



**UNIVERSITI PUTRA MALAYSIA**

***DEVELOPMENT OF EFFECTIVE COMMUNITY PARTICIPATION  
FRAMEWORK IN GOMBE STATE, NIGERIA***

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**DEVELOPMENT OF EFFECTIVE COMMUNITY PARTICIPATION  
FRAMEWORK IN GOMBE STATE, NIGERIA**

**By**

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**Thesis Submitted to the School of Graduate Studies, Universiti Putra  
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Doctor of Philosophy**

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Doctor of Philosophy.

## **DEVELOPMENT OF EFFECTIVE COMMUNITY PARTICIPATION FRAMEWORK IN GOMBE STATE, NIGERIA**

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**December 2020**

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Desertification, land degradation, and drought constitute an environmental challenge that threatens the habitat of some of the globe's poorest populations located in the Sahara and Sahel zones. This led to the Great Green Wall Initiative to carry out sustainable restoration and local development activities. In 2013, the Nigerian federal ministry of environment strategies called for the frontline state's contribution and participation regarding communities' formal engagement at a local level. Gombe state, which was known for its rich agricultural landscape, beautiful forest, and shelterbelts, has rapidly turned into a desert due to deforestation caused by bush burning, overgrazing, and similar destructive human activities. Local communities of Gombe state have expressed their desire to be more involved in formulating and implementing policies that directly affect their livelihood. Few studies have currently explored the role of local governments in community participation processes and how it should be contextualized within local policy structures and practices. Gombe State is in the process of formulating community participation practices through policy. This research aims to establish sustainable local community participation in land resource conservation and management, thus enhancing local livelihoods. Case study research was used, which is well suited for exploratory research, where 20 Key Informant Interviews were conducted, where 11 are expert officials from various bodies, institutions, disciplines, and 9 are Committee leaders in Gombe local government. In order to gain local perspectives (community leaders), to explore the existing community participation policies, methods, and practices, and to learn more about expert local experiences (success and failures). This research identified community participation principles, strategies, and policy structures. This research found two types of practice; Firstly, theoretical mechanics of change which includes a formalized policy (values, principles, framework) and deliberative attention within the policy to diversity and empowerment; and Secondly, facilitation processes and resources of

implementation that put theory into practice (e.g., community partnerships and champions). These findings inform the work of the Gombe Great Green wall directly and have implications for a framework of successful community participation in the local context that articulates how to develop and deliver community participation.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

## **PEMBANGUNAN KERANGKA PENYERTAAN MASYARAKAT YANG BERKESAN DI NEGERI GOMBE, NIGERIA**

Oleh

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Desertifikasi, degradasi tanah, dan kekeringan merupakan cabaran lingkungan yang mengancam habitat beberapa populasi termiskin di dunia yang terletak di zona Sahara dan Sahel. Ini menyebabkan Inisiatif Tembok Hijau Besar melakukan aktiviti pemulihan dan pembangunan tempatan yang lestari. Pada tahun 2013, strategi kementerian persekitaran persekutuan Nigeria meminta sumbangan dan penyertaan negara garis depan mengenai penglibatan formal masyarakat di peringkat tempatan. Negara bagian Gombe, yang terkenal dengan lanskap pertaniannya yang kaya, hutan yang indah, dan tali pinggang perlindungan, dengan cepat berubah menjadi padang pasir akibat penebangan hutan yang disebabkan oleh pembakaran semak, terlalu banyak rumput, dan kegiatan manusia yang serupa. Masyarakat tempatan di negara Gombe telah menyatakan hasrat mereka untuk lebih terlibat dalam perumusan dan pelaksanaan dasar yang secara langsung mempengaruhi kehidupan mereka. Beberapa kajian pada masa ini telah meneroka peranan pemerintah tempatan dalam proses penyertaan masyarakat dan bagaimana ia harus dikontekstualisasikan dalam struktur dan amalan dasar tempatan. Gombe State sedang dalam proses merumuskan amalan penyertaan masyarakat melalui dasar. Tujuan utama penyelidikan ini adalah untuk mewujudkan penyertaan masyarakat tempatan yang lestari dalam pemuliharaan dan pengurusan sumber tanah, sehingga meningkatkan penghidupan tempatan. Penyelidikan kajian kes digunakan, yang sangat cocok untuk penyelidikan eksploratori, di mana 20 Wawancara Informan Utama dilakukan, di mana 11 adalah pegawai pakar dari pelbagai badan, institusi, disiplin, dan 9 adalah pemimpin Panitia di pemerintah daerah Gombe. Untuk mendapatkan perspektif tempatan (pemimpin masyarakat), untuk meneroka dasar, kaedah, dan praktik penyertaan masyarakat yang ada, dan untuk mengetahui lebih banyak mengenai pengalaman tempatan (kejayaan dan kegagalan). Penyelidikan ini mengenal pasti prinsip, strategi, dan struktur dasar penyertaan masyarakat. Penyelidikan

ini menemui dua jenis amalan; Pertama, mekanik perubahan teori yang merangkumi dasar yang diformalkan (nilai, prinsip, kerangka) dan perhatian yang disengajakan dalam kebijakan terhadap kepelbagaian dan pemberdayaan; dan Kedua, proses fasilitasi dan sumber pelaksanaan yang mempraktikkan teori (mis., perkongsian masyarakat dan juara). Penemuan ini memberitahu secara langsung karya tembok Gombe Great Green dan mempunyai implikasi terhadap kerangka penyertaan masyarakat yang berjaya dalam konteks tempatan yang menyatakan bagaimana mengembangkan dan memberikan penyertaan masyarakat.



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This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

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## LIST OF ABBREVIATIONS

ADB	African Development Bank
AOI	Area of interest
AfDB	African Development Bank
AMCEN	African Ministerial Conference on Environment
ATA	Agricultural Transformation Agenda
AU	African Union
AUC	African Union Commission
AZAP	Arid Zone Afforestation Programme
CAADP	Comprehensive Africa Agriculture Development Programme
CBOs	Community Based Organizations
CEN-SAD	Community of Sahel-Saharan States
CIDA	Canadian International Development Agency
CILLS	Inter-State Committee on Drought Control in the Sahel
CPICs	Community Project Implementation Committees
CSOs	Civil Society Organizations
CACI	Community Access to Communication Index
CCD	Convention to Combat Desertification
CDF	Community Development Framework
CDA	Community Development Association
CSDP	Community and Social Development Project
DLDD	Desertification, Land degradation, and Drought
DDDA	Department of Drought and Desertification Amelioration

DfID	Department for International Development
ECN	Energy Commission of Nigeria
ECOWAS	Economic Community for West African States
EEC	European Economic Community
EIA	Environmental Impact Assessment
EU	European Union
EW	Early Warning
ESCCSD	Economic & Social Council Commission on Social Development
FAO	Food and Agricultural Organization
FDP	Federal Department of Forestry
FEPA	Federal Environmental Protection Agency
FGN	Federal Government of Nigeria
FMAWR	Federal Ministry of Agric and Water resources
FME	Federal Ministry of Environment
FORMECU	Forestry Management, Evaluation and Coordination Unit
FRA	Forestry Resource Assessment
FAN	Forestry Association of Nigeria
FCT	Federal Capital Territory
FME <sub>env</sub>	Federal Ministry of Environment
FRIN	Forestry Research Institute of Nigeria
GCF	Green Climate Fund
GEF	Global Environment Facility
GGW	Great Green Wall
GGWSSI	Great Green Wall for the Sahara and the Sahel Initiative

GGWSAP	Great Green Wall Strategic Action Plan
GIS	Geographic Information System
GM	Global Mechanism of the UNCCD
GOs	Government Organizations
GSSD	Global System for Sustainable Development
GOSEPA	Gombe State Environmental Sanitation and Protection Agency
GHG	Greenhouse Gases
GOS	Government of Science
GPS	Global Positioning System
ICRAF	International Centre for research in agroforestry
IEM	Integrated Ecosystem Management
IFAD	International Food and Agricultural Development
IIED	International Institute for Environment and Development
IAR&T	Institute of Agricultural Research and Training
IITA	International Institute for Tropical Agriculture
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for the Conservation of Nature
IWI	Inclusive Wealth Index
IWR	Inclusive Wealth Report
JICA	Japanese International Cooperation Agency
LDP	Local Development Plans
LEEP	Local Empowerment and Environmental Programme
LGA	Local Government Area

LRCM	Land Resource Conservation & Management
LULC	Land use/ Land cover
LULUCF	Land use, Land- use Change, and Forestry
MCS	Mesoscale Convective Systems
MDG	Millennium Development Goals
MEA	Millennium Ecosystems Assessment
MOA	Ministry of Agriculture
MOCD	Ministry of Community Development & Poverty Alleviation
MOE	Ministry of environment
MOLG	Ministry of Local Government
MOMU	Ministry of Metropolitan & Urban Development
MORD	Ministry of Rural Development
MOW	Ministry of works and Infrastructure
MOY	Ministry of Youths
NAs	Neighbourhood Associations
NSAP	National Strategic Action Plan
NBSAP	National Biodiversity Strategy and Action Plan
NCRAP	Natural Resources Conservation Action Plan
NCRI	National Cereals Research Institute
NCS	National Conservation Strategy
NEAP	Nigerian National Environmental Action Plan
NEEDS	National Economic and Empowerment Development Strategy
NES	Nigerian Economic Society
NEWMAP	Nigeria Erosion and Watershed Management Project

NFAP	National Forestry Action Plan
NGO	Non-Governmental Organizations
NIFOR	Nigerian Institute for Oil Palm Research
NIHORT	National Horticulture Research Institute
NIMET	Nigerian Meteorological Agency
NRCCD	Nigeria's Report on the Implementation of the United Nations Convention to Combat Desertification
NRCRI	National Root Crops Research Institute
NTFP	Non-Timber Forest Products
PRA	Participatory Rural Appraisal
PRB	Population Reference Bureau
SDG	Sustainable development Goals
SEAP	State Environmental Action Plan
SFD	State Forestry Departments
SLM	Sustainable Land Management
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention of Climate Change

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## CHAPTER 1

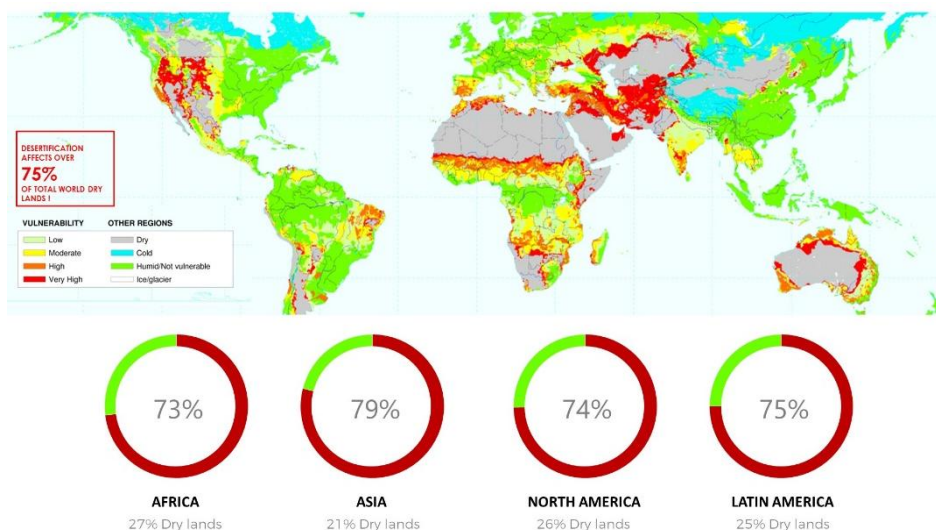
### INTRODUCTION

#### 1.1 Research Background

There is an increasing realization that achieving sustainable development cannot be achieved without considering the environmental resources, particularly its conservation and proper management. The concept of sustainable development emerged to underline the importance of resource conservation and management. Thus, by extension, development, in all its ramifications, depends mainly on quality, quantity, use, and land resource management. Healthy and productive land is the fundamental basis for our long-term food, water, energy security, and a necessary pre-condition for socio-economic development (Albrecht, 2016; Bruno, 2019).

Land degradation is a worldwide phenomenon. Today, our land suffers from different forms of degradations (figure 1.1). These effects range from soil erosion, desertification, misuse, flooding, drought, pollution, etc. Land and soil fertility are critical natural capital essential for sustainably ensuring food, renewable energy, and water security while eradicating rural poverty, conserving terrestrial biodiversity, and building the resilience of our agricultural systems to climatic shocks (UNCCD 2013).

Land degradation is accelerating, and drought is escalating worldwide. At the rio+20 conference, world leaders acknowledged that desertification, land degradation, and drought (DLDD) are global challenges, affecting all countries' sustainable development, particularly developing countries. Because of this, they committed to strive to achieve a land-degradation neutral world in the context of sustainable development and to monitor land degradation globally (UNCCD 2013).



**Figure 1.1 : Global status of desertification**

(source: us department of agriculture, natural resources conservation service)

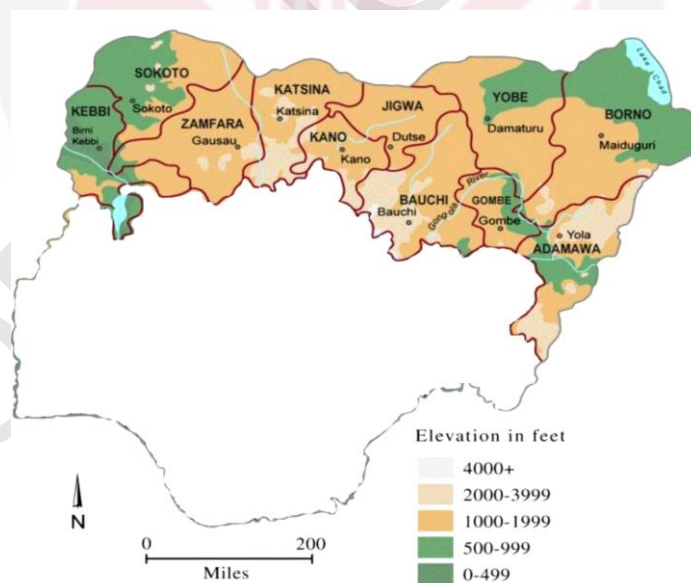
Global assessments indicate that the percentage of the total land area highly degrading has increased from 15% in 1991 to 25% by 2011 (UNCCD secretariat 2013). The number of country parties who declare themselves affected under the UNCCD has also increased from 110 in the early days of the Convention to 168 today (UNCCD secretariat 2013). While the world's drylands continue to be the most vulnerable, land degradation is a global phenomenon; some findings indicate that 78% of the total land being degrading between 1981 and 2003, located in terrestrial ecosystems other than drylands (Bai et al., 2008). DLDD processes have accelerated rapidly in the last century, with an estimated 24 billion tons of fertile soil lost to erosion in the world's croplands (FAO 2011). Suppose the current scenario of land degradation continues over the next 25 years. In that case, it may reduce global food production, from what it otherwise would be, by as much as 12% resulting in world food prices as much as 30% higher for some commodities (IFPRI 2012).

