economic and political gains through the weapon possessing state preponderance of power and/or intensification of counter-proliferation initiatives. While the latter and former implications are further vindicated by the scramble for uranium *yellowcake* that set off around the start of the millennium, the centrality of the Africa, but most importantly the emergence of conflagration in Niger (2007-2009), allegedly pegged on the uranium factor, deserve further interrogation. Whereas this research establishes that Niger could have remained at the center of the scramble given her possession of considerable-high quality uranium reserves, her poor mining regime, her weak state status that provides the perfect unwitting location for illicit nuclear material acquisition, and her geo-strategic positioning, analysis of the emergence and dynamics of conflagration in Niger (2007-2009) and/or inquiry on how conflict could be engendered through uranium as a strategic resource must first be situated within the context of Niger's conflict and scholarly assessments on the conflict.

CHAPTER 3: REVISITING NIGER'S CONFLICT (2007-2009)

3.0 Introduction

Given that this research's attempts to ascertain how conflict could be engendered through uranium as a strategic resource, discussion must first be situated within the context of Niger's conflict (2007-2009), where the uranium factor is alleged to have been dominant. This chapter therefore induces a synopsis of the Nigerien conflict (2007-2009) in a bid to establish the influence of the uranium factor in the conflict. Most importantly, this chapter tests the viability of dominant scholarship's posited uranium-confliction mechanisms against Regan and Norton's mobilization-civil war hypothesis, that ought to provide fairly a standard rationale for validating the significance and influence of the posited mechanism, uranium related or otherwise, in confliction.

3.1 Nigerien Conflict (2007-2009)

On the 9th of February 2007, a Tuareg led group attacked a military unit base near Iferouane in Northern Niger killing three soldiers and confiscating military materials.[134] A few months later, a group unknown so far, *Mouvement des Nigériens pour la justice/* Nigerien's Movement for Justice (MNJ), headed by Aghaly Alambo and Captain Mohamed Acharif, ex- *Forces Armées Nigériennes* (FAN), gathered around 1,000 combatants in Northern Niger's Air Mountains, claimed responsibility for the attacks and put up a platform of formal political rights.[135]

Fundamentally, the MNJ demanded a larger role in governance at both local and national levels, a fair distribution of uranium rent exploited in Northern Niger, and socio-ecological rights for the pastoral Tuareg majority in Northern Niger.[136] The rebel group similarly accused the Chinese of arming the Nigerien state, having seized Chinese made arms during a military raid at an

[134] Allamok E. Country report or human rights practices for 2007 (Washington: Government Printing Office, 2011), 399.
[135] Northolt S. Field of Fire: An Atlas of Ethnic Conflict (London: Troubador Publishing, 2008), 51.
[136] See IBP USA 2011, 28, Keenan 2008 & Abdalla 2009.

installation in Tazarzatt.[137] Equally, former Nigerien President Mamadou Tandja faulted the French for arming and financing the operations of MNJ after having lost lucrative uranium mining concessions to the Chinese.[138] Against a backdrop of escalating MNJs dissident activities in uranium-rich Northern Niger, the Nigerien government would approve more than $60 million to FAN in a bid to counter MNJs escalating dissident activities. With a state of alert declared in Northern Niger, 4,000 troops deployed [among them the P.S.I/TSCTI trained and equipped] and a horrendous conflict claiming over 200 lives, a faction of MNJ expressed willingness to negotiate with the Tandja government resulting in a peace deal in early-2009 facilitated by the U.S. Institute of Peace.[139]

3.2 Nigerien Conflict (2007-2009) Analysis

Scholarly analysis on Niger's conflict (2007-2009) has remained modest. However, Munna Abdalla and Jeremy Keenan's studies on the conflict have commanded tremendous respect amongst scholar's and policy makers seeking to understand the dynamics of confliction in Niger. Keenan's work nonetheless stands out owing to his vast experience in the Sahel, especially Niger. For reasons of time and space, this research places central emphasis on Munna Abdalla and Jeremy Keenan's studies which remain the dominant scholarships seeking to establish the emergence and escalation of conflict in Niger (2007-2009). This is not to underrate the importance of other studies that attempt to provide an understanding of the conflict

Using the sustainable livelihood framework, Munna Abdalla observes the overlapping systems of resource (uranium) exploitation and inability to deal with issues of climate uncertainty as the main causes of the Nigerien conflict.[140] Primarily, Abdalla posits the rise of armed conflict between MNJ and Niger's government as a result of changing access to livelihood resources.[141] In addition to persistent Tuareg ostracism, Abdalla over-emphasizes the vulnerability of Tuareg livelihoods; owing to massive expansion of uranium exploration that had encroached on Tuareg land, degraded

[137] See Serge, M., Beuret, M. & Woods, P. China safari: on the trail of Beijing‟s expansionism in Africa. (New York: Nation Books, 2010), 99.
[138] *Ibid*.
[139] International Business Publications USA. Niger foreign policy and Government guide (Washington: IBP USA, 2007), 28.
[140] Muna Abdalla, 2009, 9.
[141] *Ibid*.

the former, and depleted water resources, as primarily prompting the onset of the Tuareg-Niarmey conflict.[142]

Jeremy Keenan's analysis strives to understand the causes, escalation and implications of the Tuareg rebellion in Niger and Mali.[143] Having asserted the multiplicity of causality in the Nigerien conflict (2007-2009), Keenan fronts the emergence of the Nigerien rebellion as embedded in an array of local and external factors among them; anger at the fabrication of the Sahara-Sahel front in the U.S global "war on terrorism", the exploitative practices of foreign uranium/oil mining companies and the Nigerien government's failure to adhere to the 1995 peace accords.[144] Specifically, Keenan notes the [Nigerien] Tuareg dissent over the U.S. labeling of Tuareg regions as "terror zones" to the detriment of the local tourism industry and the allied Tuareg livelihoods.[145] The author similarly points at the onset of the Nigerien rebellion as rooted in the escalating ire at the rapacious exploitation of the Tuareg lands, which almost precipitated Niger's socio-economic tragedy, in addition to the Tuareg's exclusion from benefits derived from the exploitation of uranium.[146] Similarly, Keenan cites the flawed nature of the financial terms and mining practices, approved by the Nigerien government, which contravened the 1995 Peace Accord in addition to other global declarations and conventions on sustainable mining practices and the exploitation of indigenous land rights[147]. Other reasons noted by Keenan which could have inspired the onset and escalation of the conflict include; Tandja's strategy of Tuareg exclusion/ disenfranchisement, and the militarizing role of competing hegemonic and sub- hegemonic interests i.e. France, China, U.S., Chad, Mali, and Libya, in addition to the role of Tuareg communities in the diaspora.[148]

Dissimilar to Munna's and Kennan's grievance-centric analysis, a sizable number of this research's respondents, like some Nigerien scholarships, subscribe to the notion that the rebel movement, MNJ, together with the Nigerien state's pursuit of resource and/or non-resource related material, financial, interests could possibly explain the emergence and possibly the escalation of the

[142] *Ibid*, 3-8.
[143] Jeremy Keenan, "Uranium Goes Critical in Niger: Tuareg Rebellions Threaten Sahelian Conflagration", Review of African Political Economy 35, no. 117 (2008): 449.
[144] *Ibid*, 452-453.
[145] *Ibid*, 453.
[146] *Ibid*, 454-456, 457.
[147] *Ibid*, 457.
[148] *Ibid*. See also Martin, 2008, 36-37.

conflict.[149] Proponents of the former argument have often questioned the decency of the rebel leaders [Aboubacar ag Alambo, Kalakoua and Al Charif/Acheriff Mohamed], who led the infamous 2007 attacks labeling them as mere psychopath's and criminal's out to procure their selfish material interests.[150] Yvan Guichoua affirms the former assumption by pointing at MNJs rebel leaders, Aghaly Alambo embezzlement of the group's funds as fundamentally affirming the centrality of actor's advent of material self-interests in the conflict.[151] Some commentators have similarly cited MNJs initiation of armed conflict in uranium rich Northern Niger, during the historic high pricing of the *yellowcake* in 2007, as profoundly informed by the rebel group's quest to guarantee either short-term or long-term material gains-derived from the lucrative uranium rent or otherwise, following a successive secession, overthrow of the government or concession from the state. Critics have also alluded to the role of former President Tandja's, governing the world's poorest country, in provoking unrest amongst Tuareg groups in a bid to extract rent in the form of further military and financial largesse from the U.S., in an aura characterized by the U.S. advent of the Sahelien "war on terror" and her labeling of Tuareg minorities and other refractory groups of their populations as "putative terrorists".[152]

3.3 Establishing the underlying conflict models in Nigerien conflict scholarships

The relationship between Muna's posited social scarcity, defined in terms of unsustainable livelihood of the Tuareg, and conflict between the former and the Nigerien state could have been inspired by the neo-Malthusian argument, pioneered by Homer-Dixon in 1994, suggesting the correlation between deprivation of peoples livelihoods/ resource scarcity and the onset of armed conflict.[153] Homer-Dixon's presumption would nonetheless elicit protracted scholarly debate, around the start of the new millennia, over the influences of resource scarcity, resource abundance or resource distribution on confliction. On the other hand, Jeremy Keenan's observation on the influences of the Nigerien governments decisions to renege the 1995 accords,

[149] While 5 out of the 10 interviewees expression of the greed influence on MNJ advent of armed opposition against Niamey remain statistically not robust, their input remains critical to understanding the plausible motives for organization of armed conflict against Niamey.
[150] Jeremy Keenan, 2008, 452-453.
[151] See Yvan Guichaoua, Processes of violent political mobilization: An overview of contemporary debates and CRISE findings, available at http://www.qeh.ox.ac.uk/pdf/pdf-research/crise-ov5 [accessed on 1/09/2012] November 2010; 11,14.
[152] Jeremy Keenan, 2008,453, 459.
[153] See Homer-Dixon, Thomas, "Crash: The Unexplained phenomenon," Report on Business Magazine 17, no, 4 (2000): 115-118.

dispossession of socio-ecological rights for the uranium bearing Tuareg community, coupled with pre/post-independent governments advent of policies synonymous with Tuareg exclusion/disenfranchisement on the onset of the Nigerien conflict appear to revisit early research positing the void between expectation and achievement as prompting the citizen's willingness to revolt.[154]

Assertions citing the Nigerien state and the rebel leadership's advent of resource/non-resource related financial interests as precipitating the onset of conflict, as some commentators and interviewees have asserted, could have easily affirmed Collier and Hoefller's financial opportunity [greed] hypothesis.[155] This research does not however intend to further the aforementioned models dreary and protracted criticism founded on; sample selection bias, weak variable and flawed data, which has threatened the development of conflict studies.[156] Worth noting is the frail synergy between Collier's posited extractable resources and the onset of protests or rebellion.[157] In their submission, Reagan and Norton decry that it is almost absurd to assume the mere existence of a diamond mine ought to trigger the onset of anti-state violence.[158] Nevertheless, once violent rebellion has begun, the exploitable resources would prove vital in sustaining a civil war/conflict.[159]

The preponderance of uranium-greed/grievance-confliction arguments in Nigerien conflict (2007-2009) scholarships appears to have been perfectly in tandem with natural resources literature enlisting the unswerving influence of the motive, opportunity and indirect mechanisms on confliction, never mind the latter's rather elusive synergy that remains the subject of investigation in the subsequent sub-chapter. Essentially, Abdalla and Keenan's uranium-grievance centric analysis, coupled with scholarships enlisting actors advents of material self-interests in light of the uranium factor of otherwise, could have remained somewhat anchored in Basedau et al. (2011), Le Billon (2008), Humphreys (2005), Ross (2004), and Collier and Hoeffler's (2004) scholarships that coalesce around three mechanism linking resources

[154] See Reagan and Norton, 2005, 320 ; Gurr 1970, 2000.
[155] See Collier, 2000; Collier and Hoeffler ,2000.
[156] Cramer (2002), Gutierrez (2003) and Keen (2001), censure Collier's model on the basis of weak variables, flawed data and sample selection bias. See Christopher Cramer, 23-24.
[157] Reagan and Norton, 2005, 322.
[158] *Ibid*, 334.
[159] *Ibid*.

production to confliction. These mechanisms include: the *motive* to rebel inspired by competition over resource revenue or resource-related grievances such as Anirudda Mitra's posited extensive modes of production that benefit the state/mining firms more than the local population, local population subjection to externalities (environmental degradation, loss of land, eviction etc.) during extraction, and the negative influences of the latter and former grievances on the affected inhabitants socio-economic well-being; resources providing the *opportunity* for confliction by making warfare financially (or militarily) feasible, mainly through "lootability" of resources; and resources inspiring *indirect mechanisms* that make rebellion more likely through rent- seeking activities that negatively affect the quality of state institutions (weak states) in addition to negating socio-economic progress (resource curse, "Dutch disease" and "white elephant" projects) thereby inspiring people to rebel.

More recently, while emphasizing an understanding of resource specific conditions and contextual conditions in appreciating the influence of the above established mechanisms in inducing confliction over natural resources,[160] Carlo Koos and Matthias Basedau (2012) establish confliction over uranium resources that reverberates the above-established [three] mechanisms and the Nigerien conflict analysis. These include: *motive* to institute [violence] opposition against mining firms and/or the central government as a result of the distribution of mining concessions, contamination of water sources and the atmosphere with radioactive material/waste, subjection of the uranium-bearing communities to [forceful] eviction and the distribution of revenue accrued from uranium [*yellowcake*] sales, amongst other grievances; financial and military *opportunity* for insurgents who can potentially attack facilities, control transport routes or kidnap foreign workers given the industrial nature of uranium production that discounts the lootable property of uranium;[161] and the *indirect mechanism* of uranium mining that emulates other resources, such as oil and diamonds, precipitating weak state institutions that are unable to institute and enforce protective environmental and mining regulations thereby inspiring rebellion over the negative

[160] See Basedau et al. 2011; Le Billon 2009; and Humphreys 2005. See also Dixon 2009; Hegre and Sambanis 2006; and Fearon and Laitin 2003.
[161] This is not to underwrite the ability to acquire and process uranium on and off the production process more so in a scenario of a weak state such as Niger.

impact of radiation and contamination during uranium extraction on the human health and the environment.[162]

Given the existence of general consensus on the incapability of the rational choice theorists popularized greed-grievance assertions, resonant of the above established motive, opportunity and indirect mechanism arguments, in effectively explaining confliction- possibly owing to the highly intricate systems of interaction in the conflict process, there remains limited consensus on the actual role the greed-grievance variables play in the conflict process. Against a backdrop of the preponderance of greed-grievance assertions in the Nigerien conflict and resource-conflict studies, interrogation of the significance of greed and grievances on the conflict process can only be over-emphasized.

