AMERICAN UNIVERSITY OF BEIRUT

THE EFFECT OF PROTECTED AREAS ON RURAL COMMUNITIES; JABAL MOUSSA BIOSPHERE RESERVE CASE STUDY

by
SARAH SAMIR KARAM

A thesis
submitted in partial fulfillment of the requirements
for the degree of Master of Science
in Rural Community Development (RCODE)
of the Faculty of Agricultural and Food Sciences
at the American University of Beirut

Beirut, Lebanon
December 2019

AMERICAN UNIVERSITY OF BEIRUT

THE EFFECT OF PROTECTED AREAS ON RURAL COMMUNITIES; JABAL MOUSSA BIOSPHERE RESERVE CASE STUDY

by

SARAH SAMIR KARAM

Approved by:

For Dr. Giuliano Martiniello, Assistant Professor — Advisor
Agriculture

Dr. Shadi Hamadeh, Professor — Co-advisor
Agriculture

Dr. Ali Chalak, Associate Professor — Member of Committee
Agriculture

Dr. Mounir Abi Said, Professor — Member of Committee
Sciences, Lebanese University

Date of thesis/dissertation defense: December 13, 2019

AMERICAN UNIVERSITY OF BEIRUT

Thesis, dissertation, project release form

Student Name: Karam (Last) Sarah (First) Samir (Middle)

✗ Master's Thesis Master's Project Doctoral Dissertation

x I authorize the American University of Beirut to: (a) reproduce hard or electronic copies of my thesis, dissertation, or project; (b) include such copies in the archives and digital repositories of the University; and (c) make freely available such copies to third parties for research or educational purposes.

I authorize the American University of Beirut, to: (a) reproduce hard or electronic copies of it; (b) include such copies in the archives and digital repositories of the University; and (c) make freely available such copies to third parties for research or educational purposes after:

One ---- year from the date of submission of my thesis, dissertation, or project.
Two ---- years from the date of submission of my thesis, dissertation, or project.
Three ---- years from the date of submission of my thesis, dissertation, or project.

[signature] Feb 19, 2020

Signature Date

ACKNOWLEDGEMENTS

The successful completion of this thesis was possible only with the support of many people. I wish to thank them all.

My deepest gratitude goes to Dr. Giuliano Martiniello and Dr. Shadi Hamadeh. Thank you Dr. Martiniello for your endless support and great motivation throughout my entire journey and Thank you Dr. Hamadeh for your great guidance that was a great help towards success.

Thank you, Dr. Ali Chalak and Dr. Mounir Abi Said for being my inspiration towards a brighter future. Dr. Mounir Abi Said, words can't express the amount of gratitude I have for you for your continuous support throughout my academic process.

Also, I would like to thank Ms. Diana Abi Said for her continuous assistance throughout my journey in the RCODE program. In addition to that, I am sincerely thankful to the Environmental and Sustainable Development Unit team for their full support. I have gained a great experience working in this valuable Unit. Thank you Dr. Hamadeh for giving me the opportunity to join and learn from ESDU team.

I would like to express my appreciation to my colleague, Mr. Rami Assaf, for his support in the field.

Finally, I am thankful to my family and friends, who are always encouraging.

AN ABSTRACT OF THE THESIS OF

Sarah Karam for Master of Science
Major: Rural Community Development

Title: The Effect of Protected Areas on Rural Communities; Jabal Moussa Biosphere Reserve Case Study

Protected areas (PA), especially biosphere reserves (BR) that follow participatory approach, are considered effective instruments for the conservation of the world's habitats and for rural development. However, their impact on rural communities constitutes the most controversial debate in conservation policy and practice. Conservation in Lebanon has been a growing trend offering today at least 15 nature reserves, but the perception of people towards conservation and the impact of protected areas on rural communities in Lebanon have been poorly investigated. This study aims to reveal the impact of a BR on livelihoods and perceptions of rural communities and examine land use changes as a result of the allocation of the reserve. In addition, it examines the efficiency of national policies in ensuring rural participation in conservation practices. Since Jabal Moussa Biosphere Reserve is mainly on Waqf land, the study investigates the role of Waqf Land management in rural development.

Mixed research methods, with a special focus on qualitative methodology, are used for an in-depth understanding of the raised topic. Data is collected from relevant stakeholders through focus group discussions and personal interviews. Statistical examination reveals the correlation between the respondents' characteristics and their attitudes towards conservation.

The study reveals the differential impact of the BR on locals' perceptions indicating the importance of communication and understanding of rural communities' needs and perceptions prior to the allocation of the biosphere reserve. Results identify the challenges facing BR in ensuring active and real participation of rural communities and highlight the potential role of BR in promoting rural development while conserving the environment through the application of "mixed methodologies" and "pro-poor conservation" concepts and highlights the importance of BR in being "learning sites" for the application of the "home" approach increasing people's connectedness to nature and ensuring a sustainable future. In addition, considering national policies relevant to PA allocation and management as urban biased, the study proposes a mechanism to ensure rural communities' inclusion in PA allocation and management process and suggests a Waqf land Management Network that holds great potentials in developing rural communities while sustaining natural resources. This study is significant in revealing rural people's perceptions on conservation in Lebanon and reflecting them on BR concepts and national policies.