By 2008, more than 20% of all cultivated areas, 30% of natural forests, and 25% of grasslands were undergoing some degree of degradation (Bai et al., 2008). Estimates indicate that up to 25% of all land is currently highly degraded, 36% is slightly or moderately degraded but stable, while only 10% is improving (FAO 2011). Studies indicate that land degradation directly affects 1.5 billion people worldwide with a disproportionate impact on the poor, women, and children, and has already reduced the productivity of the world's terrestrial surface by about 25% from 1981 to 2003 (Nachtergaele et al., 2010). These assessments demonstrate how, within a relatively recent period, biological productivity has declined significantly in addition to the amount of land already degraded (UNCCD secretariat 2013). Although land degradation is a generalized risk,

some 40% of the world's degraded lands occur in areas with the highest poverty (FAO 2011).

Nigeria faces rapid desert encroachment affecting 11 northernmost states from a moderate to severe rate (figure 1.2). The States located in the region north of 10°N of the country, including Adamawa, Bauchi, Borno, Gombe, Jigawa, Kano, Katsina, Kebbi, Sokoto, Yobe, and Zamfara, are desertification frontline states (see figure 1.4). Out of the 909,890 km<sup>2</sup> of the country's land area, about 580,841 km<sup>2</sup>, accounting for 63.83% of the total land, is impinge on by desertification (Ebenezer, 2015). Climatic variability and anthropogenic activities such as deforestation, extensive cultivation, overgrazing, bush burning, fuelwood extraction, faulty irrigation system, and urbanization are significant causes of desertification.

Some villages and major access roads have been buried under dunes in Katsina, Sokoto, Jigawa, Borno, and Yobe states, with the siltation of water bodies affecting the livelihoods of approximately 35 million people (figure 1.2). It was estimated that the country is losing about 351,000 hectares of its landmass to desert conditions annually. The conditions are evaluated to be advancing southward at an annual rate of 0.6km per year (Ebenezer, 2015).



**Figure 1.2 : Map of Nigeria Showing the Frontline States**  
(Source - Ebenezer, 2015)

Climate change has exacerbated these challenges, leading to increasing pressure to harmonize African regional and intervention strategies to contain desert encroachment scourge. The “Great Green Wall for Sahara and the Sahel” Initiative (GGWSSI), aimed at planting a wall of trees across Africa to combat desertification, was hatched in 2002 by then-President Olusegun Obasanjo of Nigeria. In 2007, it was endorsed by African heads of State and government and heralded as the panacea for the adverse socio-economic and environmental malaise of desertification and expanded to embrace assisting local communities in embarking on sustainable utilization and management of their forest, rangeland, and other ecological resources (Aigbokhaevbo, 2014).

The implementation plan involves planting a 15-kilometer-wide transnational forest belt from Dakar to Djibouti (figure 1.3). The vegetation band could be continuous or rerouted around obstacles like streams, rocky areas, and mountains to link uninhabited regions. The trees act as natural windbreaks against sandstorms while improving soil fertility with their roots, preventing soil erosion, and resisting desert encroachment (Reenberg, 2012).

The Great Green Wall (GGW) is a concretized metaphor intended to sensitize the African continent regarding the need to formulate and implement arid-zone-specific policies to amplify sustainable land management practices and identify long-term solutions to the challenges of desertification, land degradation, and drought confronting the region (Aigbokhaevbo, 2014).

Reforestation is the natural antidote to soil erosion, drought, and desertification. Planting trees in the desert to create a protective wall of trees across the Sahel and Sahara zone was conceptualized as a natural way of halting the expanding desert frontiers.



**Figure 1.3 : GGWSSI Path**  
(FAO, 2012)

To enhance the achievement of the primary goal of reducing soil degradation, which facilitates desert encroachment, concerted global action was considered necessary to promote synergies and optimal mobilization and utilization of resources that would have posed significant challenges for component countries to accomplish. The size of the problem is enhanced by reports that “land use, land-use change, and forestry (LULUCF) together with agriculture account for 31 percent of global greenhouse gases (GHGs) with developing countries as prime emitters” (Reenberg, 2012).

The realizations that two-thirds of the African continent (with a population of 250 million) is desert or dry land and that the inhabitants of these lands are either farmers, pastoralists, or forest-produce gatherers dependent on goods and services provided by forests, propelled the expansion of the action plan beyond tree planting to the attainment of a land-degradation-neutral world following the objective of Rio +20 (Aigbokhaevbo, 2014).

The expansion also embodied a recognition that linkages are needed at the national and cross-border levels (for exchange of ideas and information) to tackle policy investment and institutional barriers that exacerbate natural resource depletion and increase the risk of communal conflict and environmental degradation. The GGWSSI was designed to be implemented over 30 years, with each phase lasting for ten years and projected budget estimates varying from US\$ 1.6–2.4 billion (Aigbokhaevbo, 2014).

The primary objective of the GGWSSI is to strengthen the implementation of existing continental plans and other efforts to address the menace of land degradation and desertification in the Sahel and Sahara region to synergize such efforts and enhance their efficacy through the general awareness and acceptance of sound ecosystem management, reducing the inhabitants' vulnerability to climate change, improving food security and living conditions, and reducing drought and desertification. These efforts include the Comprehensive Africa Agriculture Development Programme, with its Regional Economic Communities and National Roundtables, and its Regional, Sub-regional, and National Action Programmes to combat desertification.

Nigeria's Great Green Wall Strategic Action Plan (GGWSAP) is a five-year National plan to improve the living standards of the impacted populace and reduce their vulnerability to climate change, enabling sustainable resource and land management and providing resilient climate infrastructures. GGWSAP is a tool to support domestic anti-desertification efforts such as a National Action Plan (NAP) for the control of desertification under the United Nations Convention to Combat Desertification (UNCCD), and the National Vision 2020 (Aigbokhaevbo, 2014). GGWSAP offers a broader perspective and an integrated and holistic approach to addressing the challenge of desertification. Participants

are drawn from federal, state, and local governments; community non-governmental organizations; and the private sector (Aigbokhaevbo, 2014).

The GGW is a government-propelled initiative. Hence, the distrust with which leaders are treated as a result of years of frustrated expectations may cause the local populace to view the project with suspicion (Reenberg, 2012). Lack of transparency of project facilitators and corruption in the GGW implementation process are already bedeviling the attainment of set goals in Nigeria. Considering the litany of abandoned projects initiated by most government agencies over three decades, the GGW is seen as yet another government effort and does not generate enthusiasm (Aigbokhaevbo, 2014).

Like every other Global or National initiative, the major challenge confronting the GGW is funding. At the national level, the initiative is expected to be implemented by individual countries from their national budgets. According to the World Bank, African countries are among the world's poorest poor, and Nigeria is usually among the very poorest. Together, India, China, Bangladesh, and the Democratic Republic of Congo account for two-thirds of the world's poorest people (Aigbokhaevbo, 2014). This accounts for the wobbly start of the implementation process in some countries, and others are yet to take off (Reenberg, 2012), (Aigbokhaevbo, 2014).

Other general challenges faced by GGW include economic conditions, sanitation (Aigbokhaevbo, 2014), transhumance activities of herdsmen (Waweru, 2015), and the area's size under the GGW is too large. Systemic lapses have plagued efforts to harmonize national and regional institutional frameworks. Improper management of resources and poor governance poses the most significant challenge to GGWSSI (Reenberg, 2012).

Despite all these efforts, little improvement was recorded as attested to by United Nations Environmental Programme UNEP (2000), Akinagum (2004), Wezel and Rath (2001), and Owaiye in Igugu (1999). Thus, one would wonder why land degradation refused to come down if all these strategies are indeed in place and working. Owaiye in Igugu (2009) argues that out of 18 years of the afforestation program, only a 0.1% increase in forestry plantation was achieved going by the then land use maps. He stressed that this little apparent achievement is related to a lack of active participation.

Darkoh (1993) believes that the problem's persistence is mainly due to a lack of awareness. Yet, the UNCCD secretariat (2013) says a high prevalence of poverty among the population is the primary reason why land degradation problems refuse to come down significantly.

## 1.2 Problem Statement

Despite the linkages between ecosystem dynamics and local livelihood and poverty, many aspects of local livelihoods, especially in Africa, have always conflicted with ecosystem preservation objectives envisaged and driven by the government. This is because the local people who have much to gain and lose from ecosystem management are hardly included in formulating and implementing policies that directly affect their livelihood.

Another reason is that there are few studies on understanding the nature and pattern of local livelihoods. This problem was succinctly captured by Mascarenhas (2006), where he noted: *“permit me to say there are only a few studies on livelihoods. I find this a problem, a serious problem. We end up being environmental fundamentalists. Consequently, a woman collecting dead branches constitutes deforestation, the carver of black wood is accused of global warming, the local hunter is a poacher”*.

In 2013, The Nigerian federal ministry of environment strategies called for “frontline state’s” contribution and participation regarding formal engagement of grassroots communities at the local level Depo A. (2013).

“The federal government cannot do it all as regards to conservation and management of the environment. In the case of responding to the issue of desertification in Nigeria, it needs the contribution and participation of all stakeholders in the front-line states,” Depo A. (2013).

A sector-wide (contextual) approach that brings together governments, donors, and all stakeholders will be more effective. NAN (2013). They also added that the Ministry of the environment (GGW inclusive) should formally enforce the Local governments and the local communities in these front-line states (NAN, 2013).

Gombe State Urban Development, Water, Environment, and Town Planning reports that more than 300 hectares of plantation land are prone to desertification. "The State has about 40 gazette game reserves that were destroyed as a result of socio-economic activities such as tree felling and other unhealthy human activities, and the degradation does not stop at game reserves, but also to all forests and plantations in the state, including GGW" (Hajara, 2015).

In Nigeria, governments, especially in northern Nigeria, are discouraging trees' felling for firewood to check desertification. In Gombe State, however, the situation is different, and the state government shows understanding in an agreement reached with firewood sellers. (Adamu 2013)

At the local level, Gombe state, which was known for its rich agricultural landscape, beautiful forest, and shelterbelts, has rapidly turned into a desert due to deforestation caused by bush burning, overgrazing, and similar destructive human activities (Umar, 2010). Local communities of Gombe State have expressed worry about the fast rate of desertification that affects many parts of the state and expresses their desire to be more involved in the formulation and implementation of policies that directly affect their livelihood (Hajara, 2015).

In recent years, the Gombe State government expressed the desire to institutionalize effective community participation practices into local policy. In 2012 the CSDP conducted an extensive series of public consultations. The public indicated the desire to be involved to a greater extent in the local government decision-making processes affecting them and the future of their locality. Such consultations also stated a public desire (and need) to have more inclusive, local practices.

Figure 1.4 illustrates the GGW initiative follows global to local efforts, where strategic plans and frameworks as the bridge and as the principal tool of implementation and the lack of policy at the local level make it incomplete and ineffective.

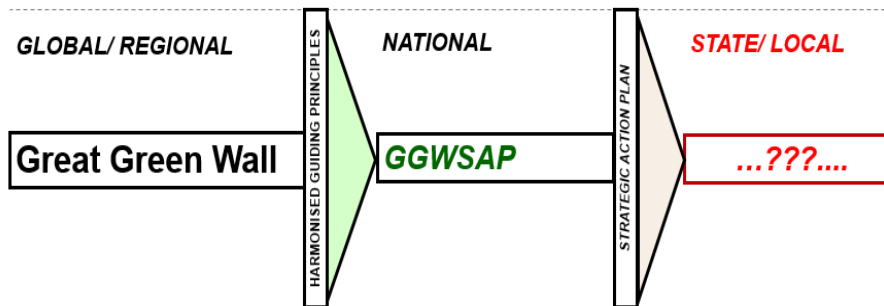


Figure 1.4 : The Research gap



Currently, GGW, CSD, and Gombe LGA incorporate participation processes in their work through various forms of informing the public, public consultations, community forums, and through the utilization of partnerships with neighborhood associations.

So, while the Gombe State and frontline states have an 'informal policy' around public engagement and participation, there is a need for a framework for effective community participation at the local context to improve the effectiveness of the Great Green Wall and all community Driven development projects in Gombe, Nigeria?

### **1.3 Research Questions**

- 1) What is the relationship between climate change, ecosystems, and community livelihood activities in Gombe, Nigeria?
- 2) What are the existing practices (policies, plans, programs, and projects) proposed or implemented around implementing community participation in Gombe, Nigeria?
- 3) What values should be associated with community participation practice in Gombe, Nigeria?
- 4) What framework required for community participation to improve the effectiveness of the great green wall in Gombe, Nigeria?

### **1.4 Research Aim and Objectives**

#### **1.4.1 Aim**

This research aims to establish sustainable local community participation in land resource conservation and management, thus, to enhance the local livelihoods of Gombe, Nigeria.

### **1.4.2 Objectives**

- 1) To study the community knowledge and perception of climate, ecosystems, and livelihoods and their relationship in Gombe, Nigeria.
- 2) To study the existing frameworks (policies, plans, programs, and projects) proposed or implemented around implementing community participation in Gombe, Nigeria.
- 3) To study the principles of effective community participation and how it is articulated in Gombe, Nigeria.
- 4) To develop a framework for effective community participation at a local context in Gombe, Nigeria.

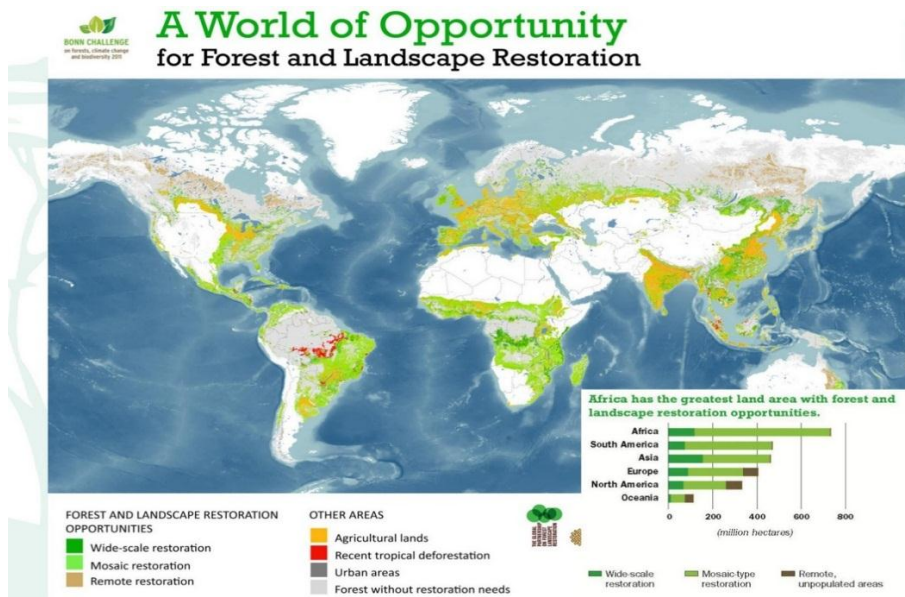
### **1.5 Significance of the Study**

Environmental sustainability is regarded as a critical aspect of attaining the Millennium Development Goals (MDGs). Nigeria's vulnerability to desertification and land degradation has increased in recent times and is likely to be compounded in the future by global climate change (Aigbokhaevbo, 2014).