3.4 Conceptualizing Greed, Grievances, and the onset/level of Conflict: The Mobilization-Civil War Hypothesis

The proliferation of the tedious and highly-divisive greed and grievance assertions, which depict "loot-seeking" versus "justice seeking" and/or the economic versus socio-political drivers of civil war, respectively, in conflict studies around the start of the millennia, appear to have inspired Regan and Norton's advent of their research. The authors draw on theoretical antecedents on greed, grievances (inequalities/ deprivation) and mobilization to establish a theoretical framework that assesses the roles of self-interested and collective behaviors in civil wars.[163] Ideally, Regan and Norton observe that while grievances lie at the core of the motivation to organize in response to maldistribution of resources-such as land, income or political access, greed; signifying self-interested behavior and resources available to pay selective benefits, becomes salient when costs begin to be incurred at the individual level following responses by the state to what it perceives as a threat.[164] Since the preferences of the rebel leadership and rebels differ, i.e. rebel leaders seek oughtright control of the bureaucracy so that they could possibly address the actual grievances while rebels seek a minimal improvement in their standards of living, the rebel leadership must pay

[162] Carlo Koos and Matthias Basedau , Does Uranium Mining Increase Civil Conflict Risk? Evidence from a Spatiotemporal Analysis of Africa from 1945 to 2010, (2012): 6-7, available at http://www.operationspaix.net/DATA/DOCUMENT/7425~v~Does_Uranium_Mining_Increase_Civil_Conflict_Risk Evidence_from_a_Spatiotemporal_Analysis_of_Africa_from_1945_to_2010.pdf [accessed on 26/10/2012].
[163] Regan and Norton, 2005, 320-326.
[164] *Ibid*, 319, 324.

selective benefits, derived from extractable or localized resources etc., so as to keep a rational soldier from defecting amidst the rising cost of rebel participation at higher levels of conflict.[165] However, as coercion by the government increases, concerns over selective benefits/economic incentives give way to protection as the participants give their services to the rebel organization so as to avoid state-led abuse.[166]

In their final submission on their theoretical framework, Regan and Norton establish that the escalation in the level of protests to civil war remains a function of the actions and reactions of the state and rebel that ought to follows an identifiable sequence.[167]

> As grievances lead to opposition against the state policies, political entrepreneurs begin to mobilize opposition supporters. The state response is to try to minimize mobilization through efforts at coercion or concession. As the state gets more coercive, the rebel entrepreneurs have a greater opportunity to provide protection to potential supporters, possibly despite not being able to offer economic incentives comparable to those offered by the state. Initially, the opposition may adopt non-violent means but as the opposition grows, it will press for greater demands or concessions from the state, in part because their ability to do so has increased but also because their constituency will reflect a wider spectrum. As the state responds with increasing repression, the level of violence moves from protests, to rebellion and possibly civil war.[168]

From the above rationale, Regan and Norton generate a series of testable hypothesis that include: the greater the level of inequality, the higher the probability for observing protests, rebellion and civil war; higher levels of political repression will decrease the likelihood of protests but increase the incidence of rebellion and civil war, and the existence of exploitable resources will increase the likelihood of observing civil war, however, given the lower cost for participation in protest activity, extractable resources will have no effect on the likelihood of protests.[169] The latter are tested against data from the Minority at Risk (MAR) project that provides similar advantages in ascertaining the influence of several predictor variable, among them repression, on the outcome

[165] *Ibid*, 323-324.
[166] *Ibid*, 324-325.
[167] *Ibid*, 325.
[168] *Ibid.*
[169] *Ibid*, 325-326.

variables- namely protests, rebellion and civil war.[170]

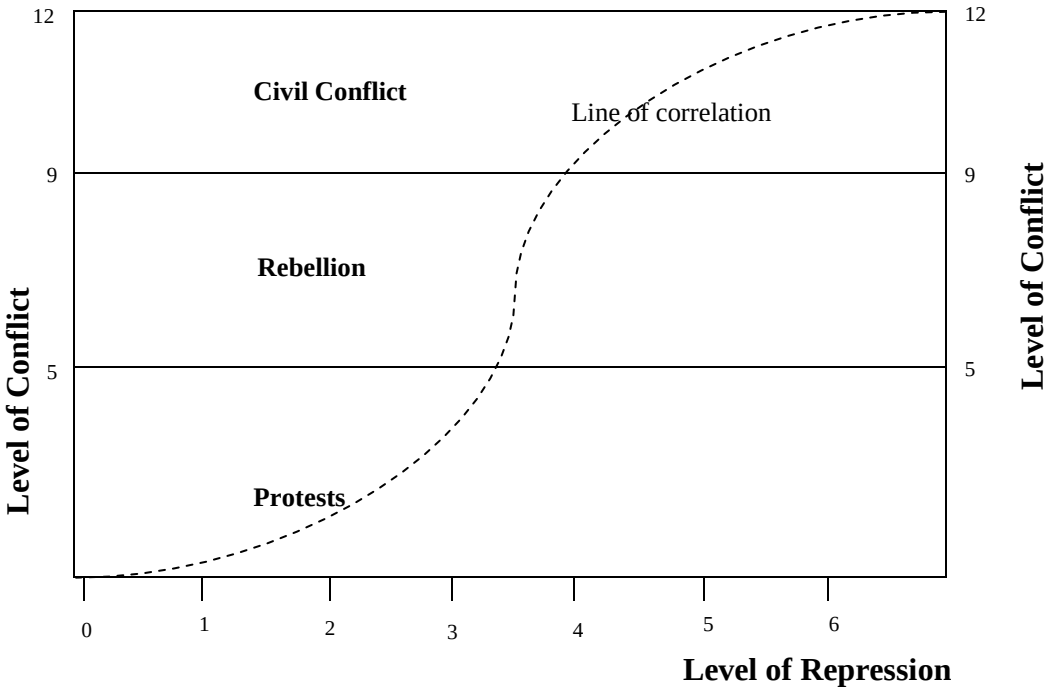
The results of Regan and Norton's analysis indicate disparate grievance influences on the various levels of conflict, the role of extractable resources in sustaining, not instigating, civil wars, but most importantly the overriding role of repression that is bound to stifle protests activity and increase the probability for escalation to rebellion and possibly civil war.[171] Nevertheless, this research construes the convergence of the naturally inherent grievances and greed (whether through the rebel elite and non-elite advent of disparate yet somewhat similar self-interested behavior or the advent of private selective payments that tap into self-interested behavior) in [re] instituting rebel mobilization, but most importantly the influences of the repressive tendencies by the state and to a lesser extend the protective [counter-repressive] tendencies of the rebels on the onset and escalation in the level of conflict from Regan and Norton's analysis.

Even as Regan and Norton's established relationship between repression and the level of conflict continues to draw criticism founded on the quadrupling of the coefficient of repression in addition to concerns over the mandatory escalation "from protests to civil war",[172] the induction of qualitative research, preferably the advent of tracing causal mechanisms, could offer valuable advantages in validating the strong influences of repression on the level of conflict. While the latter challenge is to a larger extend taken up by this research, interrogation of the motives and actions of Nigerien uranium conflict actors that could have propelled the mobilization but most importantly the [counter] repressive processes ought to provide valuable advantages in establishing the uranium-conflict nexus in Niger (2007-2009).

[170] *Ibid*, 326-329.
[171] *Ibid*, 329-334.
[172] See Simon Hug, The Effect of Misclassification in Probit Models: Monte Carlo Simultations and Applications, August 2006, 16-20, available at http://www.cis.ethz.ch/publications/WP_20_Hug_empm.pdf [accessed on 1/11/2012].

3.5 Hypothetical Relationship between the Level of Conflict and the Level of Repression/ Lagged Repression

Figure 1. Relationship between the Dependent and Independent Variables



Source: Author (2013)

In the figure above, the dependent variable (i.e., level of conflict) is related to the independent variable (i.e., level of Repression/lagged repression) through the following functional form:

Level of conflict = *f* {level of Repression} + e, where e represents other variables not indicated in the model (e.g., rebels ability to mobilize around greed-grievances and counter soaring state repression). In the figure, increasing repression has some effect on the decline in protest behavior. As you head to rebellion, there is a spike in the level of conflict, vis-à-vis *increasing* repression. At the end of it (towards 12-level of conflict), the curve begins to flatten- since by that time "peace deals" have begun to be made.

3.6 Summary

While the dominance of the uranium factor in the Nigerien conflict (2007-2009) remains undisputed, the preponderance of greed/grievance-conflict arguments in Keenan's, Munna's and ordinary Nigerien commentary on the conflict, derived from the research questionnaires, is utterly disparaged by Regan and Norton. In their submission on mobilization, repression and intra-state conflict, Regan and Norton observe that, while greed-grievances provide tremendous advantages in instituting the mobilization process, repression ought to provide tremendous advantages in the escalation of the level of conflict. While Regan and Norton's posited strong influences of repression could have further been compounded by the rebels ability to counter- repression for the successful onset and escalation in the level of conflict, this research avers that Nigerien and/or uranium scholarships seeking to understand the emergence and escalation in the level of conflict must take cognizance of the etiology of conflict/conflict process; that is rooted in rebels mobilization around greed-grievances and the repressive and counter-repressive tendencies by the state and rebels leading to the onset and escalation in the level of conflict. As such, re-examination of the actions of the main Nigerien conflict actors that could have propelled the mobilization and [counter] repressive capabilities of the state and rebels remains paramount to understanding and establishing confliction over uranium [*yellowcake*] resources in Niger (2007-2009).

CHAPTER 4: ESTABLISHING THE URANIUM-CONFLICT NEXUS IN NIGER

4.0 Introduction

Drawing on the preceding chapter's submission on the etiology of conflict that is rooted in mobilization, repressive tendencies by the state and the counter-repressive capabilities of the rebels, this chapter re-examines the motives and the actions of the main Nigerien conflict uranium actors [i.e. U.S., China, France, Niger and MNJ] that could have accentuated the [rebel] mobilization process but most importantly the [counter] repressive tendencies of the belligerents in the conflict; Niamey and MNJ. Further, the chapter inductively establishes the strategic politics of uranium, off the Nigerien conflict (2007-2009) and an array of other similar cases. The strategic politics of uranium attempt to provide somewhat a parsimonious explanation on the susceptibility and [militarized] mode of securing uranium [*yellowcake*] resources. This is in addition to establishing the possible confliction over uranium resources, an assertion that remains heavily anchored in Le Billion's deduction on the emergence of conflict motivated by the control/securing of resources.[173] Hereunder, this research assesses the securing of uranium[*yellowcake*] resources in Niger in addition to other cases that ought to provide tremendous advantages in establishing the strategic politics of uranium, albeit the uranium-conflict nexus.

4.1 Securing Uranium *Yellowcake* in Niger

Drawing on analysis on the scramble for uranium *yellowcake*, the synopsis on Niger's conflict, and responses by this research's interviewees, this research identifies the U.S., France, China, Niger and MNJ as the dominant Nigerien uranium-conflict actors. The aforementioned actors' motives and action, essentially their choice of securitization instruments, are assessed.

4.1.1 The United States

Between 2002 and 2005, the U.S. through the Pan Sahel Initiative (PSI), trained and equipped a company of soldiers (150 soldiers in military *lingua*) in participatory states- Chad, Mali, Mauritania and Niger, in a bid to help the states protect their borders thereby furthering U.S. national security interests of "waging war on terrorism and enhancing regional security and

peace".[174] In 2005, the U.S. reformulated the PSI into the Trans-Saharan Counterterrorism Initiative (TSCTI). With an increased budgetary allotment of $500 million in addition to incorporation of more state participants [Algeria, Chad, Mali, Mauritania, Morocco, Niger, Nigeria, Senegal and Tunisia], the TSCTI mandate was also expanded to include; "defeating terrorist groups in the Sahel by offering a balanced program of military assistance, intelligence sharing, democratization, good governance support and humanitarian aid."[175] In 2007, the TSCTI was rebranded the Trans Saharan Counterterrorism Partnership (TSCTP) after the formation of the US-Africa Command (AFRICOM) with a reformulated mandate described by the U.S as "a multi-faceted multi-year strategy aimed at defeating terrorist organization by strengthening regional counterterrorism capabilities, enhancing and institutionalizing cooperation among the regions security forces, promoting democratic governance, discrediting terrorists ideology, and reinforcing bilateral ties with the United States."[176]

The U.S. advent of the militarizing PSI/TSCTI-P in light of the abovementioned objectives has nonetheless generated endless and divergent scholarly debate. While the U.S. has often justified her advent of PSI/TSCTI-P in light of active "Islamic" groups in the Sahel, critics have often questioned the existence of such groups and whether these groups, individually or taken as a dis-articulated whole, present an actual threat either locally and internationally.[177] Among these include Jeremy Keenan and Daniel Volman who renounce the existence of such threats. Instead, they advance the U.S. advent of the initiatives in light of energy securitization and in a bid to check rising Chinese "encroachment" into Africa.[178] On the contrary, Elis and Mohsen-Finan re-affirm the significance of the PSI/TSCTI-P in preventing terrorist groups from coalescing into an actual threat.[179] Given the latter and former polarizing sentiments, this research revisits an often overlooked question; what is the real threat and how should it be effectively securitized?

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[173] Quoted in Kenneth Omeje, ed.,Extractive Economies in the Global South: Regional Perspectives on Rentier Politics, (Hampshire: Ashgate Publishing, 2008), 234.
[174] See Yonah Alexander and Michel Kraft, 2008, 1125.
[175] Global Security, Trans Saharan Counterterrorism Initiative/ Partnership, available at http://www.globalsecurity.org/military/ops/tscti.htm [accessed on 12/09/2012]. See also Jacob Mundy, 2010,1.
[176] Global Security, Global War on Terrorism: Trans Saharan Counterterrorism Partnership. Available at http://www.globalsecurity.org/military/ops/tscti.htm [accessed on 16/6/2012].
[177] See Jacob Mundy, 2010, 1.
[178] See Jeremy Keenan, The Dark Sahara: America's War on Terrorism in Africa, London: Pluto, 2009.
[179] See Elis S, Briefing: The Pan-Sahel initiative, African Affairs, 2004, 103(3): 21-22. See also Mohsen-Finan K. Les defies securitares au Maghreb, Paris: Institut francais des relations internationales, 2008.

The TSCTI, successor to the PSI, incorporation of additional states (i.e. Algeria, Morocco, Nigeria, Senegal, and Tunisia) possessing debatable terror concerns yet considerable hydrocarbon deposits has provided the basis of the U.S. initiatives- energy securitization debate. While the latter assumption could be admissible in light of considerable evidence that affirms the mapping of the terror threat, the generalization of such assumptions to Niger would remain highly problematic. This is so given the shortfall of empirical evidence showing the U.S. interest in the commercialization of Nigerien oil and uranium. However, this is not to rubbish the supposed U.S. interests of containing Beijing's expansion and, probably, strategically positioning herself for future Nigerien oil and uranium concessions. The latter following the 2013 expiry of the "megatons to megawatts" partnership between Russia and U.S. that has sought to recycle weapons-grade uranium from decommissioned Russian nuclear warheads into fuel for U.S. commercial nuclear facilities.[180]

The more formal explanation given for the U.S. advent of the PSI/TSCTI/P in the Sahel has been the U.S. quest to check terrorist activities through curtailing illicit trafficking that provided funding for terror groups and other insurgencies in the Sahel. While the incorporation of development assistance under the rebranded TSCTI could have provided specific advantages in checking the potential negative implications of anti-illicit trafficking measures, which could have undermined the main source of livelihood (illicit trafficking) for residents of Kidal and Agadez thereby furthering poverty, entrenching extremism and increasing instability, the flexible and shallow structure of trafficking ought to have undermined counter-trafficking efforts by local Nigerien troops, leave alone the American troops. This is according to a United Nations Office on Drugs and Crime (UNODC) report on crime and development in Africa that observes that West African networks provide noteworthy challenges for law enforcement to counter given their highly flexible structure and shallow hierarchies.[181] The absence of a hierarchy would often imply that there is no clear target and if traffickers were to be arrested, others will simply take their place.[182] Against a backdrop of these obstacles, the success of the U.S. initiatives in eliminating illicit trafficking in the Sahel could have remained in limbo. This begs the question, could the U.S. have

[180] See Ian Hore-Lacy, 2006, 45.
[181] See the United Nations Office on Drugs and Crime, Crime and Development in Africa, 2004, xi.
[182] *Ibid*.

set herself up for failure or could the U.S. have been pursuing other objectives less vivid from the general public's purview?

While affirming the latter question, this research deplores the fact that there has not been serious scholarly attention on the "combat of terrorism", resonant of the PSI/TSCTI-P objectives, especially in Niger. This research therefore extends debate on the U.S. advent of the militarizing PSI/TSCTI-P beyond the ordinary hydrocarbon securitization and illicit trafficking discuses to include an often underemphasized viewpoint enlisting the precarious synergy between uranium producing weak states possessing considerable terror concern,[183] and the probable nuclear material acquisition, weapon developments, testing and launch, as indicative of a new "combat of [nuclear] terrorism." The latter could have underlined the safe haven model and most importantly the U.S. advent of the militarizing initiatives in the Sahel and specifically in Niger.

Against a backdrop of the 9/11 terrorist attacks, this research discerns the intensification of U.S. led global counter-[nuclear] terrorism initiatives. Among these include the proliferation security initiative, launched in May 2003 following the U.S. National Strategy to Combat Weapons of Mass Destruction (WMD) issued in December 2002.[184] The proliferation security initiative, abbreviated as "PSI", sought to foster cooperation between the U.S. and participatory states in a bid to prevent the transfer of WMD material and knowledge.[185] Earlier, the U.S Office of Counterterrorism had inaugurated the Pan Sahel Initiative, in November 2002, that sought to assist Mali, Niger, Mauritania and Chad to detect and respond to suspicious movement of people and "goods" across and within their borders through training, equipment and cooperation, thereby advancing U.S. interests of waging "war on terrorism" and enhancing regional peace and security in Africa. Given that all the participatory states possessed considerable uranium reserves and somewhat proliferation concerns, especially Niger, this research discerns that global counter-proliferation initiatives could have been skewed in favor of the aforementioned states that posed the newest and greatest challenge to illicit nuclear material acquisition, horizontal weapon proliferation, and nuclear terrorism. In addition to the two initiatives sharing a common acronym- "PSI", and conception around the same time characterized with rogue state and non-state group pursuit of nuclear

[183] All the state parties to the TSCTI-P ironically possess economically viable uranium reserves.
[184] U.S Department of State. "The Proliferation Security Initiative." Available at http://www.state.gov/t/isn/c10390.htm [accessed on 10/01/2013].
[185] *Ibid.*

weapons and emergent incidents of yellowcake smuggling, this research observes the exclusion of Niger, possessing noteworthy material proliferation concerns, from the Proliferation Security Initiative as affirming the fairly similar objectives of the two initiatives- centered around securing weapon and/or non-weapon usable material. This is not to limit the two initiatives advent of other objectives.