Keywords: protected areas, biosphere reserves, rural development, policies, management

CONTENTS

ILLUSTRATIONS

Figure Page

TABLES

ABBREVIATIONS

APJM: Association for Protecting Jabal Moussa

BR: Biosphere Reserve

FGD: Focus Group Discussion

GAC: Governmental Appointed Committee

JM: Jabal Moussa

JMBR: Jamal Moussa Biosphere Reserve

MoE: Ministry of Environment

MoA: Ministry of Agriculture

MT: Management Team

PA: Protected Area

CHAPTER 1

INTRODUCTION

Protected areas are considered significant tools for the conservation of the world's habitats and the protection of biodiversity which has become highly threatened by devastating anthropo-centric practices. In addition, protected areas have been regarded effective instruments to develop rural communities by offering them important socioeconomic benefits through endorsing tourism, supplying economic services, and improving infrastructure in remote areas. On the other hand, in order to meet the criteria of environmental protection, rural communities have been relocated often without compensation; they have been destabilized and impoverished. Therefore, the impact of protected areas on rural communities constitutes the most controversial debate in conservation policy and practice.

In Lebanon, conservation has been a growing trend offering today at least 15 nature reserves. The perception of people towards conservation and the socioeconomic impact of protected areas on rural livelihoods in Lebanon have been poorly investigated. This study aims to reveal the impact of a biosphere reserve on livelihoods and perceptions of rural communities and examine land use changes as a result of the allocation of the reserve. Biosphere reserves are unique types of protected areas aiming at conserving species and ecosystems, monitoring and conducting scientific research, and supporting sustainable development in the surrounding region. Jabal Moussa Biosphere Reserve aims at integrating the development of rural communities within biodiversity conservation; its management system is supposed to be affected by the increasing trends

of local participation and local empowerment. Jabal Moussa is chosen in this study in order to check the usefulness of such integration. In addition, being located on Waqf land (land owned by religious institutions), evaluating the impact of Jabal Moussa on socioeconomic development of rural communities would allow exploring the extent of usefulness of such land use shift.

This study examines the impact of a biosphere reserve on rural livelihoods and the analysis of livelihoods dynamics in relation to changes in land use occurring as a result of the allocation of the explored biosphere reserve. Moreover, by highlighting the advantages and the disadvantages of the current policy and management system, this study enables protected areas to take into consideration the specific local concerns that are related to protected areas management (Solecki, 1994). Examining the impacts of conservation on the different dimensions of people's lives is imperative to improving them and resulting in successful strategies and policies (Woodhouse et al., 2015).

In order to answer the research questions, chapter two starts by discussing the literature related to protected areas and their impacts on rural livelihoods and focuses on the different debates and critics arguing the efficiency of protected areas and biosphere reserves in developing rural communities.

Chapter three discusses the methodology used to answer the research questions and the problems faced during data collection and field work. Mixed methods (qualitative and quantitative) are used for an in-depth understanding of the raised topic in order to increase the validity of the research.

Chapter four presents the data gathered during field work and its analysis. It focuses on the perceptions of locals towards conservation and the impact of Jabal Moussa on land

tenure, land use and local livelihoods, including cultural, social, political, and economic changes.

Chapter five concludes by providing recommendations that can help policy makers and conservationists better plan for conservation activities taking into consideration the locals' voices, needs and livelihoods.

CHAPTER II

LITERATURE REVIEW

A. Environmental Degradation

A very robust relationship connects humans and nature; functioning ecosystems are a major factor ensuring the sustainability of humans whose actions in turn affect these ecosystems. Therefore, a "metabolic interaction" between humans and nature exists influencing both social and natural history (Clark & York, 2008). However, the human footprint has resulted in catastrophic changes and mass species extinctions. Habitat loss, habitat fragmentation, overexploitation, pollution, increasing GHGs from burning fossil fuel and intensive agricultural production, introduction of species, and climate change all are factors affecting the composition and functioning of ecosystems and increasing the rate of species extinction (Wong, 2012; Keenan et al., 2015; Hansen et al., 2013; Ripple et al., 2014). Humans population, growing by about 30% since 1992, exacerbated consumption and overexploitation of natural resources resulting in increasing CO2 emissions by about 62%, decreasing freshwater resources by 26%, decreasing total forest area by almost 3% and vertebrate species abundance by 30% (Ripple et al., 2017). According to IUCN (2018), more that 27% of assessed species (more than 26,500 species) is threatened with extinction. The destruction of natural habitats constitutes the major threat to species (IUCN, 2014). Our expanding development has released a mass extinction event, the sixth in about 540 million years; many species could end up being extinct or threatened by extinction by the end of this

century. Scientists have described our current age by the Anthropocene age in which the influence of humans on the planet is highly devastating and irreversible (Ripple et al., 2017).