GGWSAP is a principal tool for the implementation of the AU Agreement to Combat Desertification. It also builds on the National Action Plan (NAP) to control desertification under the UNCCD and the National Vision 20:2020. It is also expected to contribute directly towards the MDGs' achievement by the year 2015 by significantly reducing the pace of desertification and increasing land rehabilitation speed.

Existing literature on community participation typically adopts a national scope, often solely exploring national statistics and patterns. This research, however, contributed to localized, State-specific research and policy development. Localized research in Nigeria's front-line States (such as Gombe State) would aid future research in endorsing the formation of policies intended to promote a consistent community participation framework, operating under an integrative, inclusive lens. Thus, ensure effective and sustainable implementation of the Great Green Wall Initiative and its mosaic of projects.

According to the UNCCD study in 2013, Africa has the most significant forest and land restoration (figure 1.5).



**Figure 1.5 : World of opportunity for restoration**  
(Source- UNCCD Secretariat-2013)

The concept of community participation has been a sustainable development application tool to involve local people in development, policy formulation, and practice. Despite its use for over four decades, there is still a lack of explicit understanding of the idea of community participation in local contexts in developing countries (Nigeria inclusive).

This study would help GGW, statutory bodies, organizations/ institutions to understand some of the significant snarl-ups and contradictions that influence effective community participation. It would also serve as a basis for development policy formulation and help development facilitators understand Local people in their world as they involve them in GGW and other sustainable development projects.

Community participation is something that hasn't been well-researched in developing countries (Mascarenhas, 2006). This research will contribute to literature as it provides localized research, offers the development of an inclusive community participation framework, and ultimately provides greater accessibility of knowledge and facilities.

Findings from this research will also provide a step ahead in suggesting conditions of achieving sustainable engagement of the local community in land resource conservation and management.

## 1.6 Research Methodology

The case study research was selected to focus on qualitative data, which is well suited for exploratory research (Yin R.K, (2003) where little is known (Crosby, DiClementre, & Salazar, 2006). This approach allows me to gather rich, in-depth, qualitative data, thus to gain local perspectives (community leaders), to explore the existing CP policies, methods, and practices (**GGW, CSDP**, and local government relevant bodies), and to learn more about expert local experiences (success and failures). Figure 1.6 illustrates the research methodology instruments and outputs.

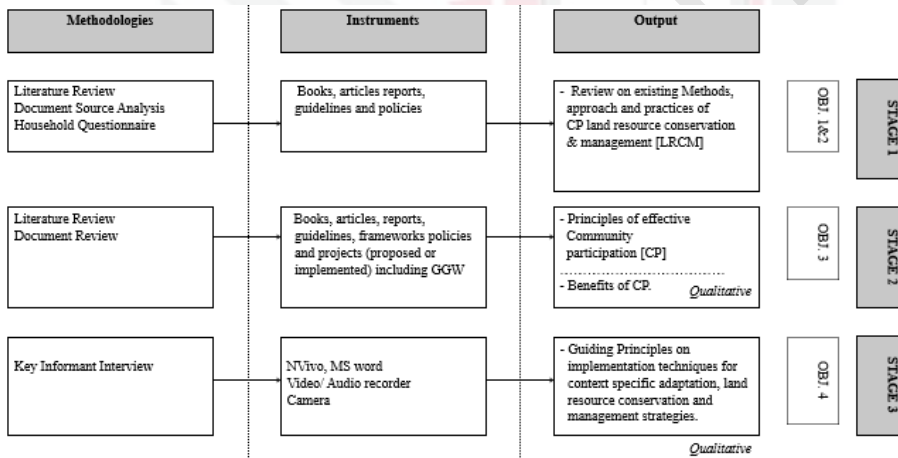


Figure 1.6 : Research methodology Instruments and Outputs

## 1.7 Scope of Research

This research aims to establish sustainable local community participation in land resource conservation and management to enhance Gombe, Nigeria's local livelihoods. This framework shall provide implementation techniques for place and context-specific adaptation, land resource conservation, and management strategies to ensure the effective and sustainable implementation of GGW in Gombe State, Nigeria. Current studies on community participation models in developing countries are inspired mainly by western models that focus primarily on institutional reforms while ignoring social, political, and psychological factors that affect individuals' propensity to participate.

The research is carried out to cover only Gombe and three of its local government Areas (Dukku, funakaye, and Nafada), where 15 Key Informant Interviews were conducted, where 11 are expert officials from various bodies, institutions, disciplines, and 4 are Committee leaders in Gombe local government. In order to gain local perspectives (community leaders), to explore the existing CP policies, methods, and practices (GGW, CSDP, and local government relevant bodies), and to learn more about expert local experiences (success and failures).

The research did not cover all the 11 frontline states or 11 local government areas (LGAs) but selected 3 LGAs, which aligns with GGW select LGAs for implementation. Gombe's decision to investigate the Gombe state is the fastest degrading state compared to the ten remaining frontline states due to unhealthy human activities (deforestation for firewood).

The research limit covers Gombe state and its local government areas because it aimed to explore the nature of community participation at local contexts and ascertain how people at the local level are being involved in GGW implementation and decision-making processes. Looking at the number of LGAs and time available for the study, it becomes necessary only to GGW selected LGAs to carry out a comprehensive and detailed investigation. The series of problems in the State makes it an ideal area for a research study to help evaluate the situation so that framework and recommendations could be put forward for GGW for effective and sustainable implementation and the formulation and improvement of future development policies.

## **1.8 Structure of Thesis**

Chapter 1 presents a research background to the key issues underlying this thesis, provides the research goal and objectives, research gap, knowledge contribution, justification for this research, and outlines the thesis's structure.

Chapter 2 presents the relevant literature review, document review, and theoretical context and frameworks. The document review consists of studies on natural resource exploitation, causes of natural resource exploitation, and drivers of successful community-based natural resource management. The chapter also discusses efforts to overcome land degradation. The chapter also presents GGW, goals and objectives, vision and mission, and status. Additionally, a brief account of the study area is also presented, and finally, a conceptual framework to guide the study is developed. Descriptions of concepts in the framework for the study are outlined and elucidated.

Chapter 3 presents the research design and methodology and an overview of how the study was organized from the data collection phase based on in-depth interviews, observations, and focus group discussions.

Chapter 4 presents the descriptive and interpretative findings of this study. Also, Appendix A and B contain the interview questions used for this study, while Appendix C provides a chart, which outlines how each interview question corresponds to each research question that guided this study

Chapter 5 presents an evidence-based framework that provides localized research that suggests implementation techniques for place and context-specific adaptation, land resource conservation, and management strategies.

Chapter 6 concludes the study with a summary, framework, potential future research, conclusions, and recommendations for effective and sustainable implementation of GGW in Gombe State, Nigeria.

## REFERENCES

- Abdullah, N. C. (2015). Going Green in Urbanisation Area: Environmental Alternative Dispute Resolution as an Option. *Procedia - Social and Behavioral Sciences*, 170, 401–408. <https://doi.org/10.1016/j.sbspro.2015.01.050>
- Adamu Saleh. (2013). Nigeria: Poverty Fuels Firewood Market in Gombe. Retrieved from <http://allafrica.com/stories/201309070174.html>
- Admin, D. (2015). Developmental Local Government as a Model for Grassroots Socio-Economic Development in Nigeria. *AJOL) Www.Ajol.Info*, 4(2), 43. <https://doi.org/10.4314/ijah.v4i2.4>
- Adejuwon, J (2007): Food Security, Climate Variability and Climate Change in Sub Saharan West Africa. A Final Report Submitted to assessments of Impacts and Adaptations to Climate Change (AIACC). Project No. AF 23. The International START Secretariat
- Adeniji-Oloukoi, G and Afolabi, F (2011): Adaptive capacity of Nigerian women during Climate Variability. In Salami, A.T and Orimoogunje, OO (eds): Environmental Research and Challenges of Sustainable Development in Nigeria. Ile-Ife: OAU Press, p212-231.
- Adisa, S.R & Adekunle, O.A (2010). Farmer-Herdsman Conflicts: A Factor Analysis of Socioeconomic Conflict Variables among Arable Crop Farmers in North Central Nigeria. *J Hum Ecol*, 30(1): 1-9.
- Afiesimama, E.A., Pal, J.S., Abiodun, B.J., Gutowski Jr, W.J., & Adedoyin, A, (2006). Simulation of West African monsoon using the RegCM3.Part I: Model validation and interannual variability. *Theor. Appl. Climatol*.
- Akinbami, J.F.K., Salami, A.T., & Siyanbola, W.O. (2003). An integrated strategy for sustainable forest–energy–environment interactions in Nigeria. *Journal of Environmental Management* 69, 115–128. doi:10.1016/S0301-4797(03)00083-5
- Agarwal, B. (2010). Does women's proportional strength affect their participation? Governing local forests in South Asia. *World Development*. <http://www.sciencedirect.com/science/article/pii/S0305750X09000904>
- Anthias, F. (2002). Beyond feminism and multiculturalism: Locating difference and the politics of location. *Women's Studies International Forum*, 25(3). Retrieved from PsycINFO database.
- Action, N., & To, P. (n.d.). Federal Ministry of Environment of Nigeria National Action Programme to Combat.

- Adamu Saleh. (2013). Nigeria: Poverty Fuels Firewood Market in Gombe. Retrieved from <http://allafrica.com/stories/201309070174.html>
- Agarwal, B. (2010). Does women's proportional strength affect their participation? Governing local forests in South Asia. *World Development*.
- Agrawal, A., & Angelsen, A. (2009a). Using community forest management to achieve REDD+ goals. *Realising REDD+: National Strategy and*.
- Agrawal, A., & Angelsen, A. (2009b). Using community forest management to achieve REDD+ goals. *Realising REDD+: National Strategy and*. Retrieved from <https://books.google.com/books?hl=en&lr=>
- Agrawal, A., Chhatre, A., & Hardin, R. (2008). Changing governance of the world's forests. *Science*. Retrieved from <http://science.sciencemag.org/content/320/5882/1460.short>
- Aheto, D. W., Kankam, S., Okyere, I., Mensah, E., Osman, A., Jonah, F. E., & Mensah, J. C. (2016). Community-based mangrove forest management: Implications for local livelihoods and coastal resource conservation along the Volta estuary catchment area of Ghana. *Ocean and Coastal Management*, 127, 43–54. <http://doi.org/10.1016/j.ocecoaman.2016.04.006>
- Aigbokhaevbo, V. O. (2014). Africa The “ Great Green Wall ”: Implementation Constraints, 4(2013), 2014.
- Akbar, A. R. N., Mohammad, M. F., Ahmad, N., & Maisyam, M. (2015). Adopting Standardization in Construction Environment: Standard Method of Measurement (SMMs). *Procedia - Social and Behavioral Sciences*, 170, 37–48. <https://doi.org/10.1016/j.sbspro.2015.01.013>
- AllAfrica.com: Nigeria: Inside Gombe's Vanishing Forests. (n.d.). Retrieved August 17, 2014, from <http://allafrica.com/stories/201004200262.html>
- Albrecht, J. (2016). Legal framework and criteria for effectively coordinating public participation under the Floods Directive and Water Framework Directive: European requirements and German transposition. *Environmental Science and Policy*, 55, 368–375. <http://doi.org/10.1016/j.envsci.2015.07.019>
- Almeida, F., & Naylor, D. (2011). Experimental study of free convection in a window with a heated between-panes blind. *Energy and Buildings*, 43(10), 2647–2655. <https://doi.org/10.1016/j.enbuild.2011.06.010>
- Almhafdy, A., Ibrahim, N., Ahmad, S. S., & Yahya, J. (2015). Thermal Performance Analysis of Courtyards in a Hot Humid Climate Using Computational Fluid Dynamics CFD Method. *Procedia - Social and*



*Behavioral Sciences*, 170, 474–483.  
<https://doi.org/10.1016/j.sbspro.2015.01.012>

- Anderson, J., Mehta, S., Epelu, E., & Cohen, B. (2015). Managing leftovers: Does community forestry increase secure and equitable access to valuable resources for the rural poor? *Forest Policy and Economics*, 58, 47–55. <http://doi.org/10.1016/j.forpol.2014.12.004>
- Armitage, D. (2005). Adaptive capacity and community-based natural resource management. *Environmental Management*. Retrieved from <http://link.springer.com/article/10.1007/s00267-004-0076-z>
- Arnstein, R., S. (1969). A ladder of citizen participation. *Journal of the American Planning Association*, 35(4). Retrieved from PsycINFO database.
- Arriagada, R., Ferraro, P., Sills, E., & Pattanayak, S. (2012). Do payments for environmental services affect forest cover? A farm-level evaluation from Costa Rica. *Land*. Retrieved from <http://le.uwpress.org/content/88/2/382.short>
- Atmiş, E., Daşdemir, I., Lise, W., & Yildiran, Ö. (2007). Factors affecting women's participation in forestry in Turkey. *Ecological Economics*, 60(4), 787–796. <http://doi.org/10.1016/j.ecolecon.2006.02.016>
- Audit Commission. (2003). *Community engagement: What does community engagement cover?* Retrieved from: [http://www.audit\\_commission.gov.uk/localgov/goodpractice/](http://www.audit_commission.gov.uk/localgov/goodpractice/)
- Audu, E. (2013a). Fuel wood consumption and desertification in Nigeria. *International Journal of Science and Technology*. Retrieved from [http://ejournalofsciences.org/archive/vol3no1/vol3no1\\_1.pdf](http://ejournalofsciences.org/archive/vol3no1/vol3no1_1.pdf)
- Audu, E. (2013b). Fuel wood consumption and desertification in Nigeria. *International Journal of Science and Technology*. Retrieved from [http://ejournalofsciences.org/archive/vol3no1/vol3no1\\_1.pdf](http://ejournalofsciences.org/archive/vol3no1/vol3no1_1.pdf)
- Auwal Ahmad. (2015). NESREA warns against desertification in Gombe — News — The Guardian Nigeria. Retrieved from <http://guardian.ng/news/nesrea-warns-against-desertification-in-gombe/>
- Ayodeji, O. J., Ayodele, I. A., & Reuben, M. (2016). Assessment of stakeholders engagement in natural resource management using typologies of participation in Kainji lake national park. *Sky Journal of Soil Science and Environmental Management*, 5(1), 18–25.
- Ayonga, J. N. (2014). Promoting Effective Community Participation in Land Use Planning and Management of Wildlife Conservation Areas, 4(20), 29–34.