More importantly, Africa's repute as the perfect source for black-market nuclear goods,[186] her considerable uranium reserves,[187] and an undisputed synergy between slacker states and the illicit nuclear material acquisition and weapon developments,[188] could have made the continent the most viable candidate for the abovementioned global counter-proliferation/ terrorism initiatives. Niger, a uranium producing slacker state, facing somewhat considerable threats from terrorist groups in the Sahel, i.e. AQIM, could have taken center-stage, as frontier state, in American induced counter-terrorism initiatives, PSI/TSCTI/P, in light of the abovementioned developments.[189] While not deranging the Jeremy Keenan popularized "American energy securitization initiatives", this research recognizes an existential threat of an emerging proliferation conduit in favor of less fissile *yellowcake*, coupled with the profound synergy between uranium producing slacker states and illicit material acquisition, weapon developments and a probable nuclear terrorist attack, as additionally informing the militarization of Niger in addition to other [weak] participatory states that ironically possess economically viable uranium reserves under the auspices of the PSI/TSCTI/P. The latter, plausibly, in an attempt by the U.S. to directly and/or indirectly forestall the former development,[190] thereby precluding the negative

[186] Gabrielle Hetch, 2012, 3.
[187] *Ibid*.
[188] Prior to the U.S. invasion of Afghanistan at the beginning of the millennium, al-Qaeda under the auspices of the Taliban government had made meaningful progress in enriching uranium for military purpose. The current (2012) Iran debate over her nuclear developments provides insights on the ability of rogue states to enrich the yellowcake for use in nuclear weapons away from the scrutiny of western intelligence agencies or traditional non-proliferation institutions. Terrorist's advent of enriching uranium could be accomplished with indigenous industries as was the case with Al-Qaeda's intended partnership with Sultan Bashir's MTN Company, prior to the fall of the Taliban government, that would play important roles among the producing the yellowcake and enriching the former for use in nuclear weapons. See David Albright, Terrorists' Acquisition of Nuclear Weapons: The Dangerous Synergy between Weak States and Illicit Nuclear Procurement, (Washington, Fund for Peace, 2012). Available at http://www.isn.ethz.ch/isn/Digital-Library/Publications/Detail/?ots591=0c54e3b3-1e9c-be1e-2c24- a6a8c7060233&lng=en&id=46250 [accessed on 6/4/2012].
[189] The acquisition of nuclear weapons/material coupled with extremism remains critical elements for a successful nuclear terrorist attack.
[190] By increasing the participatory states military capabilities to better govern their expansive territories the U.S. could have indirectly combated terrorism. Her physical presence in the Sahel would affirm her attempt at directly combating terrorism.

implications of a probable nuclear terrorist attack on her socio-economic realms of development and her remarkable political clout U.S.- that could have been partly necessitated by her use of the nuke in Japan. Whether advancing moral, national, commercial or other interests, the implications of U.S. advent of the militarizing PSI/TSCTI/P in Niger on internal cohesion remains difficult to ignore.

4.1.2 France

Dissimilar to the above examined somewhat intricate U.S. advent of securing the *yellowcake*, the French interest in the conflict remained exclusively centered around ensuring her state-owned mining corporation, Areva, retained access to uranium reserves in northern Niger. While relations between Areva/ France and Niamey have since been resolved, relations between Areva /France and Niamey had been uneasy in 2007. The latter following the redistribution of uranium mining concessions marking the end of Areva's 40 year monopoly in Niger synonymous with the infamous remark by Niger's Minister for Foreign Affairs asserting, "Areva's monopoly has been crashed".[191] To make matters worse, a joint venture between China National Uranium Corporation and Niamey in developing uranium deposits in Azelik, Agadez and Madaouela [near Areva's mine in Arlit],[192] would be formalized on July 14th: the French Bastille day[193]. Niamey's expulsion of Areva's Director General in Niger, Dominique Pin, on the 26th of July 2007 would further push the relations between Niamey and Paris to the brink.

While the relations would somewhat be mended a week later following the French Minister for Cooperation and Developments arrival in Niamey, thereafter renegotiating Areva's mining contract, Niamey continued to be apprehensive of French activities in Niger. The Nigerien President Mamadou Tandja, later deposed, accused the French of arming and financing the operations of MNJ after having lost lucrative uranium mining concessions to the Chinese.[194] Tandja's assertions were essentially compounded by Muhammad Ajidar, a commander in Niger's army tasked with protecting Areva's interests and employees, defection to the MNJ

[191] Michel, Beuret and Woods, 2009, 59.
[192] Areva would however refuse to hand-over the geographical survey they had completed for the Madaouela site. See Padraig Carmody, 2011, 129
[193] *Ibid*.
[194] Prior to the 2007 hostilities between France and Niger, Niamey received noteworthy military and economic assistance from Paris.

alongside 25 of his armed men in July 2007.[195] Thereafter, the MNJ is said to have lost interest in Areva, focusing their attention on the Chinese.

In the aftermath of the conflict, discusses on the French preeminence on non-economic militarization instruments have often been attributed the French dependence on nuclear energy.[196] While such discussions remain rather simplistic if not incomplete, there is need for further interrogation on whether the French advent of non-economic militarization instruments could have probably been in light of the existence of a positive correlation between nuclear energy use and economic growth/development. Drawing on David Bodanskey analysis of the French energy economy, this research observes that reductions in dependence on fossil fuels for electricity production, following the 1970s oil shocks, from 62 percent to 8 percent while at the same time increasing nuclear energy use from 6 percent to 77 percent between 1975 and 1995 positively impacted on the GDP.[197] While critics have often cited the exclusion of the introduction of natural gas during this period, this research affirms Bodansky assertion that a reduction in fossil fuel use translating to lower oil imports but most importantly an increment in nuclear energy could have undoubtedly accounted for the rise in the French economy during this period.[198]

Bodanskey's observation on the positive impact of nuclear energy use on the economy could have also mirrored economic studies establishing the positive implications of low-cost, low-carbon footprint and high-energy yielding [nuclear] electricity generation on the GDP. In light of the above projections, this research establishes the possible French advent of non-economic militarizing instruments in Niger in a bid to guarantee steady supply of uranium *yellowcake*, albeit the positive implications of nuclear energy use on her socio-economic realms of development.

4.1.3 China

While China's advent of an array of economic and non-economic instruments could have sought to safeguard her state owned China Nuclear International Uranium (Sino-U) recently acquired uranium mining concessions at Azelik, Agadez and Madaouela,[199] her interests do not seem to have

[195] Setge, Beuret& Woods, 2010, 100.
[196] France is supposedly believed to be dependent on nuclear energy that accounts for about 80 per cent of its total energy use.
[197] David Bodanskey, Nuclear Energy (New York: Springer- Verlag, 2004),18.
[198] *Ibid*.
[199] See Padraig Carmody, 2011, 129

fallen far from those of the French. Essentially, Chinese advent of non-economic militarization instruments was manifest when the MNJ accused Beijing of arming Niamey claiming that weapons seized, on several occasions, from the Nigerien military bore Chinese markings.[200] While the latter assertion founded on the Chinese militarization in light of the seizure of weapons with Chinese markings remains a little naïve, evidence of the Chinese proto-militarization of resource-rich African states such as Sudan and Zimbabwe makes such aspersions admissible.[201] In response, the MNJ abducted Zhang Guohua, the deputy general manager of Sino-U, on the 6th of July 2007 expressingly stating that the abduction was a message to Beijing to stop military aid to Niger.[202]

In addition to militarization, China is believed to have sought economic instruments in securing the *yellowcake* in Niger. Given that China is not a member of the OECD/DAC aid reporting system, and does not publish comprehensive data on its foreign aid,[203] the specifics of net aid disbursements, particularly non-concessional financing to Africa, have been subject to guesstimate therefore inaccurate.[204] Nevertheless, United Nations Conference on Trade and Development (UNCTAD) and China's Ministry of Commerce point at an estimate of $7.8 billion of Chinese FDI to Africa, as at the end-2008, a figure that remains somewhat underestimated.[205]

Among the leading recipients of the noted amount, primarily for natural resource extraction, were; South Africa, Nigeria, Zambia, Sudan, Algeria, Mauritius, Tanzania, Madagascar, Niger, Congo, Egypt, and Ethiopia.[206] While the Chinese advent of economic and non-economic instruments in securing the *yellowcake* from Niger has ordinarily been attributed to Chinese nuclear expansion and her unabated demand for [nuclear] energy, the positive implications of nuclear energy use for her bourgeoning economy cannot be gainsaid. Like France, this research observes, the centrality of nuclear energy; essentially low-cost, low-carbon footprint and high-energy yielding [nuclear] electricity generation, for economic growth and development in China. The regulation of Chinese nuclear expansion by National Development and Reform Commission

[200] See Serge, Beuret, & Woods, 2010, 99.
[201] See Daniel Moran and James Russell (ed.), 2009, 51.
[202] See Serge, Beuret, & Woods, 2010, 99.
[203] Benedicte Vibe Christensen, China in Africa: A Macroeconomic Perspective, Working paper 230, November2010: 5-11, available at http://www.cgdev.org/files/1424567_file_Christensen_China_in_Africa_FINAL.pdf [accessed on 10/10/2012].
[204] *Ibid*, 23.
[205] *Ibid*, 8-9.
[206] *Ibid*.

(NDRC), a macroeconomic management agency under the Chinese State Council, which has broad administrative and planning control over the Chinese economy and social development, brings into retrospect the centrality of nuclear energy for China's socio-economic development.[207]

4.1.4 Niger and MNJ

Unlike China, France or the U.S. somewhat disparate interests, Niamey's solemn interest in the conflict was the maximization of *yellowcake* returns that financed a significant portion of her budget and had fared well since 2007.[208] Between 1980 and 2000, the *yellowcake's* price was at its worst hitting a rock bottom with the selling price below $7 a pound.[209] However, at the end of spring 2007, uranium *yellowcake's* price stood at an impressive $138 a pound.[210] The yellowcake price would nonetheless slightly decline thereafter before dipping in the aftermath of the Fukushima crisis.

Figure 2. Uranium Yellowcake (U308) Price Pattern (1988-2012).



Source: UxC [211]

To maximize *yellowcake* returns, Niamey employed two simple strategies; playing the French against the Chinese and cracking the whip on dissenting rebels (MNJ) whose "reckless"

[207] See National Development and Reform Commission (NDRC), Main functions of NDRC, available at http://en.ndrc.gov.cn/mfndrc/default.htm [accessed on 26/12/2012].
[208] Behnke, 2008, 62.
[209] See Paul Mladjenovic, Precious metals investing for dummies (Hoboken: Wiley Publishing, 2011).
[210] *Ibid*.

anti-state activities over Niamey's inequitable distribution of uranium rent and socio-ecological rights in uranium-rich Northern Niger and pronouncement of a "war on uranium" by the supposed MNJ head of the political wing, Rhissa Ag Boula, during an interview with *Nouvel Observateur*, threatened Niamey's maximization of the lucrative *yellowcake* returns from *yellowcake* sells and taxes levied on the mining corporation and their employees.

Having redistributed mining concessions previously held by the French to the Chinese and thereafter expelling Areva's Director General in Niger, Dominique Pin, on the 26th of July 2007, Niger has pushed France, dependent to large extent on Nigerien uranium, to the edge. As earlier noted, the French Minister for Cooperation and Development would arrive in Niamey after a week to patch relations between Niamey and Paris and renegotiate a new uranium extraction contract. Niamey's attempt at playing off the French and Chinese appears to have paid off after Niger and Areva signed a deal in 2008 to develop the Imouraren mine, posed to be the second largest in the world, where Areva would have to pay double to obtain the *yellowcake*. [212]

In light of mounting dissident activities in uranium rich Northern Niger, former President Tandja's decision to lobby for the parliamentary approval of a $60 million budget to the Nigerien military,[213] and deployment of troops in Northern Niger after the infamous declaration of a state of alert by the government could have perhaps sought to minimize disruptions on the *yellowcake's* production and transport in addition to securing the lucrative uranium *yellowcake* proceeds that were bound to increase in the wake of the 2007 impressive pricing of uranium *yellowcake*. While the deployment of Nigerien troops could have somewhat succeed in crashing dissenting rebel, reigning havoc on the Tuareg population and reinstating somewhat political control over Northern Niger, uranium production remained minimal.

[211] UxC. Uranium yellowcake price (1988-2012), available at http://uxc.com/review/uxc_PriceChart.aspx?chart=spot-u3o8-full [accessed on 13/06/2012].
[212] Serge, Beuret and Woods, 2010, 110.
[213] Munna Abdalla "Understanding of the natural resource conflict dynamics: the case of the Tuareg in North Africa and the Sahel" ISS Paper 19 (2009), 7.

4.2 The Strategic Politics of Uranium and the Militarized Securing of Uranium Resources

Drawing on the preceding sub-sections analysis of Nigerien uranium-conflict actors exchanges over uranium in Niger, this research establishes the deleterious social and politico-economic implications of the military use of uranium (U.S.), the positive socio-economic implications of uranium's use in civil/commercial reactors (France and China), and the lucrative economic value of uranium exports (Niger) as plausibly informing the securing of uranium *yellowcake* in Niger. This research collectively brands the aforementioned factors: the strategic politics of uranium. Further, the strategic politics of uranium are vindicated by this research's deductions on the IPE of uranium *yellowcake* that highlights the noteworthy socio-economic and political implications of uranium's commercial and military uses in addition to the lucrative returns that could potentially be derived from uranium [*yellowcake*] sales.

Essentially, the 1945 Hiroshima-Nagasaki disaster and the commissioning of the Obsinsk nuclear reactor in 1954 that positioned nuclear power as the lowest-cost producer of baseload electricity could have brought to light these exceptional yet paradoxical socio-economic and political ramifications of uranium's military and commercial uses.[214] While the aforementioned deleterious social and politico-economic implications of the military use of uranium and the positive socio-economic implications of uranium's use in civil/commercial reactors could have earned uranium strategic significance, uranium producing states uninterested in the technological facets of fission but rather interested in supplying nuclear fuel (i.e. uranium *yellowcake*, uranium hexafluoride, low-enriched uranium, etc.) to the nuclear cycle could have attached equal significance to uranium, plausibly pegged on the formers lucrative economic value in the global markets, all other factors held constant. As such, the strategic politics of uranium remain somewhat disparate for "medieval" nuclear states dependent on uranium exports for their lucrative economic value.[215] Given that the

[214] Nuclear energy's low-cost production of baseload electricity that stands at a merger $ 2.19 cents per kWh (includes; operational costs, maintenance of the plant, purchasing fuel and management of used fuel) when pit against coal's $ 3.23 cents per kWh, Natural gas $ 4.51 cents per kWh and oil's 21.56 cents per kilowatt-hour (kWh). See National Energy Institute. Reliable and Affordable Energy: Economic Growth. Available at www.nei.org/keyissues/reliableandaffordableenergy/economicgrowth/ [accessed on 1/11/2012].

[215] "Medieval" nuclear states could perhaps depict uranium producing states uninterested in the technological facets of nuclear fission but rather on the monetary value of uranium's exports, e.g. Niger.

strategic politics of uranium could have to a larger extend informed the securing of uranium *yellowcake* in Niger, the influences of the strategic politics of uranium on actors choice of economic and/or non-economic militarization instruments deserves further interrogation.

The Nigerien case provides interesting insights on the stimulus of the strategic politics of uranium in [un] intentionally inducing actor's militarization in their advent of securing uranium *yellowcake*. Precisely, this research observes the U.S., France, China and Niger preeminence on non-economic militarization instruments in securing; the deleterious social and politico-economic implications of the military use of uranium (U.S.), the positive socio-economic implications of uranium's use in civil/commercial reactors (France and China), and the lucrative economic value of uranium exports (Niger), as affirming somewhat a positive synergy between the strategic politics of uranium and the militarized securing of uranium [*yellowcake*] resources in Niger. Nonetheless, the ability to generalize the influence of the strategic politics of uranium in inducing militarization in other cases would not only provide valuable advantages in establishing somewhat a parsimonious explanation on the militarized mode of securing uranium resources but most importantly strengthen the notion of the strategic politics of uranium, the militarized securing of uranium *yellowcake* resources, and confliction in Niger.

4.2.1 Safeguarding the deleterious social and politico-economic implications of the military use of uranium

Amongst other objectives, this research observes that the U.S. advent of militarization under the auspices of the PSI/TSCTI-P in Niger resonates with somewhat similar global tendencies of the militarized securing of nuclear material and weapon proliferation in a bid to avert a catastrophic use of [crude] nuclear weapons. While this research does not seek to pass moral judgment on whether the U.S advent of militarization in safeguarding the deleterious social and politico-economic implications of the military use of uranium could have been informed by a sincere ethical interest following her infamous use the atomic bomb in Japan or her intent at furthering her immense political clout that could have been partly necessitated by her use of atomic bombs in Japan, one thing is clear- the advent of safeguarding nuclear weapon use albeit, the deleterious social and politico- economic implications of the military use of uranium has remained synonymous with militarization. The U.S. militarization of Kazakhstan, South Korea and Israel, among other examples, could attest to the U.S. preeminence on militarizing instruments

in her bid to directly or indirectly dissuade rogue states [in this case North Korea and Iran] and non-state groups [terrorist groups in Kazakhstan] from acquiring and using crude/fully-fledged nuclear weapons.

4.2.1.1 Kazakhstan

Kazakhstan-U.S. relations blossomed in the aftermath of the U.S. 9-11 terrorist attacks following the Kazakh President, Nursultan Nazarbayev, resentment about the attacks that had claimed numerous lives and his pledge to support efforts seeking to fight international terrorism. Thereafter, the Kazakh government offered a major airport for the U.S. "operation enduring freedom" before receiving considerable financial and military largesse's from Washington in a bid to boost her efforts to fight terrorism in Central Asia. Additionally, the Kazakhstan security forces have immensely benefited from the now over-publicized joint counter-terrorism exercises with NATO and China under the Partnership for Peace Program/ Collective Security Threat Organization and "Tian-Shan-1-2006" terror drill, respectively.