Changes in world ecology date back to the rise of the prevailing economic system (Moore, 2003). Researchers have argued that long since the emergence of the economic system, dialectic between the world-economy and world-ecology has developed allowing an ecological theory of imperialism whereby world economy was founded on an epochal reorganization of "world ecology" which was transformed in a way primarily benefiting developed countries (Wallerstein, 1976; Moore, 2003). During the 16th century, the agroecological transformations signaling the rise of capitalism resulted in the emergence of what researchers called "capitalist world ecology" (Moore, 2003). Ecological imperialism might take different forms, based on the historical context and the demands of economic production; however, it continues, in all cases, to operate in order to channel resources (land, raw materials, and labor) for the purpose of capital accumulation (Clark & York, 2009). Marx describes the human nature dialectic by the metabolic rift. The theory of the metabolic rift reveals how capital contributes to the systematic degradation of the biosphere through the destruction or disturbance of natural resources, processes and cycles. Economic expansionary tendencies have been leading to overexploitation of natural resources, the prevalence of high-consumption lifestyles, and the development of technologies serving to intensify commodity production which requires the burning of fossil fuels to power the machinery of production further threatening environmental integrity (Clark & York, 2009; Mitchell, 2009). Clark and Foster (2009) argue that ecological imperialism generates asymmetries in the exploitation of natural resources, uneven exchange, and a global metabolic rift.

They consider that ecological imperialism is apparently inescapable in our time especially that the origins and ongoing growth of capitalism depend upon further ecological exploitation and ecological unequal exchange. Our modes of production have resulted in both soil degradation as well as serious implications for human health and survival (Moore, 2003; Friedmann, 2000). Therefore, the prevailing economic system is doubly antagonistic to sustainability, degrading the health of nature and labor, both being dialectically bound (Moore, 2003).

Although the environmental crisis has been widespread, the dominant economic forces tend to control mitigation measures by claiming that technology, market and capital can be employed to stop the environmental threats without imposing any major social changes (Clark & York, 2008). In this view, the market seeks to create new avenues of capital accumulation even in the course of dealing with environmental challenges. Such consideration ignores the root causes behind environmental degradation. Instead of addressing the metabolic rift, natural limits and ecological contradictions, capital "seeks to play a shell game with the environmental problems it generates, moving them around rather than addressing the root causes" (Clark & York, 2008 – p. 14).

B. Protected Areas

1. Protected Areas as a Solution to Nature Degradations

Protected areas have been long allocated throughout history and have been even associated by some authors as learned behaviors with conservation ethics being the result of people learning from their mistakes throughout periods of misuse and over exploitation (Berkes 1999). However, protected areas as we currently know them

reflecting the concepts of mainstream conservation and particularly the Northern-based conservation thinking started spreading with the allocation of the Yellowstone in 1872 (Berkes, 1999; Brockington et al., 2008). In less than a century, protected areas have become a major global phenomenon. The establishment of parks to preserve natural wonders at Yosmite in 1864 and Yellowstone in 1872 inspired what ultimately has become an international effort to protect remnants of the planet's natural heritage (Sneed et al. 1997). The aims behind the establishment of protected areas have been diverse. Main persisting concerns driving their establishment include: i) the preservation of animals for hunting; ii) landscape preservation; iii) wilderness protection; and iv) preservation of biodiversity and fighting the extinction crisis (Brockington et al., 2008).

According to the Convention on Biological Diversity (CBD), a protected area is: "a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives". One hundred eighty-seven countries have adopted this definition and have followed the CBD guidelines (Mulongoy & Chape, 2004). As the concept of protected areas developed, the need for protecting landscape culture emerged, and hence protected areas developed to include sustainable human interventions, environmental benefits, cultural values, and the active participation of local communities in management. This has led to a new definition of a protected area adopted by the IUCN at the IVth World Congress on National Parks and Protected Areas in 1992: "A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values" (Dudley, 2008; Mulongoy & Chape, 2004). There do not exist a single approach to conservation;

instead, the more than 100,000 protected areas that now exist worldwide reflect a great variety of management objectives. They vary from firmly controlled reserves, where only scientists are allowed to enter, to cultural landscapes where biodiversity conservation is integrated with socioeconomic and cultural activities (Mulongoy & Chape, 2004). In general, protected areas management has traditionally followed two contradictory paradigms; one achieves biodiversity protection by severe law enforcement, while the other stimulates the participation of the local communities and the sustainable use of natural resources (Stoll-Kleemann et al., 2010). IUCN classified protected areas according to their management objectives defining six management categories (Table 1). The IUCN Protected Area Management Categories system mainly aimed to create a common understanding of protected areas within and between countries (Dudely, 2008).