- Bachrach, P. & Botwinick A. (1992). *Power and Empowerment: A radical theory of participatory democracy*. Philadelphia, PA: Temple University Press.
- Babajanian, V., B. (1993). Social capital and community participation in Post-Soviet Armenia: Implications for policy and practice. *Journal of Euro-Asia Studies*, 60(8). Retrieved from PsycINFO database.
- Baker, M. (2008). Restructuring reproduction. *Journal of Sociology*, 4 (1). Retrieved from PsycINFO database.
- Benson, D., Fritsch, O., Cook, H., & Schmid, M. (2014). Evaluating participation in WFD river basin management in England and Wales: Processes, communities, outputs and outcomes. *Land Use Policy*, 38, 213–222. <https://doi.org/10.1016/j.landusepol.2013.11.004>
- Berrahmouni, N., Tapsoba, F., & Berte, C. (2014). The Great Green Wall for the Sahara and the Sahel Initiative: building resilient landscapes in African drylands. *GENETIC CONSIDERATIONS IN*. Retrieved from [http://envis.nic.in/fgtb/pdfs/FAO\\_2.pdf#page=26](http://envis.nic.in/fgtb/pdfs/FAO_2.pdf#page=26)
- Berryman, C. E., Young, A. J., Karl, J. P., Kenefick, R. W., Margolis, L. M., Cole, R. E., ... Pasiakos, S. M. (2018). Severe negative energy balance during 21 d at high altitude decreases fat-free mass regardless of dietary protein intake: A randomized controlled trial. *FASEB Journal*, 32(2). <https://doi.org/10.1096/fj.201700915R>
- Batey Blackman, S. A., & Baumol, W. J. (2008). *Concise Encyclopedia of Economics. Natural Resources*. Indianapolis: Library of Economics and Liberty. Retrieved from <http://www.econlib.org/library/Enc/NaturalResources.html>
- Berkes, F., J. Colding, and C. Folke, 2003: *Navigating Social-Ecological Systems: Building Resilience for Complexity and Change*. Cambridge University Press, Cambridge, UK.
- BNARDA (2005): Implementation Completion Reports on National Special Programme for Food Security (NSPFS). Benue State: Nigeria. Makurdi BNARDA.
- Bob, U and Bronkhorst, S. (2010): Environmental conflicts: Key issues and management implications. *African Journal on Conflict Resolution*, 10 (2), pp. 103–119.
- Bucini, G and Lambin, E.F (2002): Fire impacts on vegetation in Central Africa: a remotesensing-based statistical analysis. *Applied Geography* 22 (2002) 27–48. Elsevier Science Ltd
- Bello, B., & Africa, W. (2003). Impact of Wealth Distribution on Energy Consumption in Nigeria: a Case Study of Selected Households ' in

Gombe State ., 1–13.

- Bello, M. (2011). Impact of wealth distribution on energy consumption in nigeria: a case study of selected households'in gombe state. <http://www.usaee.org/usaee2011/submissions/OnlineProceedings/1981-MRS.MARYAM BELLO.o.pdf.pdf>
- Benson, D., Fritsch, O., Cook, H., & Schmid, M. (2014). Evaluating participation in WFD river basin management in england and wales: Processes, communities, outputs and outcomes. *Land Use Policy*, 38, 213–222. <http://doi.org/10.1016/j.landusepol.2013.11.004>
- Berrahmouni, N., Tapsoba, F., & Berte, C. (2014). The Great Green Wall for the Sahara and the Sahel Initiative: building resilient landscapes in African drylands. *GENETIC CONSIDERATIONS IN*. Retrieved from <http://envis.nic.in/ifgtb/pdfs/FAO 2.pdf#page=26>
- Best, M., & Dustan, L. (2006). Social Planning Council of Ottawa. *The civic participation of visible minority Canadians: A literature review*. Retrieved from: [http://www.spcottawa.on.ca/Publications\\_NewPublications.htm](http://www.spcottawa.on.ca/Publications_NewPublications.htm)
- Birks, M., Chapman, Y., Francis, K. (2008). Memoing in qualitative research. *Journal of Research in Nursing* 13(1). Retrieved from PsycINFO database.
- Blaikie, P. (2006). Is small really beautiful? Community-based natural resource management in Malawi and Botswana. *World Development*. <http://www.sciencedirect.com/science/article/pii/S0305750X06001343>
- Blythe, C., Harré, N., Sharma, S., Dillon, V., & Didsbury, A. (2013). Guiding Principles for Community Engagement: Reflections on a School-Based Sustainability Project. *Journal for Social Action in Counseling and Psychology*, 5(3). Retrieved from <https://openjournals.bsu.edu/jsacp/article/view/235>
- Bockstael, E., Bahia, N. C. F., Seixas, C. S., & Berkes, F. (2016). Participation in protected area management planning in coastal Brazil. *Environmental Science and Policy*, 60, 1–10. <http://doi.org/10.1016/j.envsci.2016.02.014>
- Booth, A., & Halseth, G. (2011). Why the public thinks natural resources public participation processes fail: A case study of British Columbia communities. *Land Use Policy*, 28(4), 898–906. <http://doi.org/10.1016/j.landusepol.2011.03.005>
- Branco, M., & Rodrigues, L. (2008). Factors influencing social responsibility disclosure by Portuguese companies. *Journal of Business Ethics*. Retrieved from <http://link.springer.com/article/10.1007/s10551-007-9658->

- Bracht, N., Kingsbury, L., & Rissel, C. (1999). A five-stage community organization model for health promotion: Empowerment and partnership strategies. In Bracht (Ed.), *Health promotion at the community level: Two new advances*. Thousand Oaks, CA: Sage Publications.
- Bracht, N., & Tsouro, A. (1990). Principles and strategies of effective community participation. *Health Promotion International*, 5(3). Retrieved from PsycINFO database.
- Bremer, L., Farley, K., & Lopez-Carr, D. (2014). What factors influence participation in payment for ecosystem services programs? An evaluation of Ecuador's SocioPáramo program. *Land Use Policy*. <http://www.sciencedirect.com/science/article/pii/S026483771300149X>
- Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.
- Bremer, L., Farley, K., & Lopez-Carr, D. (2014). What factors influence participation in payment for ecosystem services programs? An evaluation of Ecuador's SocioPáramo program. *Land Use Policy*. <http://www.sciencedirect.com/science/article/pii/S026483771300149X>
- Brooks, J., Waylen, K. A., & Mulder, M. B. (2013a). Assessing community-based conservation projects: A systematic review and multilevel analysis of attitudinal, behavioral, ecological, and economic outcomes. *Environmental Evidence*, 2(1), 2. <http://doi.org/10.1186/2047-2382-2-2>
- Brooks, J., Waylen, K. A., & Mulder, M. B. (2013b). Assessing community-based conservation projects: A systematic review and multilevel analysis of attitudinal, behavioral, ecological, and economic outcomes. *Environmental Evidence*, 2(1), 2. <http://doi.org/10.1186/2047-2382-2-2>
- Brooks, J., Waylen, K., Mulder, M., Robinson, J., Horwich, R., Lyon, J., ... Simpson, E. (2013a). Assessing community-based conservation projects: A systematic review and multilevel analysis of attitudinal, behavioral, ecological, and economic outcomes. *Environmental Evidence*, 2(1), 2. <http://doi.org/10.1186/2047-2382-2-2>
- Brooks, J., Waylen, K., Mulder, M., Robinson, J., Horwich, R., Lyon, J., ... Simpson, E. (2013b). Assessing community-based conservation projects: A systematic review and multilevel analysis of attitudinal, behavioral, ecological, and economic outcomes. *Environmental Evidence*, 2(1), 2. <http://doi.org/10.1186/2047-2382-2-2>
- Brosius, J., Tsing, A., & Zerner, C. (1998). Representing communities: Histories and politics of community-based natural resource management. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/08941929809381069>

- Brosius, P., Tsing, A., & Zerner, C. (2005). *Communities and conservation: histories and politics of community-based natural resource management*. Retrieved from [https://books.google.com/books?hl=en&lr=&id=SSJtAAAAQBAJ&oi=fnd&pg=PP3&dq=community+based+participation+in+natural+resource+management&ots=rp9fl21unx&sig=6grmxdzN5\\_JcBvh3xFZ-odmQbuY](https://books.google.com/books?hl=en&lr=&id=SSJtAAAAQBAJ&oi=fnd&pg=PP3&dq=community+based+participation+in+natural+resource+management&ots=rp9fl21unx&sig=6grmxdzN5_JcBvh3xFZ-odmQbuY)
- Brown, G., Strickland-Munro, J., Kobryn, H., & Moore, S. A. (2016). Stakeholder analysis for marine conservation planning using public participation GIS. *Applied Geography*, 67, 77–93. <http://doi.org/10.1016/j.apgeog.2015.12.004>
- CAG Consultants. (2009). Participation : A theoretical context, (1969), 1–13. [http://www.cagconsultants.co.uk/resources/communities/Participation\\_Theoretical\\_Frameworks.pdf](http://www.cagconsultants.co.uk/resources/communities/Participation_Theoretical_Frameworks.pdf)
- Calfucura, E. (2018). Governance, Land and Distribution: A Discussion on the Political Economy of Community-Based Conservation. *Ecological Economics*, 145, 18–26. <http://doi.org/10.1016/j.ecolecon.2017.05.012>
- Carr, S., & Mpande, R. (1996). Does the definition of the issue matter? NGO influence and the international convention to combat desertification in Africa. *Journal of Commonwealth & Comparative*. Retrieved from <http://www.tandfonline.com/doi/pdf/10.1080/14662049608447720>
- Castro, M. J., Castro, M. G., Castañeda, T. H., Monroy, D. M. C., Ocampo, C. J., Cruz, C. I., ... De Lara, A. R. (2015). Salinity effects on growth of four *Artemia franciscana* (Kellogg, 1906) populations, cultured in laboratory conditions from Yucatan Peninsula. *Journal of Ecology and the Natural Environment*, 7(7), 210–217. <http://doi.org/10.5897/JENE2015>.
- Clark, H. L., Heileson, J., Demay, J., & Cole, R. E. (2017). Misperceptions of weight status in military men and women. *Military Medicine*, 182(5). <https://doi.org/10.7205/MILMED-D-16-00202>
- Cole, R. E., Boyer, K. M., Spanbauer, S. M., Sprague, D., & Bingham, M. (2013). Effectiveness of Prediabetes Nutrition Shared Medical Appointments: Prevention of Diabetes. *The Diabetes Educator*, 39(3). <https://doi.org/10.1177/0145721713484812>
- Cole, R. E., Clark, H. L., Heileson, J., Demay, J., & Smith, M. A. (2016). Normal weight status in military service members was associated with intuitive eating characteristic. *Military Medicine*, 181(6). <https://doi.org/10.7205/MILMED-D-15-00250>
- Cole, R. E., & Horacek, T. (2009). Applying PRECEDE-PROCEED to Develop an Intuitive Eating Nondiets Approach to Weight Management Pilot Program. *Journal of Nutrition Education and Behavior*, 41(2). <https://doi.org/10.1016/j.jneb.2008.03.006>

- Cole, R. E., & Horacek, T. (2010). Effectiveness of the “my body knows when” intuitive-eating pilot program. *American Journal of Health Behavior*, 34(3). <https://doi.org/10.5993/AJHB.34.3.4>
- Cole, R. E., Rogers, R. L., Clark, H. L., & Sigrist, L. D. (2014). Incorporation of learning styles into the graduate program in nutrition curriculum. *U.S. Army Medical Department Journal*.
- Chang, S. E. (2015). The Danshui River Cultural Ecosystem as the Amis Tribal Landscape: An Asian Green-grassroots Approach. *Procedia - Social and Behavioral Sciences*, 170, 463–473. <https://doi.org/10.1016/j.sbspro.2015.01.010>
- Chasek, P., Safriel, U., Shikongo, S., & Fuhrman, V. F. (2015). Operationalizing Zero Net Land Degradation: The next stage in international efforts to combat desertification? *Journal of Arid Environments*, 112, 5–13. <http://doi.org/10.1016/j.jaridenv.2014.05.020>
- CARE International (2011) Climate Change and Food Security. CARE International Climate Change Brief. Available at [www.careclimatechange.org/publications/adaptation](http://www.careclimatechange.org/publications/adaptation)
- Costanza, R., L. Wainger, C. Folke, and K.G. Maler, 1993: Modeling complex ecological economic systems: Toward an evolutionary, dynamic understanding of people and nature. *BioScience*, 43, 545–555.
- Chen, S., Pearson, S., Wang, X. H., & Ma, Y. (2017). Public participation in coastal development applications: A comparison between Australia and China. *Ocean & Coastal Management*, 136, 19–28. <http://doi.org/10.1016/j.ocecoaman.2016.11.016>
- Connor, D. M. (1988). A new ladder of citizen participation. *National Civic Review*, 77(3). Retrieved from PsycINFO database.
- Crosby, R., DiClementre, J. R., Salazar, F. L. (Eds). (2006). *Research Methods in Health Promotion*. San Francisco: Jossey-Bass.
- Curtis, J., Grabb, E. J., Chui, T. (1999). Public Participation, Protest, and Social Inequality. In J. Curtis, Grabb and Guppy (Eds.), *Social Inequality in Canada: Patterns, Problems and Policies* (3rd ed.) (86-125). Scarborough, ON: Prentice-Hall Allyn Bacon.
- Coulibaly-Lingani, P., Savadogo, P., & Tigabu, M. (2011). Factors influencing people’s participation in the forest management program in Burkina Faso, West Africa. *Forest Policy and*. Retrieved from <http://www.sciencedirect.com/science/article/pii/S1389934111000177>
- Cox, M., Arnold, G., & Tomás, S. (2010). A review of design principles for community-based natural resource management. Retrieved from