Emergent scholarly debate has often dismissed the nature of the terrorist threat in Kazakhstan instead positing an appreciation of the considerable natural resource wealth in the Caspian region as prompting the U.S., China coupled with other states advent of militarized "counter-terrorism initiatives". While the latter assumptions could have been largely informed by the availability of considerable hydrocarbon, uranium deposits and rear earth minerals in the Caspian region, an appreciation of a uranium-rich yet largely unsecure Kazak territory facing considerable threat from fundamentalist groups could provide a better under understanding of the magnitude of the [nuclear] terrorism threat posed to the Kazakh state, the central Asian region and the international community.

Akin to the Nigerien case, the operation of terrorist group's[Islamic Movement on Uzbekistan-affiliated with al-Qaeda and Islamic jihad, Hizb ut-Tahrir al-Islami, the Jamaat of Central Asian Mujahedins, the Islamic Party of Eastern Turkestan, etc.] in Kazakh's expansive territory possessing considerable deposit of uranium could have made her a viable candidate for global regimes such as convention on the physical protection of nuclear material,[216] and militarized counter-terrorism initiatives that have since increased the states capacity to better govern her

[216] See Interpol, Kazakhstan, available at http://secure.interpol.int/Public/BioTerrorism/NationalLaws/Kazakhsta.pdf [accessed on 20/01/2013].

territory thereby curtailing terrorist groups expansion and influence in her territory, probable weapon developments and use in acts of nuclear terrorist that could be accompanied by a complete package of socio-economic and political devastation.[217] This is not rebut the militarizing states advent of mining concession, subsidized Kazakh uranium exports and securing of the considerable Caspian hydrocarbon deposits and rear earth minerals.

4.2.1.2 South Korea

Dissimilar to the Nigerien and Kazakh cases, the U.S. advent of militarizing Israel and South Korea in a bid to directly and or indirectly deter Iran's and North Korea's weapon developments, albeit prevent the deleterious socio-economic and political implications of the military use of uranium, remains a little less intricate. The Democratic People's Republic of Korea (DPRK), a pariah state, successful test of her first nuclear weapon in October 2006, later in May 2009 and her projected "greater third test" in 2013 in protest of the tightening of UN sanctions to Pyongyang which Seoul's had fully backed could have sparked a rise in the militarization of the Korean Peninsula. South Korea has thus taken the fore as the main ally in the U.S. quest to expand her missile defense systems in Asia with short term and long term interests of containing DPRK and to some extent the big elephant in the room; China.[218]

To this end, provisions of the Missile Technology Control Regime (MTCR), an international treaty involving 34 countries, limiting South Korea's ballistic missiles range to more than 300 kilometers and capping payload at 500 kilograms has been reviewed in the wake of an eminent attack by Pyongyang on Seoul.[219] In the new deal reached between South Korea and the U.S., the former will be allowed to develop ballistic missiles ranging up to 800 kilometers, sufficient in principle to cover North Korea, Russia and China.[220] In addition to the abovementioned ballistic missiles that should be ready by 2017, Korean Air and Missile Defense System [KAMD] is schedule to be fully deployed by 2015, consisting of radar, U.S. - built Patriotic PAC-2 missiles, and Aegis destroyers armed with sea-to-air missile purchases from the U.S.[221] The above coupled with the U.S.

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[217] International Business Publications USA, Global Terrorism Organizations Yearbook, (Washington: International Business Publications, 2008), 174.
[218] See Gregory Elich, Militarizing South Korea, available at www.globalresearch.ca/militarizing-south-korea/5308684 dated 17/October/2012.
[219] *Ibid*.
[220] *Ibid*.
[221] *Ibid*.

armament of her armed forces in South Korea with precision guided artillery with vertical trajectory that remains ideal for North Korean artillery battery targets situated behind mountains,[222] is enough evidence of the escalating militarization of South Korean and American troops and security systems in an attempt to preempt the deleterious socio-economic and political implications of a probable attack by Pyongyang.

4.2.1.3 Israel

While the U.S. has sought closer military ties with a number of Middle East allies, Israel has remained the closest ally in the U.S. quest to stop an immoderate Iranian regime from using nuclear weapons on Israel, the U.S. and/or other states. Whereas Iran's possession of Nuclear weapons has remained subject to widespread conjecture, there is no doubt that Iran, having cited a divine responsibility in "wiping off Israel from the phase of the earth", could use the nuke on Israel, never mind the Tel Aviv- Tehran and/ or Washington-Tehran nuclear exchange that would ensue. In a bid to avert the latter scenario that would devastate the socio-economic and political realms of development, the U.S., Israel, the European Union and other leaders have sought a number of options that include; diplomatic engagements, economic sanctions/oil embargos, and a possible militarization-coercive approach, in a bid to halt escalating Iranian weapon developments.

Regrettably, diplomatic negotiations and economic sanctions appear to have attained merger results in halting Tehran's weapon developments. While the latter could have been attributed to a resilient Tehran's regime perception of pursuit a "moral good", the U.S. advent of militarizing Israel ought to have provided valuable advantages in virtually unpacking the moral implications of Iran's use of nuclear weapons on Israel and/or guaranteeing mutual destruction in the event Iran uses nuclear weapons on Israel, the U.S., or her allies. As such, the U.S. has sought military cooperation with Israel around missile defense systems and defense training, as was evident with the recent Austere Challenge 2012 bilateral air-defense exercise involving over 3,500 troops training on missile defense elements [given security pundits predictions on Iran's probable use of missile delivery to launch nuclear weapons] in addition to combat-service support units.[223]

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[222] *Ibid.*

[223] See Tony Capaccio, U.S.-Israeli Military Exercise sending message to Iran, 15/10/2012, available at http://www.bloomberg.com/news/2012-10-15/u-s-israeli-military-exercise-sending-message-to-iran.html [accessed on 16/1/2013].

4.2.2 Securing positive socio-economic implications of uranium's civil/commercial use

Actors' choice of non-economic militarizing instruments in securing uranium resources, albeit the positive socio-economic implications of uranium's civil/commercial use remains difficult to conceptualize. However, while affirming Daniel Moran and James Russell's established notion of the interchangeability of energy security and national security, currently defined in socio-economic terms, in states advent of resource militarization,[224] this research draws similar parallels to establish the motive behind the Chinese and French choice of non-economic militarizing instruments in securing the *yellowcake* in Niger. This research therefore advances that the centrality of nuclear energy in the aforementioned states national socio-economic agendas, could have informed their advent of militarization in a bid to guarantee an unswerving access to nuclear supplies, albeit secure the positive socio-economic implications of uranium's civil/commercial use.

While the latter assertion, which borders on assertions citing the significance of scarcity as precipitating the militarized securing of uranium resources, remains prone to criticism by nuclear pundits who have constantly asserted the abundance of uranium resources, re-visiting basic nuclear gen at this point remains critical. Drawing on the alchemy of uranium, this research establishes that while uranium remains abundant, there exists varying percentages of uranium found in the ore. These percentages range from 0.02% to 0.5%.[225] Further interrogation would reveal that while uranium might be abundant, the production of uranium ore that contains less that 0.02% of uranium might not be economically viable. This would then precipitate states interested in acquiring uranium, in light of the positive effects of commercial electricity production on the economic and social realms of development scramble for uranium ores that possess a greater percentage of uranium. The result: state and non- state group's preeminence on non-economic militarization instruments in a bid to secure high quality uranium ore supplies both in the short-run and long-term. This is consistent with hydrocarbon militarized-securing literature enlisting actors on the demand side advent of militarization in light of limited energy supplies.[226]

[224] See Moran, Daniel and James Russell (ed.). Energy Security and Global Politics: The Militarization of Resource management. London: Taylor and Francis Group, 2009, 2.
[225] WATD. Uranium: How much and Where? Available at http://watd.wuthering-heights.co.uk/nuclear/uraniumreserves.htm [accessed on 27/12/2012].

In essence, this research observes the primacy of the notable socio-economic benefits of commercial nuclear electricity production, coupled with other resource specific and contextual conditions, as informing the French and Chinese scramble and militarized securing of high quality uranium ores in uranium producing Niger. This was evident with the French and Chinese, who place nuclear energy at the heart of their national socio-economic agendas, advent of militarization in securing Africa's highest grade uranium ores at Nigerien towns of Arlit and Akokan.[227]

4.2.3 Safeguarding the Lucrative economic returns of uranium exports

In the wake of the Japanese Fukushima meltdown, commercial nuclear developments and the favorable pricing of uranium exports have plummeted. Given the widespread recognition of the importance of sustainable [nuclear] energy sources for future economies, an uptick in the demand and pricing of uranium resources is inevitable. While the latter ought to increase the susceptibility for uranium producing states advent of securing uranium resources, their propensity for choice of non-economic militarizing instruments over economic instruments in securing the lucrative economic returns of uranium exports remains fascinating.

Given that the nature of the nuclear industry, heralded by the military use of uranium, could have imparted a natural urge to militarize uranium/nuclear production facilities; this research speculates that the lucrative economic returns of uranium exports ought to increase the propensity for uranium producing countries choice of non-economic militarizing instruments on two accounts. Firstly and most obviously, the lucrative economic returns of uranium exports ought to inspire a contest for uranium resources between the state and uranium bearing communities, thereby resulting in the state and dissidents advent of militarization-[counter] repressive strategies in a bid to control and/or prevent the loss of control of the uranium rich territory that would guarantee the lucrative returns from uranium exports and/or taxes levied on uranium mining companies and their employees.

Secondly and most naturally, the lucrative returns of uranium exports would precipitate the uranium producing states coupled with uranium mining company's intensification of uranium production. Given that uranium ventures, unlike the production of other resources, remain notorious for negatively impacting on the environment and the local livelihood, there is a greater

[226] Daniel Moran and James Russell, 2009.

likelihood of local communities' initiation of [non] violent protests against escalating uranium ventures.[228] The most obvious result would be the uranium producing states advent of a militarized-coercive policy in a bid to forestall further protest activity thereby furthering uranium production and the lucrative returns derived from uranium exports. The Nigerien regime's advent of militarization in a bid to preclude potential disruptions on uranium activity could attest to the supremacy and efficacy of militarized-coercive strategies in safeguarding the lucrative benefits of uranium exports. This is not to underrate the influences of resource nationalism and regime type, amongst other contextual conditions, as informing uranium producing states choice of militarization in securing the lucrative economic returns of uranium.

4.3 The Strategic Politics of Uranium: Militarization and/as securitization?

It remains worth noting that the notion of the strategic politics of uranium inducing militarization in securing uranium resources remains fairly anchored in Daniel Moran and James Russell's maiden work on the militarized securing of [hydrocarbon] resources borne out of resource security/national security, resource dependence and/or resource nationalism,[229] and to a large extend on this research's publicized notion of resource exceptionalism [connoting the fissile and exothermic properties of uranium isotope U^{235} that would produce remarkable results in the commercial/military uses]. Like Moran and Russell's work, the Nigerien experience and the militarized securing of uranium cases assessed, affirm the possible confluence of contextual conditions in the strategic politics of uranium inducing militarization. Essentially, this research observes actors preeminence on militarization in safeguarding the strategic politics of uranium could have further been compounded by contextual conditions [in the militarizing and/or militarized state], i.e. resource nationalism, resource dependence, peak uranium, threat of nuclear terrorism and slacker (weak)states with considerable-high quality yet frail mining regimes, etc.

Nonetheless, this research singles out the existence of somewhat a robust synergy between actors quest to safeguard the strategic politics of uranium's deleterious socio-economic implications of

[227] International Physicians for the Prevention of Nuclear War, Arlit and Akokan, Niger Uranium mining sites, available at http://www.ippnw-students.org/Japan/Arlit.pdf [accessed on 20/1/2013].
[228] Koos and Basedau (2012), for instance, observe that uranium ventures increase the probability for confliction by 10 percent.
[229] See Daniel Moran, and James Russell, 2009.

the military use of uranium and the choice of non- economic militarization instruments over economic instruments. This is evident with the militarization of Niger, Kazakhstan, Israel and South Korea. Other notable examples include the legitimization of the U.S. invasion of Iraq and Afghanistan founded on the premise of rogue state and non-state group's escalating weapon capabilities and probable use of crude nuclear weapons. More recently, January 2013, the French advent of a militarized-coercive policy against islamists in uranium-rich Mali could affirm the French advent of limiting the establishment of a safe haven for terrorists nuclear developments that could possess devastating implications upon their use. This is in addition to the French pursuit of securing Malian uranium reserves and her uranium production activities in neighboring Niger.

This research therefore establishes that the Hiroshima and Nagasaki nuclear bomb use incidents that marked the rise of exceptional military capability, could have increased the likelihood of actors choice of rather akin exceptional means, militarization, as the most favorable securitization instrument when pit against other economic and non-economic instruments. The absence of any nuclear use incident since 1945 could perhaps affirm militarization's efficacy in safeguarding and deterring the illicit acquisition of nuclear material (uranium *yellowcake*) in uranium producing slacker states unable to secure their expansive uranium bearing territories but most importantly the probable use of nuclear weapons by rogues state and non-state groups.

Whereas the advent of economic securitization instruments would remain the most feasible in uranium producing democracies with an established rule of law, their application in uranium rich post-conflict slacker and despotic states would produce somewhat merger results. Essentially, the presence of frail mining regimes in post-conflict uranium producing states experiencing lawlessness and insecurity ought to increase the affinity for TNCs choice of militarization/corporate militarism,[230] as the ultimate mode of securitization, in their advent of securing mining concessions, the production process and most importantly the positive socio-economic implications of uranium's commercial use.

[230] Kenneth Omeje (2006, 288) defines corporate militarism as the increasing empowerment of some large business corporations to operate their own security outfits or to considerably run (fund, equip and/or command) a detachment of the state's defense forces assigned to protect the corporations personnel and property.

In a nutshell, this research advances that there is a higher prospect for the strategic politics of uranium inducing militarization essentially when compounded with contextual conditions. Specifically, the influence of contextual conditions; uranium dependence, uranium nationalism, peak uranium, uranium producing weak states with considerable uranium reserves yet frail mining regimes, uranium-rich territory possessing tremendous security challenges, the threat of nuclear terrorism etc., ought to catalyze the militarized securing of uranium resources in light of the strategic politics of uranium.

While actors, principally the U.S., choice of militarization in preventing the deleterious socio-economic and political implications of the military use of uranium remains replete with examples, the influence of the strategic politics of uranium's; positive socio-economic implications of the commercial/civil use of uranium and the lucrative economic returns of *yellowcake* sales, in inducing actors on the demand and supply sides choice of militarization should be revisited by future studies. This is as a result of; the inexistence of adequate supporting material on the latter assumptions following a dip in the demand for uranium after the Hiroshima debacle, the initial development/exploration of uranium resources in most countries and most importantly projections of the renaissance/revitalization of nuclear energy in the near future.[231]

4.4 Militarization, Repression and Confliction in Niger

This research affirms Christian Davenport assertion on the positive effects of military resource allocations to despotic military regimes on the latter's imposition of negative sanctions (repression/coercion) on her citizenry.[232] Equally, the militarization of a despotic and uranium dependent Nigerien regime ought to increase the regimes repressive tendencies. This is in line with studies citing the importance of repression for states dependent on the IPE in sustaining or perpetuating the former.[233]

[231] Renaissance or revitalization of nuclear energy varies from region to region, or country to country. In some regions, the initial commissioning of commercial power plants could perfectly fit under the rubric; nuclear renaissance, while the revival of commercial nuclear plants could possibly underscore the revitalization of nuclear energy. See Luis Echavarri, 2007, 89-97.

[232] See Christian Davenport, "Assessing the Military Influence on Political Repression",Journal of Political and Military Sociology, Vol. 23, Summer, (1995): 131 ; and Zeigenhagen, Eduard, The Regulation of Political Conflict, New York: Praeger, (1986).

[233] See Jackson et al., 1978.

As such, this research advances that the Nigerien uranium-conflict actors' militarization of the Nigerien state/army and rebels (MNJ) in a bid to secure the *yellowcake*, albeit the strategic politics of uranium, ought to have accentuated the latter and formers repressive and counter-repressive capabilities. The latter coupled with mobilization induced by greed-grievance, emergent from the lucrative pricing of uranium exports, the devastating impacts of uranium's exploration/mining activities (environmental degradation, loss of land, eviction etc.) and/ or local communities disgust at external actors advent of manifest or less manifest interests over uranium, ought to have positively impacted on the onset but most importantly the escalation in the level of conflict in Niger.

Cautious of the existence of a modal uranium conflict and Regan and Norton's posited strong influences of repression on the level of conflict (nonviolent protests, rebellion and civil war), the successive chapter induces process-tracing in a bid to verify the influences of the uranium factor/the strategic politics of uranium but most importantly, the relationship between repression and the level of conflict in Niger (2007-2009), the independent and dependent variables, respectively.