Table 1: The six management categories defined by IUCN, Dudely 2008

Management Category	**Definition**
Category Ia Strict nature reserve	- Strictly protected for biodiversity, geological or geomorphological features. - Human access and activities are limited and controlled to ensure conservation.
Category Ib Wilderness area	- Usually large slightly modified or unmodified areas, holding their natural character, without significant human impact or human habitation - Protected and managed for the aim of preserving their natural condition
Category II National park	- Large natural or semi-natural areas protecting large-scale ecological processes including characteristic ecosystems and species. - Have environmentally/culturally compatible, spiritual, recreational, educational, and scientific opportunities
Category III	- Areas set aside for the purpose of protecting a particular natural monument (e.g. landform, marine cavern, sea mount,

Natural monument or feature	geological feature such as a cave, or a living feature such as an ancient grove)
Category IV Habitat/species management area	- Areas set aside to protect particular species or habitats. - Many species/habitats might need specific interventions to meet their conservation; however, this is not a requirement of the category.
Category V Protected landscape or seascape	- Areas having a distinct character (e.g. significant ecological, biological, cultural and scenic value) resulting from the interaction of people and nature over time.
Category VI Protected areas with sustainable use of natural resources	- Areas in which ecosystems as well as the associated cultural values and traditional natural resource management systems are conserved. - Usually large, maintaining natural conditions, in which a part is conserved under sustainable natural resource management - One of the main aims is the use of low-level non-industrial natural resource compatible with nature conservation.

The social impact of protected areas on local communities began to be acknowledged in the 1970s, and the socioeconomic inclusiveness of protected areas became part of mainstream conservation discourse (e.g. Western et al., 1994; Ghimire & Pimbert, 1996; Adams et al., 2004). For the aim of fostering socioeconomic inclusiveness, UNESCO's 'biosphere reserve' concept developed in the 1970s; it is based on zoning composed of a strictly protected core where only scientists are allowed and a surrounding buffer zone where specific appropriate socioeconomic activities are endorsed. The World Conservation Strategy (IUCN, 1980) marked a change in the approach adopted by conservation planners to development, and a shift was witnessed from damage limitation (e.g. Dasmann et al. 1973) to an emphasis on sustainability (Adams, 2001). The Strategy identified sustainable development to be dependent on the conservation and sustainable use of living organisms and ecosystems. This concept became an important component of mainstream sustainable development discourse, and

the basis for a substantial flow of funds into conservation work in the 1990s (Adams & Infield, 2001; Adams & Hutton 2007). Therefore, the needs of local people became asserted on the conservation planning agenda, and community-based approaches dominated debate about conservation in rural developing settings during the past two decades of the twentieth century (e.g. Adams & Hulme, 2001; Ghimire & Pimbert, 1996; Western et al., 1994).

2. Protected Areas – Disputes Over Saving the Last Vestiges of the World

Concerns for conserving biodiversity have gained popularity, and protected areas have become substantial in mainstream conservation discourse (Whittaker et al., 2001; IUCN & UNEP, 2014; Pimm et al., 2014). Considering protected areas as essential for the reduction of species extinctions, Aichi Target 11 sought for the protection of more than 17% "ecologically representative" terrestrial and freshwater ecosystems and more than 10% of coastal and marine ecosystems (CBD, 2014). Protected areas are regarded as "a cornerstone of global conservation efforts that are vitally significant to our individual and collective futures" since they act as reservoirs of biological diversity, buffers from storms, sources of clean air and water, sinks for carbon, or places to escape and reconnect with nature (The Fifth World Parks Congress, 2003). John Terborgh, in Requiem for Nature (1999), highlighted the importance of parks in providing a final defense, a bottom line, some last remnants of the world before people damaged it; they are 'a line in the sand' (p.199) drawn against the incoming tide of humanity (Brockington et al., 2008).

On the other hand, Adams, in Against Extinction (2004), criticized this view as 'ecofascism' representing unjust violence committed by people who do not understand

how nature is socially constructed, and are not aware of the political and economic forces driving the destruction of nature. “Juggernauts [such as the world economy]” says Adams “do not respect lines in the sand” (p.224). Lines will not stop the ever-growing demand for natural resources, land and wealth. If parks’ boundaries are to be effective, they will require a far more effective engagement with the forces threatening their destruction. Moreover, focus on strong parks has been accompanied by an important dismissal and neglect of the ecological value of nature outside parks. As Cronon (1996) has argued, neglect of unprotected lands is profoundly harmful to conservations interests (Proctor and Pincetl, 1996; Rosenweig, 2003). In addition, “New Conservation Science” advocates, urging for prioritizing the needs and wants of humans over any intrinsic or inherent rights and values of nature (Doak et al., 2015), raise many flaws in traditional approaches to conservation highlighting the failure of conservation to protect biodiversity; the creation of many protected areas has not stopped extinctions and ecosystems degradation. The 712 protected areas in Uganda for example, encompassing about 16.1% of Uganda’s surface area and including more than 30% of all forest areas did not stop the declining rate of biodiversity or the mounting rate of deforestation (UNEP-WCMC, 2018; Sandbrook et al., 2018). Although the reasons behind the establishment of protected areas have usually been portrayed by the preservation of animals, landscapes, wilderness and biodiversity, as mentioned above, the real aim behind the allocation of protected areas has not always been so authentic. Instead, many protected areas have been allocated for the aim of allowing companies to produce greenhouse gases through offsetting those emissions by investing in ecofriendly projects - as stated in the Kyoto Protocol – hence resulting in the development of elites over the marginalized poor (Brockington et al., 2008).