<https://books.google.com/books?hl=en&lr=&id=bcZ5CgAAQBAJ&oi>

- Culhane, P. (2013a). *Public lands politics: Interest group influence on the Forest Service and the Bureau of Land Management*. Retrieved from <https://books.google.com/books?hl=en&lr=&id=tY8uAgAAQBAJ&oi=fnd&pg=PP1&dq=factors+influencing+public+participation+in+forest+conservation&ots=rR2V3WfKwv&sig=WzpZ94sT4fzcStPnn5u-J-zo1XI>
- Culhane, P. (2013b). *Public lands politics: Interest group influence on the Forest Service and the Bureau of Land Management*. Retrieved from <https://books.google.com/books?hl=en&lr=&id=tY8uAgAAQBAJ&oi>
- Daniels, S., & Walker, G. (1996). Collaborative learning: improving public deliberation in ecosystem-based management. *Environmental Impact Assessment Review*. Retrieved from <http://www.sciencedirect.com/science/article/pii/0195925596000030>
- Darkoh, M. (1989). Desertification in Africa. *Journal of Eastern African Research and Development*. Retrieved from <http://www.africabib.org/rec.php?RID=061326623>
- Darkoh, M. (1994). Population, environment and sustainable development: desertification in Africa. *Desertification Control Bulletin*. Retrieved from <http://agris.fao.org/agris-search/search.do?recordID=US201301531368>
- Darkoh, M. (1998). The nature, causes and consequences of desertification in the drylands of Africa. *Land Degradation & Development*. Retrieved from [https://www.researchgate.net/profile/Michael\\_Darkoh/publication/240331101\\_The\\_nature\\_causes\\_and\\_consequences\\_of\\_desertification\\_in\\_the\\_drylands\\_of\\_Africa/links/0deec533a478f5f6a5000000.pdf](https://www.researchgate.net/profile/Michael_Darkoh/publication/240331101_The_nature_causes_and_consequences_of_desertification_in_the_drylands_of_Africa/links/0deec533a478f5f6a5000000.pdf)
- Das, N. (2011). Women's dependence on forest and participation in forestry: A case study of joint forest management programme in West Bengal. *Journal of Forest Economics*, 17(1), 67–89. <http://doi.org/10.1016/j.jfe.2010.09.003>
- Daramola, A. (2005): Global climatic change, environmental resource and pastoral nomadic management in nigeria. Paper presented at the IHDP conference on “management of environmental commons”. Held at the Conference Centre, University of Ibadan. MARCH 2 – 3,2005.
- Developing World Fact sheet. Available online:[http://www.ifad.org/rpr2011/media/kit/factsheet\\_e.pdf](http://www.ifad.org/rpr2011/media/kit/factsheet_e.pdf) (accessed on 21 October 2010).
- De Santo, E. M. (2016). Assessing public “participation” in environmental decision-making: Lessons learned from the UK Marine Conservation

Zone (MCZ) site selection process. *Marine Policy*, 64, 91–101.  
<http://doi.org/10.1016/j.marpol.2015.11.003>

Defrancesco, E., Gatto, P., & Runge, F. (2008). Factors Affecting Farmers' Participation in Agri-environmental Measures: A Northern Italian Perspective. *Journal of Agricultural*. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/j.1477-9552.2007.00134.x/full> Dongier, P. (2004). World Bank. *Community-driven development*. Retrieved from: [http://poverty.worldbank.org/files/5805\\_chap9.pdf](http://poverty.worldbank.org/files/5805_chap9.pdf)

Dongier, P. (2008). World Bank. *The PRSP Sourcebook*. Retrieved from: <http://web.worldbank.org/WBSITE/>.html

Dhokhikah, Y., Trihadiningrum, Y., & Sunaryo, S. (2015). Community participation in household solid waste reduction in Surabaya, Indonesia. *Resources, Conservation and Recycling*, 102, 153–162.  
<http://doi.org/10.1016/j.resconrec.2015.06.013>

Downing, D., Covington, M. M., Purchase, H. C., Richard E., M., Du, Y., Participation, C., ... Bathgate, T. (2009). Four different approaches to community participation. *Library and Information Science Research*, 13(2), 177–188. <http://doi.org/10.1016/j.socscimed.2005.06.005>

Drazkiewicz, A., Challies, E., & Newig, J. (2015). Public participation and local environmental planning: Testing factors influencing decision quality and implementation in four case studies from Germany. *Land Use Policy*, 46, 211–222. <http://doi.org/10.1016/j.landusepol.2015.02.010>

Duangjai, W., Schmidt-Vogt, D., & Shrestha, R. P. (2015). Farmers' land use decision-making in the context of changing land and conservation policies: A case study of Doi Mae Salong in Chiang Rai Province, Northern Thailand. *Land Use Policy*, 48, 179–189.  
<http://doi.org/10.1016/j.landusepol.2015.06.002>

Dungumaro, E., & Madulu, N. (2003). Public participation in integrated water resources management: the case of Tanzania. *Physics and Chemistry of the Earth, Parts A/B*. Retrieved from <http://www.sciencedirect.com/science/article/pii/S1474706503001608>

Ebenezer, T. (2015). Journal of Ecology and the Natural Environment Drought, desertification and the Nigerian environment: A review, 7(7), 196–209.  
<http://doi.org/10.5897/JENE2015>

Ejidike, B. N., & Ajayi, S. R. (2013). Trends in wildlife conservation practices in Nigeria. *International Journal of Biodiversity and Conservation*, 5(April), 185–191. <http://doi.org/10.5897/IJBC11.127>



- Eneji, V. C. O., Gubo, Q., Okpiliya, F. I., Aniah, E. J., Eni, D. D., & Afangide, D. (2009). Problems of public participation in biodiversity conservation: the Nigerian scenario. *Impact Assessment and Project Appraisal*, 27(4), 301–307. <http://doi.org/10.3152/146155109X479431>
- Evans, K., Flores, S., Larson, A. M., Marchena, R., Müller, P., & Pikitle, A. (2016). Women's Studies International Forum Challenges for women's participation in communal forests : Experience from Nicaragua in digenous territories. *Women's Studies International Forum*, 1–10.
- Edame G.E., Anam, B.E., Fonta, W.M and Duru, EJC. (2011) " Climate Change, Food Security and Agricultural Productivity in Africa: Issues and policy directions" *International Journal of Humanities and Social Science*. Vol. 1 No. 21 pp 205-223
- Eze, O.C (2008): A Case Study On Local Empowerment and Environmental Management Project (LEEMP) in Nigeria Protected Areas & Biodiversity Management Component. Sub- Regional Workshop for GEF Focal Points in West & Central Africa, Douala, Cameroon, 19 – 21 June 2008
- Fabricius, C. and E. Koch, 2004: *Right, Resource and Rural Development: Community-Based Natural Resource Management in Southern Africa*. Earthscan, London.
- FAO (2011): Global Forest Resource Assessment (FRA 2010). FAO Yearbook-resources – landuse: <http://www.fao.org/economic/ess/ess-publications/ess-yearbook/essyearbook2010/yearbook2010-reources/en/>
- Fasona, M.J and Omojola, A.S (2005): Climate Change, Human Security and Communal Clashes in Nigeria. Proceedings of International Workshop on Human Security and Climate Change, Holmen Fjord Hotel, Asker, near Oslo, 22–23 June 2005, [www.gechs.org/activities/holmen/Fasona\\_Omojola.pdf](http://www.gechs.org/activities/holmen/Fasona_Omojola.pdf).
- Federal Government of Nigeria (2000) Nigeria: Targeted poverty reduction (Background Paper for the CG, August). Federal Republic of Nigeria (2001) National Poverty Eradication Programme: Programmes and Implementation strategies.
- Federal Government of Nigeria (FGN) (2008) "Nigeria and Climate Change: Road to COP 15". Federal Ministry of Environment, Abuja.
- Federal Government of Nigeria Draft National Transport Policy (2010). Retrived from <http://www.accessbankplc.com/Library/Documents/2010%20Bankers%20Committee%20Confer>

ence%20Resources/Transportation%20Sector/Draft\_National\_Transport\_Policy\_Fed%20Rep%20of%20Nigeria.pdf.

Fagerholm, N., Oteros-Rozas, E., Raymond, C. M., Torralba, M., Moreno, G., & Plieninger, T. (2016a). Assessing linkages between ecosystem services, land-use and well-being in an agroforestry landscape using public participation GIS. *Applied Geography*, *74*, 30–46. <http://doi.org/10.1016/j.apgeog.2016.06.007>

Fagerholm, N., Oteros-Rozas, E., Raymond, C. M., Torralba, M., Moreno, G., & Plieninger, T. (2016b). Assessing linkages between ecosystem services, land-use and well-being in an agroforestry landscape using public participation GIS. *Applied Geography*, *74*, 30–46. <http://doi.org/10.1016/j.apgeog.2016.06.007>

FAO. (2012). Great Green Wall for the Sahara and the Sahel Initiative.

FAO. (2014). Harmonised regional strategy for implementation of the “ Great Green Wall Initiative of the Sahara and the Sahel .” *2014*, 33.

Foley, J., DeFries, R., Asner, G., & Barford, C. (2005). Global consequences of land use. Retrieved from <http://science.sciencemag.org/content/309/5734/570.short>

Forestry, C., & Capital, S. (2013). Reference List for Participation Theories, (2002).

Forman, R. (2014). *Land Mosaics: The Ecology of Landscapes and Regions (1995)*. Retrieved from <http://link.springer.com/content/pdf/10.5822/978-1-61091-491-8.pdf#page=239>

Forrest, N., & Wiek, A. (2015). Success factors and strategies for sustainability transitions of small-scale communities - Evidence from a cross-case analysis. *Environmental Innovation and Societal Transitions*, *17*, 22–40. <http://doi.org/10.1016/j.eist.2015.05.005>

Fujii, Y. (2016). Putting the pieces together: How collaboration between land banks and community land trusts can promote affordable housing in distressed neighborhoods. *Cities*, *56*, 1–8. <http://doi.org/10.1016/j.cities.2016.02.007>

Furness, E., Harshaw, H., & Nelson, H. (2015a). Community forestry in British Columbia: Policy progression and public participation. *Forest Policy and Economics*, *58*(January), 85–91. <http://doi.org/10.1016/j.forpol.2014.12.005>

Furness, E., Harshaw, H., & Nelson, H. (2015b). Community forestry in British Columbia: Policy progression and public participation. *Forest Policy and Economics*, *58*(January), 85–91. <http://doi.org/10.1016/j.forpol.2014.12.005>

*Economics*, 58(January), 85–91.  
<http://doi.org/10.1016/j.forpol.2014.12.005>

Federal Republic of Nigeria (1998): Draft Revised National Policy On The Environment. Federal Environmental Protection Agency. Retrieved from [www.unccd.int/actionprogrammes/africa/national/2001/nigeria-eng.pdf](http://www.unccd.int/actionprogrammes/africa/national/2001/nigeria-eng.pdf). *last accessed 15 August 2018*

Federal Republic of Nigeria (2000) National Policy on Telecommunications. Retrived from <http://www.ncc.gov.ng/NationalTelecomsPolicy/National%20Policy%20on%20Telecommunications.pdf> . *last accessed 15 august 2017*

Federal Republic of Nigeria (2003a): NIGERIA'S FIRST NATIONAL Communication under The United Nations Framework Convention On Climate Change. The Ministry of Environment of the Federal Republic of Nigeria Abuja. Retrieved from <http://unfccc.int/resource/docs/natc/nignc1.pdf>

Federal Republic of Nigeria (2003b): National Energy Policy. Energy Commission Of Nigeria. Retrived from [http://www.energy.gov.ng/index.php?option=com\\_docman&task=view&gid=19&Itemid=52](http://www.energy.gov.ng/index.php?option=com_docman&task=view&gid=19&Itemid=52)

Folke, C., J. Colding, and F. Berkes, 2003: Synthesis: Building resilience and adaptive capacity in social-ecological systems. In: *Navigating Social-Ecological Systems: Building Resilience for Complexity and Change*, F. Berkes, J. Colding, and C. Folke (eds.), Cambridge University Press, Cambridge, UK, pp. 352–387.

Folke, C., S. Carpenter, T. Elmqvist, L. Gunderson, C.S. Holling, et al. 2002: *Resilience and Sustainable Development: Building Adaptive Capacity in a World of Transformations*. Scientific background paper for the World Summit on Sustainable Development, on behalf of the Environmental Advisory Council, Stockholm.

Food and Agriculture Organization (1996), "World Food Summit Rome Declaration and Plan of Action, November 13-17, 1996," 1996, available at [www.fao.org/docrep/003/w3613e/w3613e00.htm](http://www.fao.org/docrep/003/w3613e/w3613e00.htm) . Fosset, P. The multiple functions and benefits of small farm agriculture in the context of global trade negotiations. *Development* **2000**, 43, 77-82.

Funtowicz, S. and J.R. Ravets, 1990: *Uncertainty and Quality in Science for Policy*. Kluwer Academic, Dordrecht, the Netherlands.

Government Office for Science (2011) *Foresight: The Future of Food and Farming*. Final Project Report. The Government Office for Science: London, UK, 2011. Gunderson, L.H. and C.S. Holling, 2002: *Panarchy*:

*Understanding Transformations in Human and Natural Systems*. Island Press, Washington, DC.

García-Arias, A. I., Vázquez-González, I., Sineiro-García, F., & Pérez-Fra, M. (2015). Farm diversification strategies in northwestern Spain: Factors affecting transitional pathways. *Land Use Policy*, 49, 413–425. <http://doi.org/10.1016/j.landusepol.2015.08.011>

Government Office for the North East England. (2006, April 4). Local authorities urged to Name community planning champions. *Online News Articles*. Retrieved from: <http://www.gos.gov.uk/gone/news/newsarchive/392428/>

Gbadegesin, A., & Ayileka, O. (2000). Avoiding the mistakes of the past: Towards a community oriented management strategy for the proposed National Park in Abuja-Nigeria. *Land Use Policy*, 17(2), 89–100. [http://doi.org/10.1016/S0264-8377\(00\)00005-3](http://doi.org/10.1016/S0264-8377(00)00005-3)

Gbahabo, T. (2012). Desertification and rural livelihoods: the case of Gursulu Village, Yobe State, Nigeria. Retrieved from <http://wiredspace.wits.ac.za/handle/10539/11117>

Gibson, C. C., & Koontz, T. (1998). When “community” is not enough: Institutions and values in community-based forest management in southern Indiana. *Human Ecology*, 26(4), 621–647. <http://doi.org/10.4103/0972-4923.110937>

Gnacadja, L. (2015). New challenges in science and policies to Combat Desertification. *Journal of Arid Environments*. <http://doi.org/10.1016/j.jaridenv.2014.10.010>

Grainger, A. (2015). Is Land Degradation Neutrality feasible in dry areas? *Journal of Arid Environments*, 112, 14–24. <http://doi.org/10.1016/j.jaridenv.2014.05.014>

Great Green Wall Brochure. (n.d.), 7(86), 7–10.