4.5 Summary

Interrogation of the motives and the securitization instruments used by Nigerien uranium-conflict actors reveals the preeminence of non-economic militarization instruments in securing uranium [*yellowcake*] resources in Niger in light of the; the deleterious social and politico-economic implications of the military use of uranium (U.S.), the positive socio-economic implications of uranium's use in civil/commercial reactors (France and China), and the lucrative economic value of uranium exports (Niger). Interestingly, the aforementioned factors, instructive of the strategic politics of uranium, depict somewhat similar militarized motives in other cases. While this research finds a strong correlation between the quest to safeguard the deleterious social and politico-economic implications of the military use of uranium and actors, essentially the U.S., and militarization, the remaining two factors reveal not-so-strong influences in inducing militarization as they require the catalytic effect of contextual conditions. Even as further analysis on the influences of the strategic politics of uranium in inducing the militarized securing of uranium resources is encouraged, the chapter establishes the influences of the militarized securing of uranium resources, in light of the strategic politics of uranium, in propping-up the repressive and counter-repressive capabilities of a despotic Nigerien state and the MNJ and possibly informing the onset and escalation in the level of conflict in Niger (2007-2009). Cautious of the existence of a modal uranium conflict and Regan and Norton's posited strong influences of repression on the level of conflict, the succeeding chapter induces process-tracing in a bid to verify the influences of the strategic politics of uranium but most importantly, the relationship between repression and the level of conflict in Niger (2007-2009).

CHAPTER 5: TRACING THE INFLUENCES OF REPRESSION ON LEVEL OF CONFLICT IN NIGER (2007-2009)

5.0 Introduction

This chapter's induction of process-tracing is precipitated by the possible confluence of uranium and other non-resource factors on confliction in Niger. Similarly, Simon Hug's observation of measurement errors evident with the doubling of the size of the coefficient for GDP per capita and most notably the quadrupling of the coefficient for repression could have prompted the inauguration of process-tracing for this research.[234] While the aforementioned limits in Reagan and Norton's statistical approach are likely given the methods attempt at controlling/estimating causal effect of variables, there has been renewed interest in establishing the intervening causal mechanisms, as a second alternative to statistical and congruence methods advent of establishing covariations.

The advantages of tracing causal mechanisms/process-tracing, over statistical and congruence methods, are best underlined by Sayer who asserts, "Knowing that 'C' has generally been followed by 'E' is not enough; we want to understand the continuous process by which 'C' produces 'E', if it did."[235] Process-tracing's ability to establish the intervening causal process, the causal chain and the causal mechanism between an independent variable/s and the dependent variable, provides specific advantages to that end.[236] As such, this chapter employs theory testing and explanatory outcome variants of process-tracing, albeit employing George and Bennett's established detailed narrative form of process-tracing, in a bid to establish the role of the uranium factor in the conflict, the influences greed-grievances on the conflict process and most importantly test the influence of repression on the level of conflict.

Weary of a strong confirmation bias, given this research advent of process-tracing and case study analysis, founded on the possible strong influences of lagged repression on the level of conflict in Niger (2007-2009), this research assesses Niger's rich conflict history, before and after 2007, in a

[234] See Simon Hug, 2006, 16-20.
[235] Sayer, 1992, 106-107.

bid to allow for the falsification of the influences of lagged state repression on the escalation of conflict. Special emphasis will, nonetheless, be paid to the periods between 2000 and 2007 where unprecedented levels of socio-economic inequalities coupled with the escalating militarization of a despotic and resource dependent Tandja regime and rebels could have increased the repressive and counter-repressive capabilities of the Nigerien state and rebels precipitating the onset and escalation in the level of conflict in Niger (2007-2009). The incorporation of Nigerien conflict data assessed earlier in the text should not be mistaken for redundancy, but rather an attempt by this research to unveil the intervening causal chains, mechanisms and processes in Niger's conflict (2007-2009).

5.1 Pre- and Post- Independent Tuareg-State Relations

A Tuareg-led attack on a French military expedition in 1881 redefined Tuareg-state relations in the colonial and post-colonial states.[237] However, it was only after the subjugation of the Tuareg in 1922 that Niger became a French colony.[238] In a bid to gain tighter control on the Tuareg in Northern Niger and dowse the probability of a Tuareg revolt, the French adopted policies aimed at isolating and weakening Tuareg groups.[239] Among these policies included; the dismantling of Tuareg confederations and clans, curtailing the Tuareg's freedom of movement, subjecting the nomadic group to colonial policy favoring sedentary farmers, and the devotion of little, if any, socio-economic development in Northern Niger.[240] In light of the above policies, the Tuareg and their environs became culturally, politically and economically isolated. The already established discriminatory and acrimonious relationship between the colonial state and the Tuareg would continue in successive Nigerien post-independent states.

The independence and creation of the Republic of Niger, on the 3rd of August 1960, was preceded by the discovery of uranium in 1958 by the *Bureau de Recherches Géologiques et*

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[236] Alexander George and Andrew Bennett, 2005: 206.
[237] Andrew Boroweic, Taming the Sahara: Tunisia Shows the way while others Falter, (West Port, CT: Greenwood Publishing, 2003), 12.
[238] U.S. Bureau of African Affairs, Background Note: Niger, February2012, available at http://www.state.gov/r/pa/ei/bgn/5474.htm [accessed on 14/8/2012].
[239] Toyin Falola and HettyHar (ed.), Narrating War and Peace in Africa, (Rocherster, NY: University of Rochester Press, 2010), 158.
[240] *Ibid*.

Minières near Northern Niger's mining town of Arlit.[241] While the development of uranium in Niger did not start until the *Société des Mines de l'Air* (Somair) opened an open caste mine near Arlit in 1971, the resource, as a majority of this research's interviewees avow,[242] would impact on the political and socio-economic prospects of the newly independent state, its citizenry and most importantly the uranium bearing Tuareg community.

Niger's first president, Hamani Diori, sought to consolidate the newly independent state.[243] With the help of the French police, Diori's government cracked down on opposition parties, banned political meetings and censored the media in his governments quest to "maintain law and order".[244] Though the post-independent Nigerien cabinet selection portrayed a national ethnic outlook, members not from Diori's ethnic group began to be replaced. The latter coupled with emergent socio-economic and political grievances in the North and the castigation of Tuaregs pastoral lifestyle that remained socially and economically regressive and an impediment to nation building,[245] would further isolate the Nigerien Tuareg, like their Malian counterparts, in the post-independent patronage regimes.[246]

5.2 Soaring Tuareg discontent and rebellion against the State

Discriminatory state policies coupled with the 1968 drought not only negatively impacted on the Nigerien economy and the already fragile Tuareg nomadic community, but also strained the latter's relationship with the central government.[247] The above together with Diori's tyrannical leadership would result in Lt. Colonel Seyni Kountché overthrowing Diori in a coup on the 15th of April 1974.[248] Despite the fact that Kountche's regime sought to emulate its predecessor's repressive tendencies, Niger's economy would pick-up, largely, as a result of the initiation of uranium

[241] John Jessup, An Encyclopedic Dictionary of Conflict and Conflict Resolution: 1945-1996, (West Port, CT: Greenwood Publishing, 1998), 528.
[242] All except 2 of this research's 10 interviewees avow a change in politics, governance and approaches to security since the discovery and uranium in Niger.
[243] Encyclopedia of Nations, Niger-History, available at http://www.nationsencyclopedia.com/Africa/Niger-HISTORY.html [accessed on 12/08/2012].
[244] *Ibid*. See also Fick Maggie, "To Rebel or to Participate? Strategies of sub-national mobilization in Niger and
[245] Kalifa Keita, Conflict and Conflict Resolution in the Sahel: The Tuareg Insurgency in Mali, Strategic Studies Institute (1998),9.
[246] AbdoulayeMahamadou, Decentralisation and Local Power in Niger, Issue 150 of IIED Issue Paper,(2009); 4.
[247] Benno Ndulu, Stephen O' Connel et al., The Political Economy of Economic Growth in Africa:1960-2000, (Cambridge: Cambridge University Press, 2007), 191.
[248] Encyclopedia of Nations, Niger-History, available at http://www.nationsencyclopedia.com/Africa/Niger-HISTORY.html [accessed on 12/08/2012].

production in Northern Niger.[249] Kountche's all-inclusive government would later exclude the Tuareg after their involvement in the March 1976 attempted coup, skewing recruitment to the government in favour of his Zarma ethnic group.[250]

Persistent Tuareg marginalization, the 1984 drought that threatened the pastoral livelihood of the Tuareg, bigoted persecution/arrest of Nigeriens of Tuareg descent and a dip in uranium prices that negated economic growth, would further stress the relationship between the Tuareg community, Kountché's regime, and the successive government led by Ali Saïbou, Kountché-following the death of his cousin, Kountché, in 1987.[251] The frail Niamey-Tuareg relations were further aggravated by the poor management of Tuareg emigrants' re-settlement process, further fostering a common sense of Tuareg discrimination and marginalization amongst the returning populous.[252] By the beginning of 1990, the massive sojurn of unemployed, bitter, and armed Tuareg groups was adequate enough to undermine regional stability, leave alone inspire internal armed revolt against the Nigerien government.[253]

On the night of 6-7th May 1990, a young group of Tuareg men protesting the misuse of aid and the arbitrary arrest of Nigeriens of Tuareg descent attempted to occupy the gendarmerie of Tchin-Tabarade.[254] They would later attack the sub-prefecture's administrative offices and the civil prison.[255]Responding with uttermost force, a heavily armed military unit dispatched by the government severely crush the dissenters resulting in a sizable number of civilian deaths.[256] The above cycle of violence would continue in spite of the convention of the *Conférence Nationale* in 29th July 1991 that sought to establish democratization, albeit an amicable solution to the protracted Tuareg-Niamey imbroglio.[257] During the course of the *Conférence Nationale*, disenchanted Tuareg's formed an armed rebel group, *Front de Libération de l'Azawak et de l'Aïr*

[249] Dickson Eyoh and Paul Tiyambe (ed.), Encyclopedia of Twentienth-Ceantury African History, (London: Routledge, 2003),390.
[250] Robert Charlick, Niger: Personal Rule and Survival in the Sahel, (San Francisco: Westview Press, 1991), 64.
[251] Benno Ndulu (ed.) et al., 2007, 191.
[252] Alison Behnke, Niger in Pictures (Minneapolis: Twenty-First Century Books, 2008), 32.
[253] An iflux of the Tuareg back to Niger in mid-1980 and early 1990 was as a result of; the 1980 slump in the global oil prices in Libya-forcing the laying-off of a significant number of Nigerien Tuareg workers, dissolution of the Libyan-backed Islamic front, and the Algerian‟s governments repatriation of around 20,000 Nigerien refugees.
[254] James McDougall and Judith Scheele (ed.), Sahara Frontiers: Space and Mobility in Northwest Africa (Bloomington, Indiana: Indiana University Press, 2012), 255.
[255] *Ibid*.
[256] Alison Behnke, 2008, 32.
[257] Pierre Englebert, Recent History, in Africa South of the Sahara 2004, (London: Europa Publications, 2004), 793.

(FLAA), headed by Rhissa Ag Boula on the 19th of October 1991.[258] As the conference closed on the 3rd of November 1991, Boula declared "the end of the *Conférence Nationale* had marked the end of any peaceful solution," citing his dissatisfaction with the conferences inability to address Tuareg's autonomy demands.[259] Launching their first attack in the town of In-Gall where five army soldiers were killed in October 1991, Niamey would thereafter impose martial law in Northern Niger as the security forces embarked on a major offensive against the FLAA.[260] As at the 1st of March 1992, the rebellion had been ruthlessly crashed by forces loyal to the transitional Government.[261]

Meanwhile, secret negotiations begun in France in 1993 leading to a precarious truce in which north Niger was to be demilitarized and talks convened on the Tuaregs main demands, namely: political autonomy, refugee resettlement, and Niger's government's commitment to regional development.[262] While the truce did not hold until 1994,[263] the FLAA splintered into militant groups; the *Front de Libération de Temoust* (FLT), the *Armée Révolutionaire de Libération du Nord du Niger* (ARLNN) and the *Front Populaire de Libération du Sahara* (FPLS), as Mahamane Ousmane assumed office as the first democratically elected President of Niger following the March 1993 polls.[264]

In an attempt to provide a common negotiating front, the splinter groups re-grouped under the rubric: the *Coordination de la Résistance Armée* (CRA), later the *Organisation de la Résistance Armée* (ORA), in 1994.[265] On 24th April 1995, a cease-fire mediated by Algeria, Burkina Faso and France, was signed in Ouagadougou between the Nigerien government and the ORA. In the agreement, the Tuareg abandoned their demands for federalism and independence in exchange for the government's provision of administrative decentralization, integration of Tuareg combatants into a restructured army and socio-economic development for Northern Niger. Following the Ouagadougou agreement, the ORA and the Tuareg realized that they had been short-changed. The

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[258] See Peter Probst and Gerd Spittler (eds.) Between Resistance and Expansion:Exploration of Local Vitality in Africa (Munsre: LIT Verlag, 2004), 78.
[259] Carolyn Norris, Mali-Niger : Fragile Stability, (UNHRC Centre for Documentation And Research, May 2000), 10.
[260] Jim Hudgens and Richard Trillo, The Rough guide to West Africa (London: Rough Guides, 2004), 952.
[261] David Lea (ed.) Political Chronologies of the World: A political Chronology of Africa (London: Europa Publications Limited, 2001), 332.
[262] Jim Hudgens and Richard Trillo, 2004, 952.
[263] *Ibid*.
[264] Minorities at Risk Project, Chronology for Tuareg in Niger, 2004, available at: http://www.unhcr.org/refworld/docid/469f38c2104.html [accessed 2 October 2012].
[265] *Ibid*.

ORA spokesperson is often quoted expressing that "nothing was definitively settled."[266] In spite of Niger's proclaimed place as a leading global uranium producer, the Tuaregs deteriorating socio-economic situation would be exacerbated by a parliamentary crisis, coups and counter-coups.[267] On the 12th of December 1999, Mamadou Tandja, a retired army officer, was democratically elected as the 7th President of Niger.[268]

5.3 Politics of uranium and conflict in Niger between 2007-2009

In the new millennia, escalating ostracism and persistent inequalities among the uranium-bearing Tuareg community, an uptick in the global demand for nuclear energy, and terrorism concerns could have positively impacted on Niger's 2007-2009 conflict. In the aftermath of the September 11th terror attacks in the U.S., the American war on terror, legitimate or otherwise, would grace the advent of global, regional and national counter-terrorism initiatives. The Pan-Sahel Initiative, that included Niger amongst other participatory states, could represent such initiatives. In 2002, the U.S set aside $6.5 million for the launch of the Pan-Sahel Initiative: designed to enhance border protection, track movement of people, combat terrorism, and enhance regional cooperation and stability.[269] Between 2003-2004, US special forces in the EUCOM theatre of operations were deployed in the Sahel training a company of soldiers, 150 soldiers, in the participatory countries; Niger, Mali, Mauritania and Chad.[270] Whereas Algeria remained a close confidant of Washington, Niger would play a central role in the U.S. advent of the, supposed, war on terror.[271]

In 2003, 32 European tourists were abducted in the Algerian Sahara by Algeria's Islamist *Groupe Salafiste pour la Prédication et le Combat* (GSPC), later renamed *Al-Qaeda in the Islamic Maghreb* (AQIM) in 2006.[272] Under the guidance of Saifi Amari, popularly known as El Para, GSPC released the hostages after six months in North East Mali, following the alleged payment of a 5 million euro ransom.[273] El Para and his 60 or more accomplices were, supposedly, chased by a

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[266] *Ibid*.
[267] *Ibid*.
[268] Bram Posthumus, Niger: A Long History, a Brief Conflict, an Open Future, 2010, available at http://www.conflict-prevention.net/page.php?id=40&formid=73&action=show&surveyid=37 [Accessed on 1/10/2012].
[269] Yahia Zoubir and Haizam Amirah-Fernandez (ed.), North Africa: Politics, Region, and the Limits of Transformation, (Oxon: Routledge, 2008), 188.
[270] *Ibid*. See also Yonah& Kraft, 2008:1125.
[271] Jeremy Keenan, 2008, 453.
[272] *Ibid*.
[273] *Ibid*.

combined military operation of US Special Forces, Malian, Algerian and Nigerien forces across Mali and Niger to Chad, where 43 of them were reportedly killed in an engagement with Chad regular forces in March 2004.[274] El Para's capture in 2004 would be publicized as a notable success of the PSI.[275]

In the same year, Keenan notes that President Tandja's sheer attempt at provoking the Tuareg was manifest with the arrest and imprisonment of Rhissa ag Boula, the former leader of the rebel *Front de Libération de l'Azawak et de l'Aïr (FLAA),* on a trumped up murder charge. Boula was later released without charges after 13 months, but not until a number of Tuareg had been provoked into taking up arms. [276] The latter presented Tandja with the perfect occasion to send 150 of newly US-trained Nigerien troops into the Tuareg stronghold of the Aïr Mountains, where they were easily ambushed by the Tuareg.[277] One soldier was killed, four injured and four taken hostage.[278] Rhissa's brother Mohamed ag Boula claimed responsibility for the ambush adding that he was leading a 200-strong group that was fighting to defend the rights of the Tuareg, Tubu and Semori nomadic populations of northern Niger. [279]