Brockington et al. (2008) explains how capitalist and neoliberal policies and values pervade conservation practices. Whenever large projects that threaten the environment are implemented, compensation for such damage should be provided resulting in the protection of habitats elsewhere. Therefore, according to Brockington et al. (2008), conservation, instead of resisting economic growth, is 'allying mutually with capitalism to reshape the world', including both nature and society. In addition, green-grabbing has been fostered under the claim of 'nature conservation and climate change mitigation' leading to the capturing of power by a minority to control resources and assets (Ribot & Peluso 2003). Fairhead et al. (2012) argue how the green agendas - including biodiversity conservation, biocarbon sequestration, biofuels, ecosystem services, ecotourism or 'offsets' related to any of these - are being a main goal of land grabs where lands are being alienated, or rules and authority in the access are being restructured, or resources are being managed. Some current land grabs for conservation share similarities with past grabs such as the (neo)colonial relationships between foreign conservationists and local people, the relative powerlessness of local people, and the continuation of many historic discourses on nature, society, and wilderness (Adams & Hutton, 2007). Such practices identified under the "green economy" approach ratifies the 'neoliberalising of nature', or in other words, the privatization, marketisation and commodification of nature. The green economy ignores the social and political dimensions of sustainability and issues of social justice hence maintaining the inescapable 'sustainable development' of neoliberal capitalism (Wanner, 2015). Neoliberalism, through conservation activities such as tourism, reconfigures and redesigns nature for global consumption. Within the elephant riding industry in Botswana and Thailand for example, ecotourism restructures nature in an image

appealing to international clients. Elephants are trained, repackaged and developed for consumption by the global tourism industry representing the neoliberalisation of nature (Duffy & Moore, 2010).

Social scientists refer to nature as being socially produced. Therefore, protected areas are regarded as regions not only rich with biodiversity but sites rich in social interaction and social reproduction which constitutes the maintenance and replication of social practices, beliefs and institutions (West & Brockington, 2006). By this, social scientists do not deny the existence of the material world that could be altered, destroyed, restored and conserved; however, they believe that different sociocultural groups understand and relate in totally different ways to what European-derived cultures have thought of as nature (West & Brockington, 2006). According to West and Brockington (2006), protected areas are not resulting in biodiversity conservation per se but in reconstructing how people understand, use and interact with their surrounding hence affecting people living in and adjacent to protected areas. By regarding nature and society as separate entities and posing both as static, conservation agencies end up failing to understand the complex ways people interact with nature on which they rely for food and shelter as well as economic, social and spiritual needs. By abstracting nature from the complexity of people's social interactions, practices and lives, protected areas constitute a "form of virtualism" (Carrier 1998) which is described by the attempt of making the world conform to and look like an abstract model of it.

C. Protected Areas shifting Land Use and Tenure

The targets behind protected areas establishment include biodiversity conservation, environmental services elevation and local livelihoods promotion; however, according to Vedeld et al. (2012), protected areas are "notoriously imprecise" in achieving these goals as they end up reshaping the land use patterns and the people in the surrounding region. Protected areas have been reported to result in the displacement of tens of millions of residents who used to live, fish, hunt, and farm in regions prior to their allocation as protected. The term displacement has been used as a broad term signifying multiple phenomena including the exclusion of people, loss of access to resources, and restrictions to livelihood opportunities or future income related to environmental resources (Cernea, 2005). Rural communities have been witnessing displacements in different forms: material displacement from dwellings; economic displacement from an area in pursuit of livelihoods; cultural displacement from the history, memory and representation from a specific landscape; and loss of power and control over local environment (Brockington & Igoe, 2006). Both, strictly protected areas and community-based conservation, have been reported to displace and evict local people from their lands (Dzingirai, 2003).

Many critics compared the magnitude of human displacement and suffering caused by conservation to those caused by large developmental projects, high modernist state interventions and civil wars (Brockington et al., 2006; West & Brockington, 2006; Agrawal & Redford, 2009**).** Similar to development-induced displacement, conservation induced displacement is permanent which makes such displacements sometimes with a greater impact in comparison to displacements undertaken as a result of natural disasters or wars (Brand, 2001; Agrawal & Redford, 2009).