Gurney, G. G., Cinner, J. E., Sartin, J., Pressey, R. L., Ban, N. C., Marshall, N. A., & Prabuning, D. (2016). Participation in devolved commons management: Multiscale socioeconomic factors related to individuals' participation in community-based management of marine protected areas in Indonesia. *Environmental Science and Policy*, 61, 212–220. <http://doi.org/10.1016/j.envsci.2016.04.015>

Ha, H., Heumann, B. W., Liesch, M., & Wang, X. (2016). Modelling potential conservation easement locations using physical and socio-economic factors: A case-study from south-east Michigan. *Applied Geography*, 75, 104–115. <http://doi.org/10.1016/j.apgeog.2016.08.009>

- Haghani, A., Aliabadian, M., Sarhangzadeh, J., & Setoodeh, A. (2016). Seasonal habitat suitability modeling and factors affecting the distribution of Asian Houbara in East Iran. *Heliyon*, 2(8), e00142. <http://doi.org/10.1016/j.heliyon.2016.e00142>
- Hajara Leman. (2015). Preventing desertification in Gombe. Retrieved from <http://sundiatapost.com/2015/08/18/preventing-desertification-in-gombe/>
- Hanson, P. W. (2012). Toward a more transformative participation in the conservation of Madagascar's natural resources. *Geoforum*, 43(6), 1182–1193. <http://doi.org/10.1016/j.geoforum.2012.03.005>
- Hoff, H. (2009). Global water resources and their management. *Current Opinion in Environmental Sustainability*. Retrieved from <http://www.sciencedirect.com/science/article/pii/S1877343509000311>
- Hung, H. C., Yang, C. Y., Chien, C. Y., & Liu, Y. C. (2016). Building resilience: Mainstreaming community participation into integrated assessment of resilience to climatic hazards in metropolitan land use management. *Land Use Policy*, 50, 48–58. <http://doi.org/10.1016/j.landusepol.2015.08.029>
- Hellström, E. 2001. *Conflict cultures – qualitative comparative analysis of environmental conflicts in forestry*. Silva Fennica Monographs 2. Helsinki, The Finnish Society of Forest Science and The Finnish Research Institute.
- Hoffmann, W.A. & Jackson, R.B. (2000) Vegetation–Climate Feedbacks in the Conversion of Tropical Savannah to Grassland. *Journal of Climate*, 13, 1593-1602
- IPCC (2007) *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge
- IPCC (2012): Summary for Policymakers. In: *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation* [Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Midgley (eds.)]. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK, and New York, NY, USA, pp. 1-19.
- Idris Medugu, N., Rafee Majid, M., & Johar, F. (2011). Drought and desertification management in arid and semi-arid zones of Northern Nigeria. *Management of Environmental Quality: An International Journal*, 22(5), 595–611. <http://doi.org/10.1108/14777831111159725>

- Imosemi, A., Olufemi, O., & Nzeribe, A. (2013). Desertification : A Persistent Threat To The Sustainability Of The Nigerian Environment , Which Way Out ? *Abstract* :, 2(10), 191–197.
- Info, A. (1824). From plastic bag wastes to wealth : a case study of abia state university , nigeria.
- Jana, S. K., Lise, W., & Ahmed, M. (2014). Factors affecting participation in joint forest management in the West Bengal state of India. *Journal of Forest Economics*, 20(4), 317–332. <http://doi.org/10.1016/j.jfe.2014.09.003>
- Johnson, D. (1993). Nomadism and desertification in Africa and the Middle East. *GeoJournal*. Retrieved from <http://link.springer.com/article/10.1007/BF00815903>
- José M. García-Ruiz<sup>1\*</sup>, Santiago Beguería<sup>2</sup>, Noemí Lana-Renault<sup>3</sup>, Estela Nadal-Romero<sup>4</sup>, A. C. (n.d.). ONGOING AND EMERGING QUESTIONS IN WATER EROSION STUDIES José. <http://doi.org/10.1002/ldr.2641>
- Johannesburg Summit 2002: Nigeria country Profile. 2002 COUNTRY PROFILES SERIES, United Nations. [www.un.org/esa/earthsummit/2002/country\\_profiles/nigeria.htm](http://www.un.org/esa/earthsummit/2002/country_profiles/nigeria.htm)
- Kottek, M., Grieser, J., Beck, C., Rudolf, B., Ru, F. (2006). World map of the Köppen-Geiger climate classification updated. *Meteorologische Zeitschrift*, 15(3), 259-263.
- Kurukulasuriya P, Rosenthal S (2003) Climate change and agriculture: a review of impacts and adaptations. Climate Change Series paper no. 91. Environment Department and Agriculture and Rural Development Department, World Bank, Washington, DC
- KWSEEDS (2004); Kwara State Economic Empowerment and Development Strategy. Kwara State Government, Nigeria
- Kabiri, N. (2016). Public participation, land use and climate change governance in Thailand. *Land Use Policy*, 52, 511–517. <http://doi.org/10.1016/j.landusepol.2014.12.014>
- Kaduuli, S. (2008). Social Science Research Network. *The value of participatory democracy in Uganda*. Retrieved from: <http://ssrn.com/abstract=112642>.
- Kagan, C, Castile, S., & Stewart, A. (2005). Participation: Are some more equal than others? *Clinical Psychology*, 153(3). Retrieved from PsycINFO database.
- Kagan C. (2008). Manchester Metropolitan University. *Pillars of support forwellbeing in the community: The role of the public sector*. Retrieved

from: <http://www.e-space.mmu.ac.uk/./Pillars-of-support-for%20wellbeing.doc>

- Kamal, S., Kocór, M., & Grodzińska-Jurczak, M. (2015). Conservation opportunity in biodiversity conservation on regulated private lands: Factors influencing landowners' attitude. *Environmental Science and Policy*, 54, 287–296. <http://doi.org/10.1016/j.envsci.2015.07.023>
- Karamesouti, M., Detsis, V., Kounalaki, A., Vasiliou, P., Salvati, L., & Kosmas, C. (2015). Land-use and land degradation processes affecting soil resources: Evidence from a traditional Mediterranean cropland (Greece). *Catena*, 132, 45–55. <http://doi.org/10.1016/j.catena.2015.04.010>
- Karlson, M., & Ostwald, M. (2016). Remote sensing of vegetation in the Sudano-Sahelian zone: A literature review from 1975 to 2014. *Journal of Arid Environments*, 124, 257–269. <http://doi.org/10.1016/j.jaridenv.2015.08.022>
- Kauneckis, D., & York, A. (2009). An empirical evaluation of private landowner participation in voluntary forest conservation programs. *Environmental Management*. Retrieved from <http://link.springer.com/article/10.1007/s00267-009-9327-3>
- Kellert, S., Mehta, J., & Ebbin, S. (2000). Community natural resource management: promise, rhetoric, and reality. & *Natural Resources*. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/089419200750035575>
- Kettel, B. (1996). Women, health and the environment. *Social Science & Medicine*. Retrieved from <http://www.sciencedirect.com/science/article/pii/0277953695002855>
- Knight, A., Cowling, R., & Difford, M. (2010). Mapping human and social dimensions of conservation opportunity for the scheduling of conservation action on private land. *Conservation*. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/j.1523-1739.2010.01494.x/full>
- Kratzman, J. P., McKnight, L., J. (1993). *Building communities from the inside out: A path towards finding and mobilizing a community's assets*. Chicago, IL: ACTA Publications.
- Leach, M., Mearns, R., & Scoones, I. (1999). Environmental entitlements: dynamics and institutions in community-based natural resource management. *World Development*. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0305750X98001417>

- Lestari, S., Kotani, K., & Kakinaka, M. (2015). Enhancing voluntary participation in community collaborative forest management: A case of Central Java, Indonesia. *Journal of Environmental Management*, 150, 299–309. <http://doi.org/10.1016/j.jenvman.2014.10.009>
- Ma, Z., Butler, B., Kittredge, D., & Catanzaro, P. (2012). Factors associated with landowner involvement in forest conservation programs in the US: Implications for policy design and outreach. *Land Use Policy*. <http://www.sciencedirect.com/science/article/pii/S0264837711000457>
- Macdonald, K. I., & Development, P. (1998). Community-Based Conservation : A Reflection on History, 1–35.
- Majer, J. (1983). Ants: bio-indicators of minesite rehabilitation, land-use, and land conservation. *Environmental Management*. Retrieved from <http://link.springer.com/article/10.1007/BF01866920>
- Malagnoux, M., Sène, E., & Atzmon, N. (2008). Forests, trees and water in arid lands: a delicate balance. *UNASYLVA-FAO*-. Retrieved from <ftp://193.43.36.93/docrep/fao/010/a1598e/a1598e06.pdf>
- Mantyka-Pringle, C. S., Martin, T. G., Moffatt, D. B., Udy, J., Olley, J., Saxton, N., ... Rhodes, J. R. (2016). Prioritizing management actions for the conservation of freshwater biodiversity under changing climate and land-cover. *Biological Conservation*, 197, 80–89. <http://doi.org/10.1016/j.biocon.2016.02.033>
- Mäntymaa, E., Juutinen, A., & Mönkkönen, M. (2009). Participation and compensation claims in voluntary forest conservation: A case of privately owned forests in Finland. *Forest Policy and*. Retrieved from <http://www.sciencedirect.com/science/article/pii/S1389934109000604>
- Masud, M. M., & Kari, F. B. (2015). Community attitudes towards environmental conservation behaviour: An empirical investigation within MPAs, Malaysia. *Marine Policy*, 52, 138–144. <http://doi.org/10.1016/j.marpol.2014.10.015>
- May, C. K. (2012). Active non-participation among local natural resource-dependent communities: The case of North Carolina fisheries governance. *Journal of Environmental Management*, 113, 407–416. <http://doi.org/10.1016/j.jenvman.2012.09.022>
- Medugu, I. N., & Majid, M. R. (2008). A comprehensive approach to drought and desertification in Nigeria: A brief evaluation of government policies. *Of Environmental Quality* .... Retrieved from <http://www.emeraldinsight.com/doi/abs/10.1108/14777830810904911>
- Medugu, I. N., Majid, M. R., & Choji, I. D. (2008). A comprehensive approach to drought and desertification in Nigeria: A brief evaluation of government



- policies. *Management of Environmental Quality: An International Journal*, 19(6), 690–704. <http://doi.org/10.1108/14777830810904911>
- Medugu, N. I., & Majid, M. R. (2011a). Drought and desertification management in arid and semi-arid zones of Northern Nigeria. *Of Environmental Quality*. <http://doi.org/10.1108/14777831111159725>
- Medugu, N. I., & Majid, M. R. (2011b). Drought and desertification management in arid and semi-arid zones of Northern Nigeria. *Of Environmental Quality: ....* Retrieved from <http://www.emeraldinsight.com/doi/abs/10.1108/14777831111159725>
- Méndez-López, M. E., García-Frapolli, E., Pritchard, D. J., Sánchez González, M. C., Ruiz-Mallén, I., Porter-Bolland, L., & Reyes-García, V. (2014). Local participation in biodiversity conservation initiatives: A comparative analysis of different models in South East Mexico. *Journal of Environmental Management*, 145, 321–329. <http://doi.org/10.1016/j.jenvman.2014.06.028>
- Milder, J., Scherr, S., & Bracer, C. (2010). Trends and future potential of payment for ecosystem services to alleviate rural poverty in developing countries. *Ecology and Society*. Retrieved from [http://www.academia.edu/download/45771374/Trends\\_and\\_future\\_potential\\_of\\_payment\\_f20160519-16707-1rkwfjr.pdf](http://www.academia.edu/download/45771374/Trends_and_future_potential_of_payment_f20160519-16707-1rkwfjr.pdf)
- Mistry, J., Berardi, A., Tschirhart, C., Bignante, E., Haynes, L., Benjamin, R., ... De Ville, G. (2016). Community owned solutions: Identifying local best practices for socialecological sustainability. *Ecology and Society*, 21(2). <http://doi.org/10.5751/ES-08496-210242>
- Mortimore, M. (1989). *Adapting to drought: Farmers, famines and desertification in West Africa*. Retrieved from [https://books.google.com/books?hl=en&lr=&id=Dx89AAAAIAAJ&oi=fnd&pg=PR9&dq=desertification+in+africa&ots=17yMpM3dml&sig=xZ8aJsRZVndeGiuWN89cneI-W\\_c](https://books.google.com/books?hl=en&lr=&id=Dx89AAAAIAAJ&oi=fnd&pg=PR9&dq=desertification+in+africa&ots=17yMpM3dml&sig=xZ8aJsRZVndeGiuWN89cneI-W_c)
- Millennium Ecosystem Assessment (MEA). *Ecosystems and Human Well-Being: Synthesis*; Island Press: Washington, DC, USA, 2005; p. 155.
- Mumba, M.; Munang, R.; Rivington, M. (2010) "Ecosystem Management: The need to adopt a different approach under a changing climate. *esponse to Key Question Four: Must We Fundamentally Change Course to Conserve Ecosystems in a Changing Climate?* World Resources Report, Cancun, Mexico,. Available online: <http://www.worldresourcesreport.org/expert-perspectives/question-four>
- Munang , R.T, Thiaw, I. and Rivington, M (2011) "Ecosystem Management: Tomorrow's Approach to Enhancing Food Security under a Changing Climate" *Sustainability* 3, 937-954; doi:10.3390/su3070937

Neely, C, Bunning, S and Wilkes, A (ed, 2009): Review of evidence on drylands pastoral systems and climate change: Implications and opportunities for mitigation and adaptation. Land and Water Discussion Paper, Food And Agriculture Organization Of The United Nations, Rome

Nellerman, C.B., MacDevette, M., Manders, T., Eickhout, B., Svillhus, B., Prins, A.G., Kaltenborn, B.P., Eds (2009) *The Environmental Food Crisis: the Environment's Role in Averting Future Food Crises*; UNEP: Washington, DC, USA.

Nicholson, S.E (2009): A revised picture of the structure of the “monsoon” and land ITCZ over West Africa. *Clim Dyn* (2009) 32:1155–1171.DOI 10.1007/s00382-008-0514-3 Nigeria National Biodiversity Strategy and Action Plan, Federal Ministry of Environment, Abuja 2004

Nworgu F. C. ( 2005): Prospects and Pitfalls of Agricultural Production in Nigeria. Ibadan. Blessed Publication Consultants/publication.