In 2005, the PSI was rebranded into a more ambitious, comprehensive, and well-funded Trans-Saharan Counter Terrorism Initiative.[280] With a budget of $500 million and an expansion of participatory states; Algeria, Chad, Mali, Mauritania, Morocco, Niger, Nigeria, Senegal and Tunisia, the TSCTI mandate was similarly expanded to include defeating terrorist groups in the Sahel through; strengthening regional counterterrorism capabilities, enhancing and institutionalizing cooperation among the regions security forces, promoting democratic governance, discrediting terrorists ideology, and reinforcing bilateral ties with the United States.[281] Whereas the expansion of the PSI into TSCTI and incorporation of more "terrorist ridden" participatory states, who ironically possessed merger terror concerns yet considerable hydrocarbon

[274] *Ibid*.
[275] YahiaZoubir and HaizamAmirah-Fernandez (ed.), 2008, 188.
[276] Jeremy Keenan, 2008, 453-454.
[277] *Ibid*.
[278] *Ibid*.
[279] *Ibid*.
[280] YahiaZoubir and HaizamAmirah-Fernandez (ed.), 2008, 188.
[281] Global Security, Trans Saharan Counterterrorism Initiative/ Partnership, available at http://www.globalsecurity.org/military/ops/tscti.htm [accessed on 12/09/2012].

deposits, could have perhaps strengthened the American energy securitization arguments, further examination of the scenarios, especially in Niger, prior to the institution of the PSI would bring to light a thriving illicit nuclear acquisition/weapon development environment compounded by a weak state that would provide the perfect unwitting location, easily accessible uranium *yellowcake* and a safe haven for extremist groups (GSPC/AQIM).[282] Around 2005, the French discovered illicit uranium extractions in their abandoned mines and the subsequent sale in the international black market.[283] The latter could have further affirmed concerns over the security of uranium mines, *yellowcake* transportation and prior pronouncements by a senior Somair manager who had expressingly stated that, "If some terrorist group wants to get a drum, they're going to get it. There's no way you can defend against it."[284] Whether advancing counter-proliferation initiatives or national self-interests, the Tuareg would have none of the PSI/TSCTI debate, and expressed their displeasure with the American initiatives by lodging a formal complaint to the UN Working Group on Indigenous People in July 2006 over indigenous rights to the Aïr-Talak-Tamesna region.[285] During this period, an intensive drought, formidable security concerns, coupled with poor macro/micro-economic policies would plunge Niger to the bottom of the 2005 and 2006 UN Human Development Indexes.[286] In addition, Niger featured last in the Human Poverty index and the Gender-Related Development index.[287] The above state of affairs coupled with a locust infestation that destroyed crops yields and livestock feed would push the nomadic Tuareg community to the brink.[288]

The revitalization of nuclear energy, typical of the increase in uranium resources by 15 per cent between 2005 and 2006, saw the re-intensification of uranium mining companies exploration and

[282] A deconstruction of nuclear terrorism would reveal the profound synergy between weapon/nuclear material acquisition, extremism and the outbreak of a nuclear terrorist attack.
[283] History Commons, Context of 'Between 1999 and 2000: France Concerned About Its Uranium Supplies in Niger', available at http://www.historycommons.org/context.jsp?item=complete_timeline_of_the_2003_invasion_of_iraq_3139 [accessed on 8/10/2012].
[284] See Bruce Stanley, Niger's low security for uranium, radioactive materials under scrutiny, dated 19/09/2003, available at http://www.freerepublic.com/focus/news/986834/posts [accessed on 18/12/2012].
[285] Jeremy Keenan, 2008, 456.
[286] Silvia Hidalgo and Augusto Lopez-Claros, The Humanitarian Response Index 2007: Measuring Commitment to Best Practices (New York: Palgrave Macmillan,2008),112.
[287] *Ibid*.
[288] *Ibid*.

production of uranium in Niger and other uranium producing states.[289] The intensification of mining and milling activities in the COMINAK and SOMAIR, Akouta and Arlit, mines saw uranium production in Niger increase by 11 per cent in 2006.[290] About two thirds of the uranium concentrates, from SOMAIR and COMINAK, were sold to COGEMA, an Areva group company, and the rest to other foreign partners, ENUSA of Spain and OURD of Japan.[291]

Besides uranium mining French Areva, that remained the sole uranium producer prior to 2006, other uranium mining TNCs prospecting for the lucrative uranium mining concessions in Niger included; the Bayswater uranium Corporation, North Atlantic Resources and a group of companies led by China National Uranium Corporation.[292] In 2006, Areva Nuclear Company submitted 19 permit applications in accordance with the recently amended Nigerien mining law.[293] The Imouraren permit, located about 80 km South of Arlit, in addition to an ore body discovered in 1969 were granted in July 2006.[294] A group of companies led by China National Uranium Corporation were also granted uranium exploration licenses covering areas of Madaouela and Teguidda in the Agadez region, located 1,000 km Northeast of Niamey.[295] A Canadian company, North Atlantic Resources Ltd., was as also granted a uranium exploration license for the Abelajouad property located in the Arlit region.[296]

Areva's uranium extraction monopoly in Niger had been shattered. Right under the nose of the French mining operations in Arlit, China had acquired two mining zones in Maddaouela and Teguidda.[297] To make matters worse, the contracts were signed on July 14th: a French national holiday, Bastille day.[298] Presidents Tandja's son, Ousemane Tandja, the commercial attaché to

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[289] Keith Campbell, Nuclear energy revival ensuring future of uranium mining, available at http://www.miningweekly.com/article/nuclear-energy-revival-ensuring-future-of-uranium-mining-2010-04-09 [accessed on 14/07/2012].
[290] COMINAK was owned by Areva NC (34%), Government of Niger (31%), Overseas Uranium Resources Development Company of Japan (25%) and EnusaIndustriasAvanzadas, S.a. of Spain (10%) and employed about 1,100 people. SOMAIR, on the other hand, was owned by Areva NC (63.4%) and the Government of Niger (36.6%) and employed about 600 people. See International Business Publications, 2007, 204-205.
[291] *Ibid*, 207.
[292] *Ibid*, 204.
[293] *Ibid*, 205.
[294] *Ibid*.
[295] *Ibid*.
[296] *Ibid*.
[297] Setge, Beuret& Woods, 2010, 99.
[298] *Ibid*.

Hong Kong, was credited for helping his father's regime attract the Areva's competitions: the Chinese.[299]

In 2006, a local NGO, "Aghir in Man", meaning a call for help in Tuareg lingua, would successfully have samples of drinking water analyzed by Sherpa and the *Commission de Recherche et d"Information Indépendantes sur la Radioactivité* (CRIIRad).[300] The results revealed extraordinary indices of both alpha and beta radioactivity in the water samples that were above the World Health Organization threshold, the European Union directive standards and French regulations.[301] The results of the analysis similarly put to question; Areva's earlier press statement, in February 2004, which rebutted the contamination of water and more critically, the degree of environmental degradation induced by the uranium mining companies in Northern Niger that further accelerated "Niger's economic, social and environmental tragedy".[302] The results of the analysis similarly instigated public protests against Areva in May and November 2006 that saw Areva's President, Mme Anne Lauvergeon, visit Niger from 30 November to 1 December 2006 in a bid to calm the situation and stabilize Areva's position in the country.[303] Around the same period, decentralization measures remained unimplemented and the 15 per cent of mining revenue earmarked for the local communes, decided upon in 2006, rarely reached the communities. As at the start of 2007, the Tuareg community remained largely resentful as intermittent acts of banditry, attributed to disgruntled ex-rebels, persisted in Northern Niger.

On the 9th of February 2007, a Tuareg-led group attack at a military base near Ifeouraren, in Northern Niger, rekindled the Tuareg- Niamey conflict.[304] Under the command of three rebel leaders; Aboubacar ag Alambo, Kalakoua and Al Charif (Acheriff Mohamed) and supposed logistical support from Algeria's *Département du Renseignement et de la Sécurité* (DRS), the attack resulted in the death of three soldiers in addition to the rebel group's seizure of military material.[305] A few months later, a group unknown so far, *Mouvement des Nigériens pour la justice/* Nigerien's Movement for Justice (MNJ), headed by Agaly Alambo and Captain Mohamed

[299] *Ibid*, 98.
[300] Jeremy Keenan, 2008, 455.
[301] *Ibid*.
[302] *Ibid*, 456
[303] *Ibid*, 455.
[304] Allamok E. Country report or human rights practices for 2007 (Washington: Government Printing Office, 2011), 399.

Acharif, ex- *Forces Armées Nigériennes* (FAN), gathered around 1,000 combatants- including ex-U.S. trained FAN soldiers in Northern Niger's Air Mountains, claimed responsibility for the attacks and instantaneously put up a platform of formal political rights.[306]

Fundamentally, the MNJ demanded a larger role in governance at both local and national levels, a fair distribution of uranium rent exploited in Northern Niger, and socio-ecological rights for the pastoral Tuareg majority in Northern Niger.[307] Having confiscated Chinese-made arms during a raid at a military installation in Tazarzatt, two weeks earlier, in which two soldiers were killed and seventy-two captured, MNJ abducted Zhang Gouhua, an assistant Director-General of Azelik- a subsidiary of China Nuclear Engineering and Construction Corporation- in protest of Beijing's support to Niamey as well as the formers inability to employ local people in the mines and invest in local infrastructure.[308] The MNJ similarly expressed their reservations with the fabrication of the "U.S. war on terror", typical of the PSI/TSCTI/P, and growing insecurity in the Sahel compounded by the presence of AQIM.[309]

Following several military engagements, among them an attack by the MNJ on a base of the French uranium company, AREVA, the Nigerien parliament approved more than U.S.$60 million in extra budget funds to confront the attacks.[310] Displeased with the MNJs escalating dissident activities and possibly their inability to counter MNJs growing (military) capabilities, Niamey/FAN meted their frustration on the local populous. On 2nd June 2007, FAN soldiers killed three civilians, one of whom was crippled and the other two elderly noncombatants aged over 80 years.[311] A further nine pilgrims were similarly executed by FAN soldiers.[312]

By the end of June 2007, the rebellion had deteriorated.[313] The most serious military engagement being an MNJ attack on the FAN at Tazerzait, Northern Aïr, resulting in 15 soldiers killed, 43

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[305] *Ibid*. See also Jeremy Keenan, 2008, 458.
[306] Northolt S. Field of Fire: An Atlas of Ethnic Conflict (London: Troubador Publishing, 2008), 51.
[307] See IBP USA 2011, 28, Keenan 2008 &Abdalla 2009.
[308] See Serge, M., Beuret, M. & Woods, P. China safari: on the trail of Beijing's expansionism in Africa. (New York: Nation Books, 2010), 99.
[309] See Jeremy Keenan, 2008, 453.
[310] *Ibid*, 451.
[311] *Ibid*, 452.
[312] *Ibid.*
[313] *Ibid.*

wounded and 72 taken hostage.[314] Notwithstanding the deployment of 4,000 government troops, MNJ attacks escalated with further assaults on FAN convoys and a coal mine at Tchighozerine, which provided power for the uranium mines at Arlit, in addition to other strategic installations in and around the regional capital of Agades including the airport being reported.[315]

The Nigerien President Mamadou Tandja, later deposed, accused the French of arming and financing the operations of MNJ after having lost lucrative uranium mining concessions to the Chinese.[316] His allegations, essentially, founded on Gilles de Namur, a retired French colonel and an employee of Epee (an organization in charge of Areva's security), return to Niamey and his supposed contact with the MNJ.[317] In July 2007, more theatrical and suspicious events would follow with Muhammad Ajidar, a commander in Niger's army tasked with protecting Areva's interests and employees, defection to the MNJ alongside twenty-five of his armed men.[318] Thereafter, the MNJ is said to have lost interest in Areva, instead focusing their attention on the Chinese whose deplorable mining conditions would be equated to an "African Guantanamo".[319]

Against a backdrop of MNJs growing military capabilities pegged on the defection of a significant number of ex- U.S trained FAN, *Force National d'Intervention et de la Sécurité* (FNIS), and most importantly the alleged French military support to the MNJ, further compounded by the aforementioned defection of a military unit assigned to protect Areva's interests, in addition to the purported support by Algeria, Chad and Tuareg groups in the diaspora (especially the Algerian and Malian Tuareg), Tandja's government declared a State of Alert on the 24th of August 2007, effectively placing the region under martial law and sealing it off from the outside world.[320] An Agades resident is said to have described the previously lively regional capital as a "ghost-town".[321] It should also be noted that around this time, 2007, uranium *yellowcake* was selling at a historic high of $138 a pound, up from a meager $7 a pound at the beginning of the millennium.[322] In spite of the draconian measures imposed by the government, FAN had not fared

[314] *Ibid*.
[315] *Ibid.*
[316] Chad, Libya and Tuareg communities in the diaspora are similarly accused of funding and/or arming the MNJ.
[317] Setge, Beuret& Woods, 2010, 100.
[318] *Ibid.*
[319] *Ibid.*
[320] Jeremy Keenan, 2008, 451-452.
[321] *Ibid*, 452.
[322] See Paul Mladjenovic, Precious metals investing for dummies (Hoboken: Wiley Publishing, 2011).

well.[323] By the autumn, between 45 and 60 soldiers had been killed, dozens wounded and many more taken hostage.[324] Keenan attributes the former to MNJ's military capabilities, their acquaintance with the region and their tactical use of land mines that effectively limited the movement of government forces.[325]

Angry at MNJs incapacitation of the FAN forces, Niamey re-invented an earlier strategy, which had been rife in 2007- excessive use of force towards the local Tuareg populous.[326] Keenan, like Amnesty international, decry that using the cover of the "state of alert", the government forces limitless use of force resulted in two despicable massacres in early October and distress among the Tuareg that President Tandja had indeed re-invented a policy of genocide towards the community.[327] The two massacres, occurring successively, were apparent with the selective assassination of 12 Tuareg travellers near the Algerian border east of Assamakka and FAN soldiers rampaged through nomadic camps near the road between Assamakka and Arlit killing 20 Tuareg civilians in their tents.[328] By the end of the year, the MNJ claimed that at least 250 People had "disappeared".[329]

Since the infamous attack on Areva's Immouraren base in 2007 and the abduction of a Chinese executive, later released after 5 days in July 2007, MNJ had refrained from attacks on uranium mines or *yellowcake* convoys.[330] However, MNJs self-professed "spokesman"- cum head of the political wing, Rhissa ag Boula, pronouncement of a war against uranium, in an interview with *Le Nouvel Observateur* on the 31st of January 2008 in Paris, would not only revive attacks at *yellowcake* convoy but also re-establish a new rivalry with Aghaly Alambo leading to the formers expulsion from MNJ in February 2008.[331] On the 14th of March 2008, gunmen attacked a yellow-cake convey south of Arlit, killing one civilian and wounding another.[332] Although the attack is alleged to have been carried out by the MNJ, the attackers were not identified.[333] Some Tuareg in

[323] Jeremy Keenan, 452.
[324] *Ibid*.
[325] *Ibid*.
[326] *Ibid*.
[327] *Ibid*.
[328] *Ibid*.
[329] *Ibid*.
[330] *Ibid*, 463.
[331] *Ibid*.
[332] *Ibid*.
[333] *Ibid*.

the region claimed the attack was not undertaken by the MNJ but by some "troublemakers" who had moved into the region.[334]

As war raged, the Nigerien parliament on 19th of April 2008 passed a law that introduced new offenses open to prosecution, in addition to increasing the powers of the police and military to make arrests.[335] Essentially, the law penalized the unlawful possession of radioactive materials, hostage-taking, attacks on transport, and the manufacture and possession of explosive devices.[336] On the 30th of May 2008, members of the MNJ's political wing in Paris, headed by Rhissa AgBoula, announced the formation of the *Front des Forces de Redressement* (FFR).[337].A few days later, 3rd of June 2008, Niamey would organize a national workshop on the "problems and issues of land use in Niger", perhaps in a bid to buy off Tuaregs aggrieved by the inequitable distribution of land in favor of sedentary farmers from the South of Niger.[338] In spite of the above concessionary tactics, President Tandja, a former military officer, remained steadfast in his coercive approach, terming the MNJ as a bunch of smugglers, felons and terrorists.

While the formation of the FFR would further complicated the prospects of realizing an instant and amicable solution to the conflict, violence between the MNJ and the Nigerien state had claimed the lives of approximately 200 rebel and 70 FAN soldiers towards the end of 2008.[339] For two years, the MNJ had kept the Nigerien U.S trained FAN in check, winning significant battles in the Air Mountains, and concurrently growing from a small group to an organized force with a political platform that had managed to appeal to the different strata of the Tuareg population.[340] In early 2009, a faction of MNJ expressed willingness to negotiate with the Tandja government resulting in a peace deal facilitated by the U.S. Institute of Peace.[341]

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[334] *Ibid*.
[335] Abdoulaye Massalatchi. Niger, hit by Tuareg revolt, adopts anti-terror law, available at http://uk.reuters.com/article/2008/04/20/idUKL2046634._CH_.242020080420 [accessed on 12/11/2012].
[336] *Ibid*.
[337] Recent Progress Towards Peace in Niger, dated 5th June 2009, Available at http://issikta.blogspot.com/2009/06/evolution-of-tuareg-led-rebel-groups-in.html [Accessed on 2/10/2012].
[338] *Ibid*.
[339] Reuters, "17 rebels killed in army attack," July 17, 2008.
[340] YvanGuichaoua (ed.) Conflict, Inequality and Ethnic Series: Understanding Collective Political Violence, (London:Palgrave Macmillan,2012),46.
[341] International Business Publications USA. Niger foreign policy and Government guide (Washington: IBP USA,2007), 28.