Robinson (2011) highlights how the conservation history reflects elements of coercive statecraft. In order to meet the criteria of environmental protection, rural communities in many developing countries have been relocated without compensation; they have been destabilized and impoverished for the aim of setting aside spaces to be occupied by conservation NGOs, wealthy tourists, transnational leisure industry, and research scientists (Brockington et al., 2008). This was observed in the Gir National Park in India (Fortin & Gagnon, 1999) and the Kidepo Valley Park in Uganda (West & Brechin, 1991). The uprooting of local populations for the sake of conservation and tourism has had negative impacts on the health, culture, way of life and economies of the local communities involved. It has emphasized the social and spatial inequalities between communities, social groups within communities, families, and men and women and has contributed to an impoverishment of living conditions (Rao & Geisler, 1990).

In the Arabian Peninsula, the re-introduction of the oryx, imposing restrictions on land use for locals, restricted livelihood strategies for local farmers (Chatty, 2002). Protected areas in Syria resulted in the destruction of customary land-tenure systems in the face of new regulatory systems leading to the dispossession of farmers and the alteration of intra and inter-tribal relations (Rae et al., 2002). The extreme restriction of resource access experienced by households living near the park is a major constraint for improved livelihoods; villages close to the Doma and Mikumi park for example reported 22.6% and 17.5% reduction of their farm incomes respectively due to wildlife crop raiding (Vedeld et al., 2012).

NGOs have been playing a significant role in the allocation of protected areas that displace local communities, and conservation organizations have been criticized as becoming “large land-owning corporate bodies of professionals with views and agendas

often imposed down on local communities rather than reflecting the aspirations of local people" changing their land use traditions, livelihood strategies and cultural practices for the sake of biodiversity conservation (Brockington, 2006). Despite these harsh accusations against conservation strategies, conservation-induced displacements have never been addressed seriously, and no effective guidelines have been developed by international organizations (Agrawal & Redford, 2009).

D. Impacts of Protected Areas on Rural Communities

The impact of protected areas on the neighboring communities is arguable and constitutes the most controversial debate in conservation policy and practice (Adams et al., 2004; Wittemyer et al., 2008).

1. Economic Impact

A protected area can offer local communities important economic benefits as it can endorse tourism, supply economic services, and improve infrastructure in remote areas (Adams et al., 2004). Andam et al. (2010) revealed how protected areas can contribute to poverty alleviation while achieving environmental sustainability. In Costa Rica, protected areas have empowered women through their participation in handicraft production projects which offered them economic power they lacked in the past (Vivanco, 2001). In other cases, revenue sharing from park fees has provided additional resources to support community services or establishment of alternative income-generating activities (Springer, 2009). In Thailand, tourism business opportunities, investments in human and physical capital by national and international agents, and the

maintenance of ecosystem services are suspected to be the reasons behind decreasing poverty of local communities surrounding protected areas (Andam et al., 2010).

On the other hand, by affecting land use and land tenure, protected areas impose considerable modifications to local livelihoods strategies. Protected areas in Nepal restricted traditional land access and land use rights hence leading to socio-economic damages (Mehta & Heinen, 2001). By confining agricultural development and exploitation of natural resources, protected areas are revealed to further intensify rural poverty (Andam et al., 2008; Brockington et al., 2006). Protected areas in Africa have often limited access to hunting and agricultural lands, in addition to increasing the abundance of wildlife species such as elephants, which threaten people's crops hence reducing farmers' incomes and threatening their livelihoods (Ashley & Roe, 1997). In addition to these challenges, constraints on land use practices and rising wildlife-livestock diseases resulted in increasing malnutrition for communities residing around the Ngorongoro Conservation Area, Tanzania (Galvin et al., 2002). In many cases, poverty and the dependence on nature for survival led local communities to continue their gathering and hunting practices in areas designated for conservation which resulted in serious conflicts between the local community and the management unit of the protected areas (Andam et al., 2008; Brockington et al., 2006).

2. Socio-Cultural Impact

Protected areas can increase social capital in addition to empowering communities through its participatory and collaborative approaches (Pretty & Ward, 2001). As families and individuals work together to build a successful ecotourism

project or any other kind of developmental initiatives, community cohesion would be enhanced further improving the local community's equilibrium. Furthermore, ecotourism can enhance the self-esteem of many community members since the value and uniqueness of their natural resources and their culture is being recognized by outsiders. As a result, increasing confidence of the community members would drive them to further train and educate themselves (Scheyvens, 1999).

On the other hand, Duffy and Moore (2010) criticized protected areas by arguing that it allows capitalism to identify, open and colonize new spaces in nature. Modernization processes and tourism development shaping conservation efforts resulted in rapping protected areas and people in a modern market economy with capitalistic relations, where profit making and biodiversity conservation are prioritized over the concerns, needs and cultures of marginal displaced local people (Brockington & Holmes, 2010; Vedeld et al., 2012). This was revealed in Botswana where the luxury safari tourism industry has been growing over the needs of local communities, with its main profits going to foreign companies (Mbaiwa, 2004). Protected areas result in engaging different value systems into local economies, commodifying nature and wildlife into things that are purchased by tourists and not afforded by local communities (MacDonald, 2004, 2005).