Nakhshina, M. (2016). Constraints on community participation in salmon fisheries management in Northwest Russia. *Marine Policy*. <http://doi.org/10.1016/j.marpol.2016.05.035>

Nana-Sinkam, S. (1995). Land and environmental degradation and desertification in Africa. Issues and options for sustainable economic development with transformation. Retrieved from <http://agris.fao.org/agris-search/search.do?recordID=XF2016019840>

Nare, L., Odiyo, J. O., Francis, J., & Potgieter, N. (2011). Framework for effective community participation in water quality management in Luvuvhu Catchment of South Africa. *Physics and Chemistry of the Earth*, 36(14–15), 1063–1070. <http://doi.org/10.1016/j.pce.2011.08.006>

Nelson, F., & Agrawal, A. (2008a). Patronage or participation? Community-based natural resource management reform in sub-Saharan Africa. *Development and Change*. <http://doi.org/10.1111/j.1467-7660.2008.00496.x>

Nelson, F., & Agrawal, A. (2008b). Patronage or participation? Community-based natural resource management reform in sub-Saharan Africa. *Development and Change*. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-7660.2008.00496.x/full>

Nelson, F., & Agrawal, A. (2008c). Patronage or participation? Community-based natural resource management reform in sub-Saharan Africa. *Development and Change*. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-7660.2008.00496.x/full>

- Newig, J., & Fritsch, O. (2009). Environmental governance: participatory, multi-level—and effective? *Environmental Policy and Governance*. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1002/eet.509/full>
- Ngonidzashe, C., & Vengesayi, S. (2015). Towards harmonious conservation relationships : A framework for understanding protected area staff-local community relationships in developing countries. *Journal for Nature Conservation*, 25, 8–16. <http://doi.org/10.1016/j.jnc.2015.02.006>
- Nigerian Population 2006. (n.d.). *NigerianNews*. Retrieved from <http://www.nigeriannews.com/census/census2006.htm>
- Nijnik, M., Zahvoyska, L., Nijnik, A., & Ode, A. (2009). Public evaluation of landscape content and change: Several examples from Europe. *Land Use Policy*. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0264837708000161>
- Normawati Hashim. (2015). Towards New Frontier of Constitutional Recognition of Environmental Protection in Urban Regeneration. *Asian Conference on Environment Behaviour Studies*, 170, 415–421. <http://doi.org/10.1016/j.sbspro.2015.01.002>
- Ntuli, H., & Muchapondwa, E. (2016). Effects of wildlife resources on community welfare in Southern Africa. *Ecological Economics*, 1–12.
- Nyanga, A., Kessler, A., & Tenge, A. (2016). Key socio-economic factors influencing sustainable land management investments in the West Usambara Highlands, Tanzania. *Land Use Policy*, 51, 260–266. <http://doi.org/10.1016/j.landusepol.2015.11.020>
- Odekunle, T.O., Balogun, E. E., & Ogunkoya, O.O (2005) On the prediction of rainfall onset and retreat dates in Nigeria. *Theor. Appl. Climatol.* 81, 101–112. DOI 10.1007/s00704-004- 0108-x
- Ogunlela, V. and Ogungbile, A. O. (2006) Alleviating Rural Poverty in Nigeria: A Challenge for the National Agricultural Research System Proceedings of the International Conference on “Prosperity and Poverty in a Globalised World— Challenges for Agricultural Research” Tropentag, October 11-13, Bonn.
- Okojie C (2001) Determinants of poverty and effective planning and implementation of poverty alleviation programmes (Paper presented at the NISER/WBI Development Symposium, Abuja, May 8)
- Okunmadewa F. (2001) Poverty reduction in Nigeria: A four-point demand (Annual Guest Lecture of the House, University of Ibadan).
- Odey, S. A., & Ph, D. (2014). Community Participation and Government Vision towards the Conservation and Management of the Ecosystem in Cross

River State , Nigeria. *International Journal of Humanities Social Sciences and Education (IJHSSE)*, 1(7), 130–137.

Ogallo, L., & Ouma, G. (2007). Desertification In Africa. Retrieved from <http://erepository.uonbi.ac.ke/handle/11295/44277>

Ojha, H. R., Ford, R., Keenan, R. J., Race, D., Carias Vega, D., Baral, H., & Sapkota, P. (2016). Delocalizing Communities: Changing Forms of Community Engagement in Natural Resources Governance. *World Development*, 87, 274–290. <http://doi.org/10.1016/j.worlddev.2016.06.017>

Okubo, N. (2016). Land Use Policy The development of the Japanese legal system for public participation in land use and environmental matters, 52, 492–500. <http://doi.org/10.1016/j.landusepol.2014.12.011>

Olokesusi, F. (1990). Assessment of the Yankari game reserve, Nigeria. Problems and prospects. *Tourism Management*, 11(2), 153–163. [http://doi.org/10.1016/0261-5177\(90\)90030-D](http://doi.org/10.1016/0261-5177(90)90030-D)

Olsson, L. (1993). Desertification in Africa—a critique and an alternative approach. *GeoJournal*. Retrieved from <http://link.springer.com/article/10.1007/BF00815899>

Onweremadu, E. U. (n.d.). ASSESSMENT OF MINED SOILS IN EROSION-DEGRADED FARMLANDS IN SOUTH-EASTERN NIGERIA Avaliação do solo em terras férteis degradadas por erosão no sudoeste da Nigéria, 59–67.

Ouma, G., & Ogallo, L. (2007). Desertification In Africa. Retrieved from [https://207.58.138.170/gouma/files/desertification\\_final.pdf](https://207.58.138.170/gouma/files/desertification_final.pdf)

Owen, D. (1979). Drought and desertification in Africa: lessons from the Nairobi Conference. *Oikos*. Retrieved from <http://www.jstor.org/stable/3543991>

Omotosho, J.B and Abiodun, J. (2007): A numerical study of moisture build-up and rainfall over West Africa. *Meteorol. Appl.* 14: 209–225. DOI: 10.1002/met.11

Onuoha, F.C. 2008. Environmental degradation, livelihoods and conflicts: A focus on the implications of the diminishing water resources of Lake Chad for North-Eastern Nigeria. *African Journal on Conflict Resolution*, 8 (2), pp. 35–62.

Ostrom, E., J. Burger, C.B. Field, R.B. Norgaard, and D. Policansky, 1999: Revisiting the commons: Local lessons, global changes. *Science*, 284, 278– 282.

- Proli, S. (2011). Improving an urban sustainability environment through community participation: The case of Emilia-Romagna region. *Procedia Engineering*, 21, 1118–1123. <http://doi.org/10.1016/j.proeng.2011.11.2119>
- Puppim, J. A., Oliveira, D., & Fra, U. (2016). Land Use Policy Lost in participation : How local knowledge was overlooked in land Japan use planning and risk governance in T ohoku , 52, 543–551.
- Puppim de Oliveira, J. A., & Fra.Paleo, U. (2016). Lost in participation: How local knowledge was overlooked in land use planning and risk governance in T??hoku, Japan. *Land Use Policy*, 52, 543–551. <http://doi.org/10.1016/j.landusepol.2014.09.023>
- Rahut, D. B., Ali, A., & Behera, B. (2015). Household participation and effects of community forest management on income and poverty levels: Empirical evidence from Bhutan. *Forest Policy and Economics*, 61, 20–29. <http://doi.org/10.1016/j.forpol.2015.06.006>
- Rasoolimanesh, S. M., Jaafar, M., Ahmad, A. G., & Barghi, R. (2017). Community participation in World Heritage Site conservation and tourism development. *Tourism Management*, 58, 142–153. <http://doi.org/10.1016/j.tourman.2016.10.016>
- Raymond, C., Fazey, I., Reed, M., & Stringer, L. (2010a). Integrating local and scientific knowledge for environmental management. *Journal of Environmental*. <http://doi.org/10.1016/j.jenvman.2010.03.023>
- Raymond, C., Fazey, I., Reed, M., & Stringer, L. (2010b). Integrating local and scientific knowledge for environmental management. *Journal of Environmental*. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0301479710000952>
- Reed, M. (2008). Stakeholder participation for environmental management: a literature review. *Biological Conservation*. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0006320708002693>
- Reenberg, A. (2012). Insistent dryland narratives: portraits of knowledge about human-environmental interactions in Sahelian environment policy documents. *West African Journal of Applied Ecology*. Retrieved from <http://www.ajol.info/index.php/wajae/article/view/86326>
- Reenberg, A. (2012). Insistent dryland narratives: Portraits of knowledge about human-environmental interactions in sahelian environment policy documents. *West African Journal of Applied Ecology*, 20(1), 97–111.
- Reich, P., Numbem, S., Almaraz, R., & Eswaran, H. (2001). Land resource stresses and desertification in Africa. *Agro-Science*. Retrieved from <http://www.ajol.info/index.php/as/article/view/1484>

- Republic, F. (1999). FEDERAL REPUBLIC OF NIGERIA COMBATING DESERTIFICATION AND MITIGATING THE EFFECTS OF DROUGHT IN NIGERIA National Report on the Implementation of the United Nations For Submission at the Third Session of the Conference of the Parties , Recife , Brazil Novem, (November), 1–36.
- Republic, F., Environment, M. O. F., Green, G., For, W., & Initiative, S. (2012). Federal Republic of Nigeria Ministry of Environment Great Green Wall for the Sahara and Sahel Initiative National Strategic Action Plan, (October), 1–65.
- Ribot, J. C. (2002). *Democratic Decentralization of Natural Resources: Institutionalizing Popular Participation*.  
[http://doi.org/10.1057/9781403981288\\_6](http://doi.org/10.1057/9781403981288_6)
- Ritzer, G. (1990). Metatheorizing in Sociology. *Sociological Forum*, 5(1), 3–15.
- Rocha, M., A. (1997). A ladder of empowerment. *Journal of Planning Education and Research*. 17(1). Retrieved from PsycINFO database.
- Rolfe, J., & Gregg, D. (2015). Factors affecting adoption of improved management practices in the pastoral industry in Great Barrier Reef catchments. *Journal of Environmental Management*, 157, 182–193.  
<http://doi.org/10.1016/j.jenvman.2015.03.014>
- Rouillard, J. J., Reeves, A. D., Heal, K. V., & Ball, T. (2014). Land Use Policy The role of public participation in encouraging changes in rural land use to reduce flood risk. *Land Use Policy*, 38, 637–645.  
<http://doi.org/10.1016/j.landusepol.2014.01.011>
- Roy, A. K. D. (2014). Determinants of participation of mangrove-dependent communities in mangrove conservation practices. *Ocean and Coastal Management*, 98, 70–78.  
<http://doi.org/10.1016/j.ocecoaman.2014.06.001>
- Roy, A. K. D. (2016). Local community attitudes towards mangrove forest conservation: Lessons from Bangladesh. *Marine Policy*, 74(March), 186–194. <http://doi.org/10.1016/j.marpol.2016.09.021>
- Ryan, R. L. (2005). Exploring the Effects of Environmental Experience on Attachment to Urban Natural Areas. *Environment and Behavior*, 37(1), 3–42. <http://doi.org/10.1177/0013916504264147>
- Ryan Schleeter. (2013). The Great Green Wall - National Geographic Society. Retrieved from <http://nationalgeographic.org/news/great-green-wall/>
- Raskin, P., T. Banuri, G. Gallopin, P. Gutman, A. Hammond, R. Kates, and R. Swart, 2002: *Great Transition: The Promise and Lure of the Times Ahead*. Stockholm Environment Institute, Stockholm. References:

- Sullivan, C.A. and Meigh, A.M. (2005): "Targeting attention on local vulnerability using an integrated index approach: the example of the climate vulnerability index". *Water Science and Technology* 51, 69-78.
- Sadiqi, Z., Trigunaryah, B., & Coffey, V. (2017). A framework for community participation in post-disaster housing reconstruction projects: A case of Afghanistan. *International Journal of Project Management*, 35(5), 900–912. <http://doi.org/10.1016/j.ijproman.2016.11.008>
- Sakurai, R., Kobori, H., Nakamura, M., & Kikuchi, T. (2015). Factors influencing public participation in conservation activities in urban areas: A case study in Yokohama, Japan. *Biological Conservation*, 184, 424–430. <http://doi.org/10.1016/j.biocon.2015.02.012>
- Sakurai, R., Ota, T., Uehara, T., & Nakagami, K. (2016). Factors affecting residents' behavioral intentions for coastal conservation: Case study at Shizugawa Bay, Miyagi, Japan. *Marine Policy*, 67, 1–9. <http://doi.org/10.1016/j.marpol.2016.01.006>
- Sam, Edet, I., Nnaji, Samuel, E., Etefia, & Titus, E. (2014). Level Of Community Participation In The Conservation Of Natural Resources In Akamkpa Local Government Area ,. *Www.iosrjournals.Org*, 4(4), 30–35.
- Sattler, C., Schröter, B., Jericó-Daminello, C., Sessin-Dilascio, K., Meyer, C., Matzdorf, B., ... Giersch, G. (2015). Understanding governance structures in community management of ecosystems and natural resources: The Marujá case study in Brazil. *Ecosystem Services*, 16, 182–191. <http://doi.org/10.1016/j.ecoser.2015.10.015>
- Schroeter, R., Scheel, O., Renn, O., & Schweizer, P. J. (2016). Testing the value of public participation in Germany: Theory, operationalization and a case study on the evaluation of participation. *Energy Research and Social Science*, 13, 116–125. <http://doi.org/10.1016/j.erss.2015.12.013>
- Sehmi, N., & Kundzewicz, Z. (1997). Water, drought and desertification in Africa. *IAHS Publications-Series of*. Retrieved from <https://books.google.com/books?hl=en&lr=&id=gPDr7HLdSt4C&oi=fnd&pg=PA57&dq=desertification+in+africa&ots=1tXy4aW7E1&sig=5nLx5EDVSIIdfAqwKGyRuLhHvteA>
- Senut, B., Pickford, M., & Ségalen, L. (2009). Neogene desertification of Africa. *Comptes Rendus Geoscience*. Retrieved from <http://www.sciencedirect.com/science/article/pii/S1631071309000790>
- Shah, A. (2007). *Participatory Budgeting*. Washington, DC: World Bank. Sharma, C. (2008). University of Munich. *Emerging dimensions of decentralization debate in the age of globalization*. Retrieved from: <http://ideas.repec.Org/p/pramprapa/6734.html>

- Sharma, C, K. (2005). When does decentralization deliver? The dilemma of design. *South Asian Journal of Socio-Political Studies*, 6(1).
- Sharma, C, K. (2005). The federal approach to fiscal decentralization: Conceptual contours for policy makers. *Loyola Journal of Social Sciences*, 14(2)
- Shackleton, S., & Campbell, B. (2002a). Devolution and community-based natural resource management: Creating space for local people to participate and benefit. *Natural Resource*. Retrieved from <https://dlc.dlib.indiana.edu/dlc/handle/10535/3646>
- Shackleton, S., & Campbell, B. (2002b). Devolution and community-based natural resource management: Creating space for local people to participate and benefit. *Natural Resource*. Retrieved from <https://dlc.dlib.indiana.edu/dlc/handle/10535/3646>
- Shahidul, M., & Swapan, H. (2016). Who participates and who doesn't? Adapting community participation model for developing countries. *Jcit*, 53, 70–77. <http://doi.org/10.1016/j.cities.2016.01.013>
- Shumsky, S., Hickey, G. M., Johns, T., Pelletier, B., & Galaty, J. (2014). Institutional factors affecting wild edible plant (WEP) harvest and consumption in semi-arid Kenya. *Land Use Policy*, 38, 48–69. <http://doi.org/10.1016/j.landusepol.2013.10.014>
- Sorice, M. G., Oh, C. O., Gartner, T., Snieckus, M., Johnson, R., & Donlan, C. J. (2013). Increasing participation in incentive programs for biodiversity conservation. *Ecological Applications*, 23(5), 1146–1155. <http://doi.org/10.1890/12-1878.1>
- Stavi, I., & Lal, R. (2015). Achieving Zero Net Land Degradation: Challenges and opportunities. *Journal of Arid Environments*, 112, 44–51. <http://doi.org/10.1016/j.jaridenv.2014.01.016>
- Swapan, M. S. H. (2016). Who participates and who doesn't? Adapting community participation model for developing countries. *Cities*, 53, 70–77. <http://doi.org/10.1016/j.cities.2016.01.013>
- Thaman, B., Icely, J. D., Fragoso, B. D. D., & Veitayaki, J. (2016). A comparison of rural community perceptions and involvement in conservation between the Fiji Islands and Southwestern Portugal. *Ocean and Coastal Management*, 133, 43–52. <http://doi.org/10.1016/j.ocecoaman.2016.09.007>
- The implications of environmental trading mechanisms on a future Zero Net Land Degradation protocol. (2015). *Journal of Arid Environments*, 112, 25–32. <http://doi.org/10.1016/j.jaridenv.2014.05.013>