5.4 Discussion

This research's induction of somewhat a detailed narrative on Niger's socio-economic and political history reveals the confluence and influence of both internal and external factors in the production of Niger's Conflict (2007-2009). Among these include; the local influence [i.e. persistent discriminatory policies against Tuareg/Northern region, low per-capita income, high levels of ethno-linguistic and cultural heterogeneity, lagged repression etc.], regional influences [i.e. competing regional and sub-regional interests, i.e. Algeria, Libya, Mali, Tuareg groups], and global influences [i.e. "war on terror" and the commercial global scramble for uranium *yellowcake*]. Collectively, the aforementioned factors accentuated the mobilization processes and [counter] repressive capabilities of the state and rebels necessary for confliction. At this point, this research scales down the notion of an impeccable synergy between the uranium factor and confliction in Niger. Nonetheless, the noteworthy role played by the uranium factor in Niger's conflict (2007-2009) cannot be underestimated.

This research observes the negative impacts of uranium production among them; contamination of water sources and the atmosphere with radioactive material/waste, subjection of the uranium-bearing communities to [forceful] eviction, disruption of Tuareg livelihoods, coupled with persistent Tuareg ostracism, inequitable distribution of uranium rent, anger at the U.S. fabrication of the war on terrorism and the possible rebel leaders pursuit of material self-interest amongst other factors, as having positively impacted on the rebel mobilization around MNJ.

Moreover, this research observes the "advantages" of MNJs advent of hostage taking, [drug and human] trafficking and procurement of financial largesse from state (Chad and Libya) and non-state groups (Tuareg group's in Mali, Algeria and diaspora), in deriving funds necessary for arms purchase and private side payments against a backdrop of mounting state repression and looming rebel defection. While the latter vindicates posited constructs drawn from Regan and Norton's analysis on the role of greed (connoting self-interested behavior and resources available to pay selective benefits) and grievances in [re] instituting rebel mobilization, this research observes that the latter could have further been galvanized by previous Tuareg dissident mobilization in the 1990s. This is apparent with the composition of MNJs leadership that constituted Rhissa Ag Boula and Aboubacar Ag Alambo, amongst other leaders and rebels, party to the FLAA and the 1990 rebellion.

In an attempt to alter the rebel mobilization process, this research discerns Niamey's advent of a militarized-repressive policy. While the latter could have been stimulated by the remarkable political clout of the Nigerien military elite, amongst them President Tandja, this research asserts that the uranium factor, to a large extend, accentuated Niamey's military capabilities thereby increasing the repressive capabilities of a despotic and resource dependent Niamey. Precisely, this research notes the influence of the strategic politics of uranium's deleterious social and politico-economic implications of the military use of uranium, positive socio-economic implications of uranium's use in civil/commercial reactors, and the lucrative economic value of uranium exports, as having [un] intentionally induced the militarization of the Nigerien state/army thereby increasing the repressive capabilities of the latter.

In the same vain, this research affirms an earlier posited assumption citing the significance of the U.S. advent of militarization, under the auspices of the PSI/TSCTI/P, in increasing Niger's capacity to better govern her largely unsecure [terrorist prone] uranium-rich territory, thereby checking inherent *yellowcake* proliferation concerns and potential illicit weapon developments. The latter assumption is further vindicated by rogue states Iraq and Iran unsuccessful acquisition of uranium *yellowcake* from Niger in early 2000, the French discovery of illicit uranium mining and export from her abandoned Nigerien mines in 2004, the Nigerien parliaments adoption of a law in 2008 that banned the possession of radioactive material-thereby affirming the existence of nuclear material proliferation, and an active presence of terrorist groups (AQIM) in Northern Niger that not only remained a safe haven for the aforementioned group, but could have also provided the perfect unwitting location for weapon material acquisition, [crude] weapon development, weapon testing, and possible launch of weapons.

On the contrary, popular sentiments citing the U.S. initiatives, PSI/TSCTI/P, advent of militarization in light of energy securitization remain inadequately supported in the Nigerien case study given the U.S. disinterest in either Nigerien oil or uranium. Nonetheless, the U.S. advent of militarizing states neighboring Niger that possess limited terror concerns yet considerable hydrocarbon reserves could make limitless sense under the rubric U.S. energy securitization initiatives.

Most importantly, this research's observes the influence of a U.S. trained and armed FAN in increasing Tandja's regimes repressive capabilities following the capture of Rhissa ag Boula, the former leader of the rebel *Front de Libération de l'Azawak et de l'Aïr (FLAA)*, in 2004 on a trumped up murder charge thereby precipitating an almost out of control outburst by Tuareg minorities in Northern Niger. The latter would present Tandja's regime with the perfect opportunity to send a company of the newly U.S. – trained FAN troops into the Tuareg stronghold of Aïr Mountains. Unfortunately, the troops were easily ambushed resulting in the death of one soldier, four injured, and four taken hostage. In the subsequent years leading to the end of the 2007-2009 civil conflict, the U.S. trained and equipped FAN had become almost synonymous with the suppression of Nigeriens dissenting against the state. Beijing's supposed military support to Niamey, manifest with a Tuareg led group's confiscation of Chinese made arms following a raid at a military installation in Tazarzatt,[342] could have similarly propped up the regimes repressive capabilities.

Regrettably, the outcome of Reagan and Norton's statistical analysis that posits the strong influences of repression on the level of conflict[nonviolent protests, rebellion and civil war/conflict] displays relatively not-so-strong impetus on the onset and most crucially the escalation of the level of conflict in Niger. The former is evident with the FLAAs October 1991 attacks and the MNJs February 2007 attacks characterized by rebel groups, FLAA and MNJ, successful launch of attacks marking the onset of conflict, which put the rebels ability to counter states repression as an equally important factor in deciphering the onset of conflict.

In the same light, the 1991 Tuareg revolt, which was mercilessly suppressed by the Nigerien state, could similarly attest to the inadequacy of repression for the escalation of conflict. In the revolt, the rebel groups, FLAA, ability to mobilize around grievances but inability to counter soaring state repression could have impeded the escalation of the revolt from a rebellion to a fully-fledged civil war/conflict. Away from popular scholarships observing the "rebellious nature" of the Nigerien conflict (2007-2009), this research observes the organizational capabilities of the MNJ,[343] the colossal number of casualties in the conflict- about three hundred, the protracted nature of the

[342] See Serge, M., Beuret, M. & Woods, P. China safari: on the trail of Beijing's expansionism in Africa. (New York: Nation Books, 2010), 99.
[343] Reagan and Norton observe the organizational capabilities of a rebel group [essentially pertaining to its organization of violence] as specific to civil conflict/war rather than rebellion.

conflict, around two years, and most importantly increased rebel counter repressive capabilities-precipitating a military stalemate between MNJ and Niamey towards the end of the conflict,[344] which put the Nigerien civil conflict a pedestal above ordinary "Nigerien rebellion (2007-2009)" scholarships. The existence of acts of banditry and the largely disorganized nature of dissenting largely Tuareg groups in early 2007 that put rebellion first on the continuum of conflict proposed by Reagan and Norton.

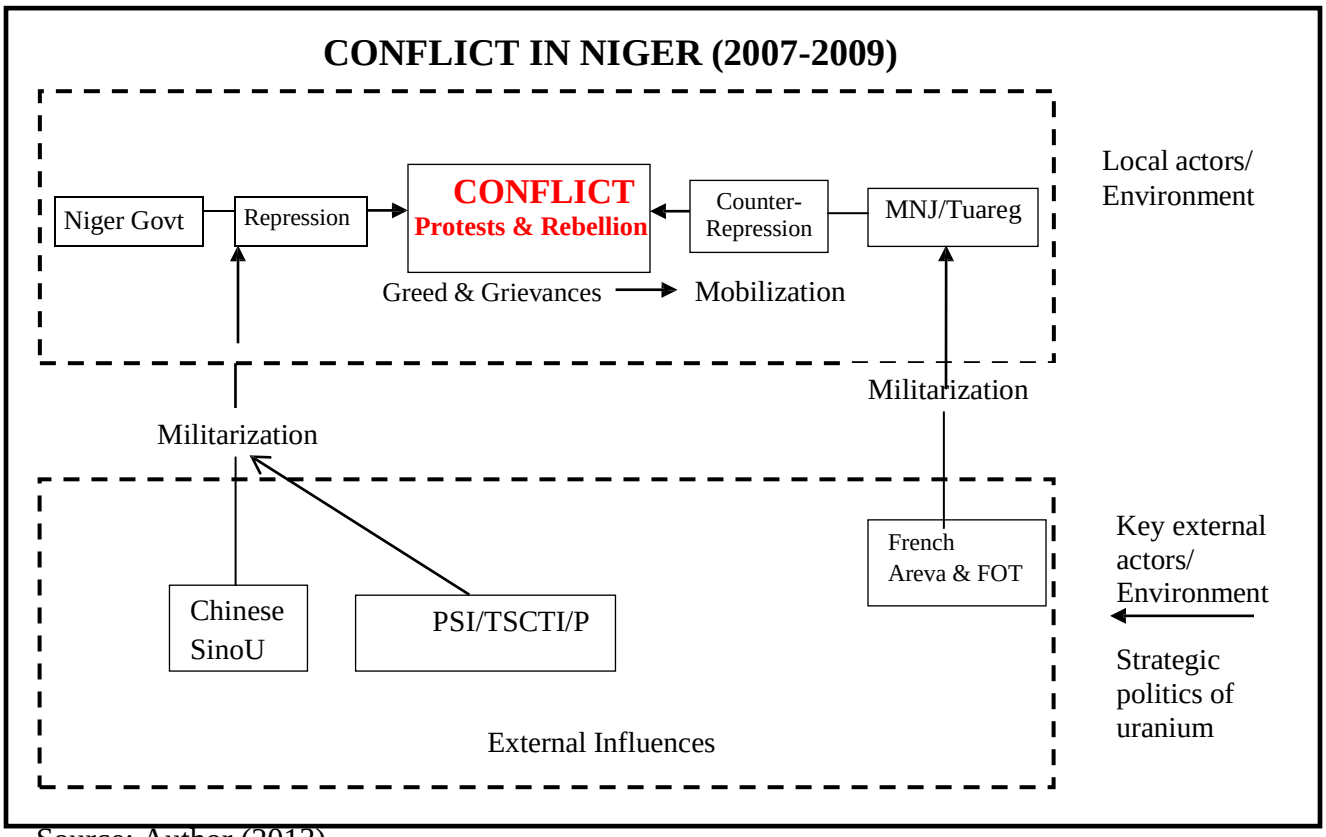
This research therefore validates an earlier posited supposition enlisting the significance of the rebels ability to not only counter [soaring] states repression but also equally match, perhaps surpass, the soaring repressive tendencies of the state as possessing positive implications for the onset and escalation in the level of conflict. Worth noting is the alleged militarizing roles of the French who sought to re-assert their uranium monopoly in Niger, albeit safeguard the positive effects of commercial nuclear electricity generation, and regional state and non-state group's sympathetic to the rebel cause, among them; Algeria, Chad, Libya and Tuareg groups in Algeria and Mali, coupled with the defection of a sizable number of the U.S. FAN trained soldiers in accentuating the counter-repressive capabilities of the MNJ.

In a nutshell, this research establishes that while local and regional factors could have accentuated the mobilization and [counter] repressive tendencies of Niamey and MNJ, the strategic politics of uranium equally deserve mention for; fairly propelling rebel mobilization, given locals disgust at the U.S., Niamey, China and France activities over uranium or otherwise, but most importantly propping-up the [counter] repressive capabilities of Niamey and the MNJ leading to the onset and escalation of Niger's conflict (2007-2009).

[344] According to the ineffective hypotheses (Sambanis and Zinn 2002; Fearon and Latin 2003), large-scale conflagration/civil war/conflict emerge once dissidents are able to outlast states or rather hold the former in a stalemate.

5.5 The Nigerien Conflict Model

Figure 3. Nigerien Conflict Model



Source: Author (2013).

The Nigerien conflict model draws on the larger debates on the implications of resource militarization for conflict and the influence and confluence of external and local conditions in the production of 'localized' conflicts. More specifically, the model underlies; Le Billion's assertion on confliction emanating from the [militarized] control/securing of resources, Christian Davenport's supposition enlisting the positive effects of military resource allocations to despotic-resource dependent military regimes on the latter's imposition of negative sanctions (repression/coercion) on her citizenry and constructs from Regan and Norton's analysis on the onset and escalation in the level of conflict stemming from the mobilization-[counter] repressive tendencies by the state and rebels.

From the bottom right of the figure, this research observes the input of the strategic politics of uranium which to a larger extend inform the securing and confliction over uranium *yellowcake* in Niger. Essentially, this research notes the preeminence of non-economic militarization instruments by the U.S., through the PSI/TSCTI/P, and the uranium TNCs, French Areva and Chinese Sino U, who sought to secure the strategic politics of uranium's deleterious socio-economic and political implications of the military use of uranium and the positive socio-economic implications of the commercial use of uranium, respectively. The aforementioned actors advent of militarization coupled with the militarizing role of competing [sub] regional interest [e.g. Friends of the Tuareg(FOT)/Tuareg in diaspora, Algeria, Chad, Libya etc.] provided valuable advantages in propping-up the repressive and counter-repressive capabilities of a despotic- uranium dependent Niamey and a highly mobilized rebel group-MNJ, respectively.

Mobilization herein constituting the convergence of grievance and greed (whether through the rebel elite and non-elite advent of disparate yet somewhat similar self-interested behavior or the advent of private selective payments that tap into self-interested behavior) in the organization of violent activities against the state as was evident with the formation of MNJ in light of; persistent Tuareg ostracism, the negative implications of uranium production, inequitable distribution of uranium rent, anger at the U.S. fabrication of the war on terrorism etc., coupled with the "advantages" of [greedy] MNJs leadership pursuit of hostage taking, [drug and human] trafficking and procurement of financial largesse from state (Chad and Libya) and non- state groups (Tuareg group's in Mali, Algeria and diaspora), in deriving funds necessary for arms procurement and private side payments- against a backdrop of mounting state repression and looming rebel defection.

Notwithstanding the essence of [rebel] mobilization, this research's induction of Regan and Norton's hypothesis and advent of process-tracing minimizes, however not totally obliterating, the significance of mobilization for the "successful" onset and escalation in the level of conflict. Instead, this research re-emphasizes the significance of the repression and counter-repressive processes as providing the all-important spark for the onset and escalation of conflict. The latter and former assertions are vindicated by this research advent of process-tracing Niger's conflict (2007-2009) that brings to light the influences of; Niamey's persistent advent of repression against the Tuareg and other refractory groups, Tuareg mobilization around MNJ in light of greed-grievances, and the MNJ's ability to counter perhaps surpass the repressive tendencies of Niamey as precipitating the

occurrence and escalation in the level of conflict. Precisely, the research notes the stimuli of the mobilization and [counter] repressive tendencies on the onset and escalation in the level of conflict in Niger from a rebellion in 2007 to a fully-fledged civil conflict towards the end of the conflict in 2009.

While the latter assertion negates the continuum of conflict proposed by Regan and Norton, i.e. escalation from non-violent protest, to violent rebellion and ultimately to civil conflict,[345] this research echoes emergent debates on conflict intensification that avow that conflict need not necessarily abide by Regan and Norton's established "escalation from protests, to rebellion and ultimately civil war/conflict". Most importantly, the models underlying notion of the onset and escalation of Niger's conflict emanating from the mobilization and [counter] repressive processes of the state and rebels could also offer similar advantages in establishing resource and/or non-resource related confliction. Nonetheless, the sequential interactions of the aforementioned processes leading to the production of confliction ought to be configured by the specific studies as mobilization, for instance, could precede or succeed repression.

[345] See Regan and Norton, 2005, 326.

5.6 Summary

This chapter's induction of the explanatory outcome and theory testing variants of process- tracing reveals interesting results. Primarily, this research observes the remarkable militarizing influences of the strategic politics of uranium coupled with competing [sub] regional interests in accentuating the repressive and counter-repressive capabilities of the state and rebels. Regrettably, Regan and Norton's posited strong influence of repression on the escalation of the level of conflict display rather not so strong results. The advent of process tracing therefore validates posited assumptions enlisting the rebels ability to counter, perhaps offset, the repressive tendencies of the state as possessing "positive" ramifications for onset and most importantly escalation of the level of conflict. In a nutshell, actors' advent of militarizing the state and rebels, in light of the strategic politics of uranium and competing [sub] regional interests, are seen to increase the repressive and counter-repressive capabilities of a despotic-resource dependent Nigerien state and rebels highly mobilized around greed-grievances, thereby precipitating the onset and the escalation in the level of conflict in Niger from rebellion to a civil war/conflict.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

The implications of uranium actors choice of non-economic militarization instruments in securing uranium resources, essentially uranium *yellowcake* (the final production of the mining process and the intermediate product between fuel for commercial reactors and nuclear bombs) in the production of conflict in largely unstable and despotic uranium producing states underlines the main argument of this research. Precisely, this research observes the noteworthy influences of the Nigerien conflict/uranium actors (2007-2009) preeminence on non-economic militarization instruments in securing the yellowcake in Niger, in light of strategic politics of uranium, as having propped-up the repressive and counter-repressive capabilities of Niamey and rebels thereby precipitating the [un] intentional escalation in the level of conflict (2007-2009) in a largely unstable Nigerien state.