International conservation institutions have been accused of "imperialistic interference and neo-colonialism of meddling in other people's affairs and countries", implementing alien values and practices which are usually inspired by northern and western models of nature (West et al., 2006). In protected areas, people are made less complicate and their social systems and beliefs are altered in order to fit within certain policy structures (West et al., 2006). Wolmer (2007) considers that even early colonial

understandings and framings endure in some current forms of ethnotourism in Africa where local communities are supposed to dress and behave in specific ways in order to be allowed to continue living within protected areas. Ecotourism also alters the ways people view their surroundings (Vivanco, 2001), and it can increase the pressure on local resources due to increased tourist's numbers and their activities (Panusittikorn & Prato, 2001).

In addition, protected areas might result in increasing contests over the fortunes and misfortunes that protected areas can distribute. Conflicts could rise between poor and rich (e.g., the Royal Chitwan National Park in Nepal (McLean & Straede 2003; Paudel 2005)), or between different ethnic groups (e.g. Protected Areas in Africa (Nelson & Hossack 2003)). Many protected areas resulted in violence towards indigenous peoples (West et al., 2006). Touristic activities in the Ngorongoro Conservation Area in Tanzani, for example, resulted in increasing prostitution between local Maasai girls and women, and tour guides. Locals ended up idling along the main roads of the reserve, dressed in traditional costume, waiting for tourists to stop and take pictures in exchange for money and other goods (Charnley, 2005). In addition, conservation efforts do not efficiently respond to the changing social, political, and economic needs of neighboring communities (Egenter & Labo, 2003).

3. Political Impact

According to Agrawal and Gibson (1999), successful community-based natural resource management is based on the development of decision-making process that is legitimate, accountable and inclusive and that takes into account the different actors' interests and needs. Protected areas, that engage rural communities, provide

opportunities for local citizens to raise their concerns and provide them with chances to be represented on decision-making bodies (Scheyvens, 1999).

However, despite the shift towards local participation, redistributing power among stakeholders has been limited, and decision-making power is still mainly under the control of NGOs and government agencies (Zeppel, 2006; Coria & Calfucura, 2012). Critiques from socio-political perspectives stress on the limited extent of allocating the real power and authority to the indigenous and local communities throughout the recognition of rights to land and resources, equitable distribution of benefits generated from the protected area and assigning authority in customary governance institutions (COICA, 2004; Jones, 2004).

Moreover, protected areas have been reported to destroy local systems of decision making and resource management and replace local institutions by the bureaucracy and professional bodies (Pimbert & Pretty, 1997); this has been highly advocated for by the Philippines and Indian laws for the allocation of protected areas and preservation of natural resources (DENR, 1992; Gadgil, 1992).

The lack of political power constitutes a barrier for local communities to benefit from the protected area related activities, hindering them from building direct partnerships with relevant stakeholders, limiting their probabilities from obtaining jobs and training and from developing culturally appropriate opportunities for participation. Lack of political power prevent indigenous communities from having an effective voice in land management and decision making and prevent them from effectively addressing problems of corruption that limits the benefits they receive from protected areas (Charnley, 2005). This has been reported in Ngorongoro Conservation Area in Tanzania in which the local Masai people were prevented from having any political power, hence

limiting their influence in land management and decision-making regarding developmental projects (Charnley, 2005).

Policies, that comply with Terborgh (1999) line of reasoning considering that nature resource exploitation results in "benefit to the few and cost to the many" (p. 148), have advocated privatization or takeover of natural resources for the aim of conservation and sustainable management (Brockington et al., 2008). However, according to Wilshusen et al. (2002), whenever conservation is considered as inextricably linked to social and political institutions influencing resource management, the static perception of conservation shifts to a more accurate understanding of resource use regimes. Wilshusen et al. (2002) argues that conserving nature through strict regulations limiting rural and cultural practices ignores the past and present decision-making, organizational, and governance processes that have been structuring resource use within and among local communities. In Pakistan, for example, the efforts of NGOs to facilitate the assignment of a monetary value to the ibex for the sake of conservation has effectively removed the ibex from local control and management and situated it within the domain of national and international organizations (Macdonald, 2004).

4. Psychological Impact

Many studies highlighted the importance of people's perceptions of management in affecting people's attitudes toward protected areas (Parry & Campbell, 1992; Newmark et al., 1993; Fiallo & Jacobson, 1995; Ite, 1996; Alexander, 2000; Infield & Namara, 2001; Holmes, 2003; McClanahan et al., 2005). Rural communities' attitudes have been reported to be affected by access to direct and material benefits. In

Bwindi Impenetrable National Park in Uganda, direct and material benefits were consistent predictors of locals' positive attitudes towards the protected area's management while the socio-economic factors as well as non-material and indirect benefits and costs did not influence the attitude of local communities towards management (Tumusiime et al., 2018). Similarly, studies conducted in Nepal and Tanzania revealed the importance of access to resources and material benefits as a key determinant for a positive attitude towards park management (Baral & Heinen, 2007; Gillingham & Lee, 1999; Tumusiime et al., 2018). Newmark et al. (1993) revealed that 71% of residents living adjacent to Arusha, Tarangire, Lake Manyara, and Mikumi National Parks and the Selous Game Reserve were advocates of these protected areas and opposed their suggested abolishment mainly due to the revenue they generated followed by the cause of wildlife protection and conservation for future generations.