- The True Colours of Urban Green Spaces : Identifying and Assessing the Qualities of Green Spaces in Kuala Lumpur , Malaysia Mohd Johari Mohd Yusof Submitted for the degree of Doctor of Philosophy in the Institute of Geography , at the University of Edinbu. (n.d.).
- Thébaud, B. (1995). Land Tenure Environmental Degradation And Desertification In Africa: Some Thoughts Based On The Sahelian Example. Retrieved from <http://krishikosh.egranth.ac.in/handle/1/2055790>
- Thelma, M. (2015). Desertification in northern Nigeria: Causes and implications for national food security. *Peak Journal of Social Sciences and Humanities*.
- Tiffen, M., & Mortimore, M. (2002). Questioning desertification in dryland sub-Saharan Africa. *Natural Resources Forum*. Tolba, M. (1986). Desertification in Africa. *Land Use Policy*. Retrieved from <http://www.sciencedirect.com/science/article/pii/0264837786900232>
- Torabi, N., Mata, L., Gordon, A., Garrard, G., Wescott, W., Dettmann, P., & Bekessy, S. A. (2016). The money or the trees: What drives landholders' participation in biodiverse carbon plantings? *Global Ecology and Conservation*, 7, 1–11. <http://doi.org/10.1016/j.gecco.2016.03.008>
- Turner, J. F. C., Bank, W., & Wates, N. (2012). Community Participation, 11–23.
- Tambo, J.A and Abdoulaye, T. (2012) "Climate change and agricultural technology adoption: the case of drought tolerant maize in rural Nigeria". *Mitig Adapt Strateg Glob Change* (2012) 17:277–292 DOI 10.1007/s11027-011-9325-7 UN Millennium Development Team (undated) Climate Change and Millennium Development Goals. End Poverty 2015 Millennium Campaign. Available at [www.endpoverty2015.org](http://www.endpoverty2015.org) UNDP, (2010): Chapter 5: Innovations in measuring inequality and poverty.
- Human Development Report: The Real Wealth of Nations: Pathways to Human Development. UNDP UNDP-UNEP 2009 UNU-IHDP and UNEP (2012). *Inclusive Wealth Report 2012. Measuring progress toward Sustainability*. Cambridge: Cambridge University Press.
- Umar, S. A., Omi, F. S., Utaberta, N., Ariffin, F. M., Mohd Yunos, M. Y., Ismail, N. A., & Ismail, S. (2015). Community participation in land resources conservation and management in Gombe State , Nigeria. *Advances in Environmental Biology*, 9(24), 38–45.
- Umar, S. A., Zavari, S., Johari, M., Mohd, B., & Wanishak, W. (2017). Resident ' s Perception on the Impact of Transitional Spaces On Safety Performance in Low-Cost High Rise Urban Housing in Kuala Lumpur , Malaysia, 2(4), 1–16.

- Umar, S., & Yusuf, M. (n.d.). Participation In Land Conservation And Management: A Case Study Of The The Local Government Areas Of Gombe State, .... *Journals.marynsam.co*.
- Umar, S., & Yusuf, M. (2016a). Community Participation in Land Conservation and Management: a Case Study of the the Local Government Areas of Gombe State, *Journals.Marynsam.Co*, 5(1), 1–12.
- Umar, S., & Yusuf, M. (2016b). Level of community participation in land resource conservation and management in Gombe State, Nigeria. *European Social Sciences Research Journal*, 5(1), 1–12.
- Umar Baba Kumo. (2010a). Tackling desertification problems in gombe. Retrieved from <http://abundanaduba.blogspot.my/2010/09/tackling-desertification-problems-in.html>
- Umar Baba Kumo. (2010b). TACKLING DESERTIFICATION PROBLEMS IN GOMBE. Retrieved from <http://abundanaduba.blogspot.my/2010/09/tackling-desertification-problems-in.html>
- UN-Habitat. (2016). *Urbanization and Development: Emerging Challenges. World Cities Report*.
- UNCCD Secretariat. (2013). A Stronger UNCCD for a Land-Degradation Neutral World, 1–20.
- Valladares, A. (2013). The community architect program: Implementing participation-in-design to improve housing conditions in Cuba. *Habitat International*, 38(1), 18–24. <http://doi.org/10.1016/j.habitatint.2012.09.004>
- Van Vleet, E., Bray, D. B., & Durán, E. (2016). Knowing but not knowing: Systematic conservation planning and community conservation in the Sierra Norte of Oaxaca, Mexico. *Land Use Policy*, 59, 504–515. <http://doi.org/10.1016/j.landusepol.2016.09.010>
- Vignola, R., Koellner, T., Scholz, R. W., & McDaniels, T. L. (2010). Decision-making by farmers regarding ecosystem services: Factors affecting soil conservation efforts in Costa Rica. *Land Use Policy*, 27(4), 1132–1142. <http://doi.org/10.1016/j.landusepol.2010.03.003>
- Vision (2010): Agriculture 1997: Final Report of The Sub-committee on Agricultural Economic Sector. Abuja. FGN.
- Vörösmarty, Charles J. ( 2007): "Climate change and water engineering" *Paper presented at the START – Advanced Institute on Global Environmental Change and the Vulnerability of Water Resources*. Held at the UNESCO-IHE, Delft, October 2.

- World Bank (2002): Findings. Good Practice Info brief. Africa Region No. 83. December 2002. Washington
- World Bank (2009) World Development Report 2010: Development and Climate Change. The International Bank for Reconstruction and Development/The World Bank, Washington, DC
- Waweru, R. (2015). Factors Which Promote Community Participation in the Community Driven Development Approach. *International Journal of Humanities & Social Science Studies*, 2349–6959. Retrieved from <http://www.ijhsss.com>
- Wessels, K. ., Prince, S. ., Frost, P. ., & van Zyl, D. (2004). Assessing the effects of human-induced land degradation in the former homelands of northern South Africa with a 1 km AVHRR NDVI time-series. *Remote Sensing of Environment*, 91(1), 47–67. <http://doi.org/10.1016/j.rse.2004.02.005>
- Wessels, K. J., Prince, S. D., Malherbe, J., Small, J., Frost, P. E., & VanZyl, D. (2007). Can human-induced land degradation be distinguished from the effects of rainfall variability? A case study in South Africa. *Journal of Arid Environments*, 68(2), 271–297 . <http://doi.org/10.1016/j.jaridenv.2006.05.015>
- Wessels, K. J., Prince, S. D., & Reshef, I. (2008). Mapping land degradation by comparison of vegetation production to spatially derived estimates of potential production. *Journal of Arid Environments*, 72(10), 1940–1949. <http://doi.org/10.1016/j.jaridenv.2008.05.011>
- Whitten, S. M., Reeson, A., Windle, J., & Rolfe, J. (2013). Designing conservation tenders to support landholder participation: A framework and case study assessment. *Ecosystem Services*, 6, 82–92. <http://doi.org/10.1016/j.ecoser.2012.11.001>
- Wilson, K., & Stephen, M. (2015). The Role of Community Participation in Planning Processes of Emerging Urban Centres . A study of Paidha Town in, 4(6), 61–71.
- Wiedemann, P. M., & S. Femers. (1993). Public participation in waste management decision making: Analysis and management of conflicts. *Journal of Hazardous Materials*, 33(3). Retrieved from PsycINFO database.
- Wiedemann, P. M, & S. Femers. (1993). The public participation ladder. *Journal of Hazardous Materials*, 33(3). Retrieved from PsycINFO database.
- Wiggins, N., et al. (2009). Using popular Education for CE: Perspectives of Community for Health Program. *Critical Public Health*, 19(1). Retrieved from PsycINFO database.

- Willig, C (2003). *Introducing qualitative research in psychology: adventures in theory and method*. Berkshire: McGraw-Hill Education.
- Woolcock, M. (1998). Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory and Society*, 27(2). Retrieved from PsycINFO database.
- Woolcock, M. (2001) The place of social capital in understanding social and economic outcomes. *Canadian Journal of Policy Research*, 2(1). Retrieved from PsycINFO database.
- Woolcock, M., & Brown, V. (2005). University of Queensland: Australian National University. *Principles of community engagement: from the literatures on natural resources management, local community development, human services and sustainability*. Retrieved from: <http://www.vrw.uq.edu.au/boilerhouse/docs/WoolcockBrovm2005.pdf>
- Wong, S. (2016). A post-critical perspective to community participation in trans-boundary water governance – A case study of the Volta River Basin in West Africa. *Geoforum*, 77, 83–92. <http://doi.org/10.1016/j.geoforum.2016.10.012>
- Yang, H. (2004). Land conservation campaign in China: Integrated management, local participation and food supply option. *Geoforum*, 35(4), 507–518. <http://doi.org/10.1016/j.geoforum.2003.10.002>

## APPENDIX M

### Full Sample Transcription with Expert Official, Gombe State.



#### **TRANSCRIPTION OF KEY INFORMANT INTERVIEW CONDUCTED WITH THE DIR. OF FORESTRY & WILDLIFE FROM THE MINISTRY OF ENVIRONMENT IN GOMBE STATE NIGERIA ON “DEVELOPMENT OF EFFECTIVE COMMUNITY PARTICIPATION FRAMEWORK IN GOMBE STATE, NIGERIA”**

##### **INTRODUCTION**

My name is Saidu, I am a Ph.D. candidate from the University of Putra Malaysia. I am conducting research titled **“DEVELOPMENT OF EFFECTIVE COMMUNITY PARTICIPATION FRAMEWORK IN GOMBE STATE, NIGERIA.”** The project aims to develop a framework for community participation (CP) that suggest implementation techniques for context-specific adaptation, land resource conservation, and management strategies to enhance the effectiveness of GGW in Gombe State, Nigeria.

- The information needed is your views associated with the existing frameworks (policies, plan & programs) proposed/ implemented relating to GGW, livelihoods, land resource conservation & management.
- You have been chosen purposefully (due to your position, influence & experience) to provide information to the questions submitted for the success of this study.
- The information provided will help this study to provide a context-specific framework for community participation in land resource conservation and management strategies to enhance the effectiveness GGW in Gombe State and can then tell policymakers about opportunities for designing and implementing contextual community participation frameworks through policy in remaining frontline states, Nigeria.
- All the information you provide is CONFIDENTIAL and only applies to this study solely.

**THANK YOU**

## BIODATA OF STUDENT

Saidu Alhassan Umar (born 15th November 1988) received his primary and secondary school education (2000 and 2006 respectively) in Gombe children and high school, Gombe State, Nigeria. He proceeds to Abubaka Tafawa Balewa University Bauchi (ATBU), where he started BSc in Urban and regional planning (URP) for one academic year. Saidu proceeds to enroll at the UCSI University Malaysia, where he did a one-year foundation in architecture and graduated with distinction in 2009. Saidu graduated from UCSI (Malaysia) with a Bachelor of Science (BSc) in Architecture in 2013, Masters in Urban Planning & Design from UPM (Malaysia) in 2017. Saidu then continued his studies to Doctor of Philosophy in Urban Planning and Design at the faculty of architecture and design, UPM (Malaysia), under the supervision of Associate professor Gs. Dr. Mohd Johari Mohd Yusof. During his Ph.D. studies, Saidu was a teaching assistant to his supervisor in the GIS in landscape architecture (LAN-47301) and Environmental studio course for two academic years (2017 & 2019); he also attended several workshops, seminars and published high-impact journals.

## LIST OF PUBLICATIONS

- Saidu A. U. et al. (2020).** Development of effective community participation framework at local context in gombe state, Nigeria. *Journal of Environmental Science & Policy*. (*Submitted and Under Review*)
- Saidu A. U. et al. (2020).** Implementation constraints of The Great Green Wall In Nigeria. *Pertanika Journal of Environmental Science & Policy*. (*Submitted and Under Review*)
- Saidu A. U. et al. (2020).** Review on Relevant Policies and Programs on Natural resource management and local livelihood. *Pertanika Journal of Social Sciences & Humanities (JSSH)*. (*Submitted and Under Review*)
- Saidu A. U. et al. (2020).** Nation and Local Efforts to address the challenges of desertification in Nigeria. *Pertanika Journal of Social Sciences & Humanities (JSSH)*. (*Submitted and Under Review*)
- Saidu A. U. et al. (2019).** Framework for local community participation as a catalyst for sustainable development efforts in developing countries. *4(4)*, 1–15.
- Saidu A. U. et al. (2019)** Model for effective local community participation practice to sustainable development efforts in the developing countries, *International conference on emerging issues in public policy: Global Trends & Projections (IPP 2019)*
- Saidu A. U. et al. (2019)** Framework for local community participation as a catalyst for sustainable development efforts in the developing countries, *Kolokium Bersama Kajian Pascasiswazah Alam Bina (PETARI 2019)*
- Saidu A. U. et al. (2018)** Framework for community participation as a catalyst for sustainable development efforts in the developing countries, *Joint Colloquium (2018) on Postgraduate and Graduate studies in Built Environment*.
- Umar, S. A., Zavari, S., Johari, M., Mohd, B., & Wanishak, W. (2017).** Resident's Perception of the Impact of Transitional Spaces on Safety Performance in Low-Cost High-Rise Urban Housing in Kuala Lumpur, Malaysia, *2(4)*, 1–16.
- Umar, S., & Yusuf, M. (2016).** Participation in Land Conservation and Management: A Case Study of the Local Government Areas of Gombe State, *Journals.marynsam.co*.
- Umar, S. A., Omi, F. S., Utaberta, N., Ariffin, F. M., Mohd Yunos, M. Y., Ismail, N., A., & Ismail, S. (2015).** Community participation in land resources conservation and management in Gombe State, Nigeria. *Advances in Environmental Biology*, *9(24)*, 38–45.