To appreciate the dynamics of the militarized securing and confliction over uranium *yellowcake* resources, the research interrogates the international political economy of uranium *yellowcake* that provides valuable advantages in establishing the scramble, securing and confliction over uranium *yellowcake* resources in Niger. Subsequently, the research tests the viability of Nigerien conflict scholarships posited uranium-confliction mechanisms against Regan and Norton's mobilization and civil war hypothesis. The latter provides somewhat a standard rationale for validating the influences of resource and/or non-resource mechanisms in confliction. Thereafter, the research revisits the Nigerien conflict (2007-2009) actors' motives and mode of securing uranium [*yellowcake*] resources-given Nigerien conflict studies ineffectively in ascertaining the role of uranium in confliction. In due course, the study establishes the strategic politics of uranium off the Nigerien conflict, the international political economy of the *yellowcake* and other similar cases. Ultimately, the study induces process-tracing that provides specific advantages in ascertaining the stimuli the strategic politics of uranium, greed-grievance, and most importantly repression on confliction (i.e. level of conflict), in Niger.

The results of this study are stimulating. This research observes that the production of the final product of uranium's mining process, uranium *yellowcake,* its disposal and subsequent enrichments for commercial and/or military uses possesses tremendous implications on the

socio-economic and political realms of development. The latter could have inspired actors scramble for *yellowcake* resources, in light of external balancing prospects, growth in the international economy and decline in ODA, in uranium producing slacker states that possess considerable uranium reserves, amongst them Niger. Most importantly, the study observes the Nigerien conflict/uranium actors advent of securing the *yellowcake* in light of the strategic politics of uranium's deleterious social and politico-economic implications of the military use of uranium (U.S.), the positive socio-economic implications of uranium's use in civil/commercial reactors (France and China), and the lucrative economic value of uranium exports (Niger).

While the dominance of the uranium factor in the Nigerien conflict (2007-2009) remains undisputed, the construction of rather simplistic conflict explanations founded on greed and/or grievance in Keenan's, Munna's and ordinary Nigerien commentary is utterly disparaged by Regan and Norton and this research. The duo affirm that while greed-grievances provide tremendous advantages in [re]instituting rebel mobilization essentially at the highest level of conflict, lagged repression and the counter-repressive tendencies of the rebels ought to increase the propensity for the escalation in the level of conflict from nonviolent protests, to rebellion and possibly civil war/conflict.

Interestingly, Regan and Norton's established robust influences of lagged repression on the level of conflict (mandatory escalation of conflict from non-violent protests to civil war/conflict) in addition to this research's strong emphasis on the uranium factor on confliction are severely faulted. This is in light of evidence suggesting the militarizing roles of the strategic politics of uranium and competing [sub] regional interests in addition to the existent of persistent Tuareg grievances, as having accentuated rebel mobilization and [counter] repressive tendencies of a despotic-uranium dependent Nigerien state and rebels (MNJ) thereby precipitating the onset but most importantly the escalation in the level of conflict in Niger- from a rebellion to a civil war/conflict (2007-2009). The latter at best captured by this research's introduction of a conflict model that sketches the intricate interactions between actors and interests at the national, regional and international level points leading to the production of Niger's conflict (2007-2009).

Equally important are the implications of this research's results on the research questions, theory and policy realms of international relations. While this research validates Reagan and Norton relegation of the greed-grievances to rebel mobilization, the unrelenting proliferation of greed-grievance-conflict

arguments, masked beneath the motive-opportunity-indirect mechanisms or otherwise, remains conceptually extraneous therefore undesirable. In the same light, popular prediction citing the strong influences of lagged repression on the level of conflict display rather not-so-strong impetus against a backdrop of a rich Nigerien conflict history. While greed and grievance could have galvanized rebel mobilization around MNJ and FLAA, the latter's October 1991 revolt that was ruthlessly crashed by Niamey could affirm the centrality of the rebels ability to counter, perhaps surpass, the repressive tendencies of the state as a necessary prerequisite for the successful escalation in the level of conflict. The MNJs ability to counter and contain the repressive tendencies of the state leading to the escalation in the level of conflict between 2007 and 2009 further vindicates the latter assertion.

Remarkably, the presence of largely unorganized sporadic banditry attacks in Northern Niger in early 2007 that put rebellion first on the continuum of conflict proposed by Regan and Norton possesses serious ramifications on the notion of "escalation of the level of conflict from nonviolent protests…to civil war." Given that conflict escalated from a rebellion to a fully- fledged civil war/conflict, this research's induction of the Nigerien conflict (2007-2009), as the case study, affirms the fact that the emergence of civil war might not always be preceded by protests or rebellion. In spite of the aforementioned hiccups in Regan and Norton's analysis, the contribution of their work in ascertaining the etiology of conflict remains commendable. As such, this research establishes that analysis of the onset and escalation in the level of conflict ought to benefit from assessing rebels mobilization around greed-grievances, the repressive tendencies by the state seeking to prevent further mobilization and the rebels ability to counter, perhaps surpass, the repressive tendencies of the state.

Most importantly, this research's advent of process-tracing the causal mechanisms in the Nigerien conflict faults the notion of a modal uranium conflict. The confluence of the strategic politics of uranium, competing sub-regional interests, and contextual conditions in the production of conflict could have somewhat minimized this research's strong emphasis on the uranium factor on onset and escalation in the level of conflict in Niger. Nevertheless, this is not to limit the role of the strategic politics of uranium whose militarizing role accentuated the repressive and counter-repressive capabilities of the state and rebels thereby precipitating the [un] intentional escalation in the level of conflict in Niger. As such, the militarizing role of the strategic politics of uranium ought to provide interesting insights for deciphering confliction over uranium resources, more so in autocratic largely-unstable uranium producing/dependent countries. The latter at best, advancing natural resource-

conflict literature that remains replete with diamond and oil (DO) analysis. Last but not least, this research's advent of theory building, theory testing and explanatory variants of process-tracing in verifying the presence or absence of causal mechanisms ought to provide valuable pluses in strengthening process-tracing methodology that has not received serious scholarly attention.

The ramifications of this research on the policy realm of international relations remain equally significant. Fundamentally, this research points at emerging dynamics of Africa's [in]security in the nuclear age that have put the continent's quest for peace and development at crossroads. Since the start of the 21st century, the safeguard of liberties in the west coupled with mounting emphasis on sustainable development that have been pegged on the ability to acquire and safeguard the acquisition of uranium *yellowcake* could have precipitated the [un] intentional militarization of uranium producing states that possess vulnerable and considerable-high quality uranium reserves yet poor mining regimes. While the militarized uranium producing states, such as Niger, ought to have capitalized on the militarization of their security organs to address the rampant security challenges that could have undermined a favorable investment climate necessary for sustainable economic growth and development, these largely autocratic regimes have often used their boosted military capabilities to crush dissenting views. The result has been obvious; the emergence of proxy- conflicts and unintentional escalation in these largely uneven states. This is in addition to an increased threat of the proliferation of conflict across neighboring states, given the intractability of African borders that eases the proliferation of conflict and arms.

By the same token, this research discerns the proliferation of missile defense systems in South Korea and Israel as affirming the growing infectivity of counter-proliferation initiatives. This research therefore establishes that North Korea's and probably Iran's escalating weapon developments could possibly affirm the existence of a loophole in the non-proliferation regime; among them the possible acquisition of sizable amounts of the *yellowcake* for subsequent enrichment and use in developing [crude] nuclear weapons. While the rather conventional mining/milling methods used in the acquisition of uranium yellowcake, especially in slacker states, remain vulnerable to rogue state and non-state groups exploitation, the economics of developing weapons that requires sizable amounts of the *yellowcake*, in addition to several resources (expertise, finances, time, etc.) complicates rogues state and non-state groups ability to develop [crude] nuclear weapons off the *yellowcake*. However, the French discovery of illicit uranium extraction in abandoned Nigerien mines and subsequent

sale in the international black market in 2005, nevertheless, put to light the ability of rogue state and non-state groups to acquire nuclear material in slacker states. The latter coupled with *yellowcake* smuggling incidences in China, D.R. Congo, Moldova and Namibia in addition to the deplorable security accorded to Nigerien *yellowcake* convoys in 2003 and the inevitability of rogue state and non-state ability to acquire the *yellowcake* drums off the transportation of process would defeat popular assertions citing the inhibitory economics of the illicit *yellowcake* acquisition in slacker state by rogue state and non- state groups. As such, this research's exposure of "neo-proliferation" in favor of less fissile uranium *yellowcake* ought to provide specific advantages for security wonks seeking to prevent weapon [material] proliferation and the deleterious implications of a probable nuclear terrorist attack.

Last but not least, given this research's observation of the noteworthy influences of the rebels ability to counter soaring state repression on the successful onset and escalation in the level of conflict, efforts seeking to counter the proliferation of small arms amongst other lights weapons that could potentially accentuate the counter-repressive capabilities of rebel groups remain not only commendable but also their intensification can only be emphasized. However, this should not give despotic states the leeway for suppressing the demands and the rights of their citizenry.

In addition to curbing the repressive tendencies of despotic states, this research re-emphasizes the need for better governance of resources. Essentially, radical transparency over the distribution of mining concession and production of resources that require extensive modes of production, e.g. uranium, can only be over-emphasized. In the same light, this research affirms the need for shrewd policy and legislation over uranium ventures that cover the; environmental, health and labor aspects of uranium mining in addition to robust monitoring and enforcement mechanism that would remain vital in preventing possible mobilization around grievances and confliction over uranium resources.

Even as local solutions to averting confliction over uranium resources remain critical, this research calls for immediate policy interventions that regulate the advent of militarized commerce and/or counter-proliferation policies. In the absence of the latter, Africa's aspirations of sustainable peace and development remain in limbo.

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APPENDICES

Appendix 1: Research Questionnaire

NIGER'S CONFLICT (2007-2009) QUESTIONNAIRE

This research seeks to establish how conflict could be engendered through uranium as a strategic resource. Specifically, this research induces Niger's conflict (2007-2009) that pit the *Mouvement des Nigériens pour la justice* (MNJ) against the Nigerien state in a bid to establish the relationship between the militarized securing of uranium resources, repression and escalation in the level of conflict. Your input in this questionnaire will be highly appreciated and of uttermost importance in establishing the aforementioned relationship. Information given will be treated with uttermost confidentiality.

PART I: Demographic Profile

Directions: Please fill the necessary information.

1. Nationality_____
2. Occupation _____
3. City of residence/work in Niger _
4. Duration spent living/working in Niger__

PART II: Politics of uranium and confliction in Niger (2007-2009) Directions: Briefly explain and/or tick where appropriate.

5. What are your perceptions on change in politics, governance and approaches to security and terrorism since the discovery and production of uranium in Niger?

6. Greed and grievances have often been cited as informing the MNJs advent of opposition against the Nigerien state. What do you construe of the motive/s for MNJs initiation of opposition against the Nigerien state?

7. (a) What do you make of external actor's (Uranium mining TNCs, U.S., Friends of Tuareg etc.) advent of militarizing the state and rebels (MNJ) in the conflict?

Prevalent [ ] Somewhat Prevalent [ ] Rare [ ]

(b) Given that the Nigerien state and the MNJ could have benefited from militarization,could you identify the beneficiaries and benefactors of militarization in the conflict?

Benefactor (Militarizing	Beneficiary (Militarized

(c) Do you think the militarization of the Nigerien state and MNJ could have increased the latter and formers repressive and counter-repressive capabilities?

8. (a) What do you make of the Nigerien governments advent of repression against the MNJ?

Prevalent [ ] Somewhat Prevalent [ ] Rare [ ]

(b) What do you make of the MNJs advent of counter-repression against the Nigerien state?

Prevalent [ ] Somewhat Prevalent [ ] Rare [ ]

9. Do you think Niger, especially the Northern region, had an active presence of terrorist groups (Groupe Salafiste pour la Prédication et le Combat [GSPC]/Al-Qaeda in the Islamic Maghreb [AQIM]) prior to the advent of the Pan Sahel Initiative (PSI)? Yes [ ]

No [ ]

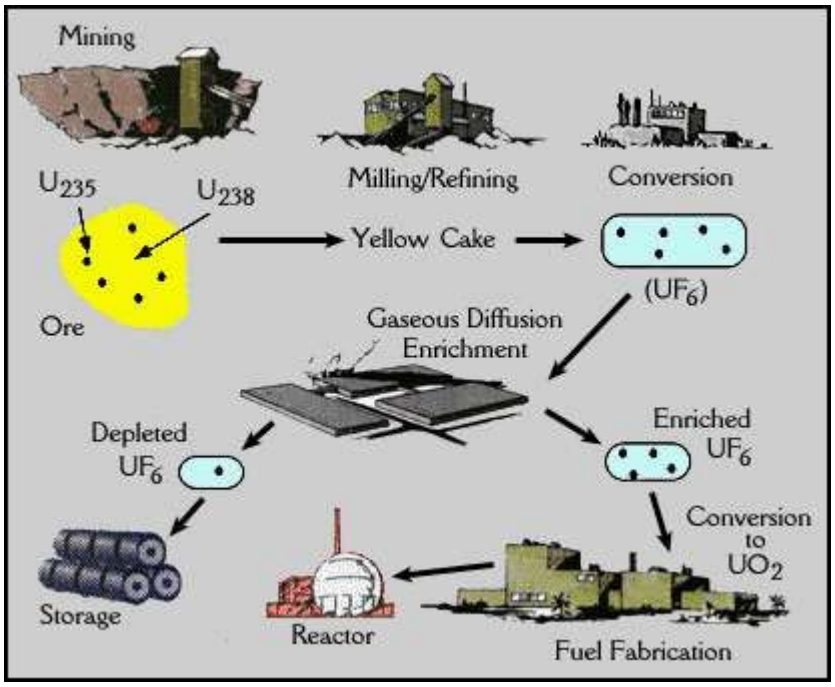
10. Do you think the Nigerien state, alongside external actors (French Areva, sinoU, U.S.-PSI/TSCTI/P), advent of economic and non-economic securitization instrument sought to secure uranium, uranium yellowcake?

Appendix 2: Nuclear Smuggling Incidents Involving Weapons-Usable Material from 1992-2001

Date	Source of material	Country where material seized	Material/quantity	How material was found
May 1992	Russia (Luch Scientific Production Assoc.)	Russia	1.5 kilograms (90 percent HEU)	Police investigation
May 1993	Russia	Lithuania	0.1 kilogram (50 percent HEU)	Police investigation
July 1993	Russia	Russia	1.8 kilograms (36 percent HEU)	Police investigation
November 1993	Russia	Russia	4.5 kilograms (20 percent HEU)	Police investigation
March 1994	Russia	Russia	3.05 kilograms (90 percent HEU)	Police investigation
May 1994	Unspecified	Germany	0.006 kilograms plutonium-239	Police investigation
June 1994	Russia	Germany	0.0008 kilograms (87.8 percent HEU)	Police investigation
July 1994	Russia	Germany	0.00024 kilograms plutonium	Police investigation
August 1994	Russia	Germany	0.4 kilograms of plutonium	Police investigation
December 1994	Russia	Czech Republic	2.7 kilograms (87.7 percent HEU)	Police investigation
June 1995	Russia	Czech Republic	0.0004 grams (87.7 percent HEU)	Police investigation
June 1995	Russia	Czech Republic	0.017 kilograms (87.7 percent HEU)	Police investigation
June 1995	Russia	Russia	1.7 kilograms (21 percent HEU)	Police investigation
May 1999	Russia	Bulgaria	0.004 kilograms of HEU	Interdiction at border by Bulgarian customs.
October 1999	Unspecified	Kyrgyzstan	0.0015 kilograms of plutonium	Police investigation
April 2000	Unspecified but Russia suspected	Georgia	0.9 kilograms of HEU (30 percent)	Possible combination of radiation detection equipment at border and police investigation
September 2000	Possibly Russia and/or Ukraine	Georgia	0.0004 kilograms of plutonium	Police investigation
December 2000	Germany	Germany	Less than 1 milligram of plutonium	Radioactive contamination disclosed in a test.
January 2001	Unspecified	Greece	Approximately 0.003 kilograms of plutonium	Police investigation
July 2001	Unspecified	France	About 0.005 kilograms of HEU (approximately 80 percent enriched)	Police investigation

Source: http://www.atomicarchive.com/Almanac/Smuggling.shtml

Appendix 3: Nuclear Fuel Cycle



Source: http://web.ead.anl.gov/uranium/guide/uf6/index.cfm