On the other hand, about 60% of the 450 respondents in Great Smoky Mountains National Park (GSMNP) in Tennessee and North Carolina, Virgin Islands National Park on the island of St John, and Podocarpus National Park in Loja and Zamora-Chinchipe (Ecuador) reflected the desire to commit illegal actions within their neighboring protected area. The factors that were proved as essential for the locals' compliance with the protected areas' regulations include respectful and meaningful communication between management teams and local communities, local participation and receptiveness to local input, benefits for local residents, equitable treatment of different classes and honest performance of the protected areas entities (Stern, 2008b).

Stern (2008a) examining trust relations between local communities and management units in three national parks (Great Smoky Mountains National Park - USA, Virgin Islands National Park - U.S. Virgin Islands, and Podocarpus National

Park, Ecuador) revealed that two types of trust – rational trust (based on expectations of reciprocity and benefits from the relation) and social trust (based on social connectedness or perceptions of shared identities) – were important at each park; however, social trust was dominant in the study. Perceptions of the management unit's degree of cultural understanding, of managers' receptiveness to local input and of social connectedness are most powerfully associated with social trust (Stern, 2008a).

Conservation efforts were reported to impact locals' perceptions of their beliefs, culture and surrounding. While the Huaorani Indians used to see themselves inextricable from nature, they now perceive nature and culture as separate entities because of their involvement in conservation (Holt, 2005).

E. Biosphere Reserves and the Controversy over Rural Inclusion

In 1968, the United Nations Educational, Scientific and Cultural Organization (UNESCO) launched the Man and the Biosphere Program, and now more than 500 biosphere reserves have been established in 103 countries (Stoll-Kleemann et al., 2010). Biosphere reserves are unique types of protected areas aiming at conserving species and ecosystems, monitoring and conducting scientific research, and fostering sustainable development in the surrounding region. They do not have a single management model, instead management systems should be open to community concerns and flexible to changing environments (Batisse, 1982; Mulongoy & Chape, 2004). Their management regime is community-based associated with sustainable development and participatory approaches – principal paradigms in rural development discourse. However, these principles on which biosphere reserves are based have been highly contentious.

Since the 1983 publication of the Brundtland Report, ‘sustainability’ has become firmly embedded in the vocabulary of development. With increasing concerns about a healthy future for humanity, the concept of sustainable development was the result of the growing awareness of the global links between increasing environmental problems, socio-economic issues, poverty and inequality. It strongly links environmental and socio-economic concerns. However, the simplicity of this approach is deceiving and obscures underlying contradictions and complexities; the debate about what constitutes sustainable development and how to achieve it has been highly contentious (Redclift, 2005). Development bureaucrats and politicians have benefited of such a notion that suggests radical reform without specifying what needs to change or requiring specific actions or limitations. Under the notion of ‘sustainability’, natural resources have been further commoditized, land grabbing has been promoted, and ultimately further growth of developed countries has been fostered on the expense of poor nations. The global challenge of sustainable development lies in complex interdependencies of environment, social, economic and politic development in a highly globalized world also characterized by profound inequities and serious poverty (Elliot, 2006).

The bottom-up development and participatory approaches, emerging in the 1980s, progressed to include more the diversity and complexity of the rural communities and then emerged as an integrated approach known as the Sustainable Livelihoods Approach which integrates ecology, sociology and anthropology with development (Chambers & Conway, 1991). Chambers (1983; 1994) revealed how people’s knowledge and people’s participation in the development process became recognized requirements for the design and implementation of appropriate development

interventions. This livelihood approach, based on the bottom-up and people-centered strategies, was an ideal entry point for participatory approaches that enable local people to analyze and share their knowledge, and to plan and act accordingly (Scoones, 2009; Chambers, 1994). However, participatory approaches (which are now applied in many protected areas) have been highly criticized as being articulating forms of control empowering key actors over marginalized local people (Kothari, 2001; Mohan, 2007). Such approach, having various implications, might be used by developmental agencies only to give a fake appearance of local participation which could be nominal, passive, or consultative without influencing the decision-making process and the predetermined agenda (Mohan, 2007).

Community-based conservation is regarded by advocates as more equitable and more efficient alternative to many types of protected areas in addition to being perceived as a way to expand the conservation estate ensuring the conservation of land beyond the boundaries of protected areas. It shall result in more efficient conservation while ensuring local empowerment. Examples demonstrating significant successes in generating positive social and conservation outcomes include community forestry in Mexico, Namibia's National Community-Based Conservation and Natural Resource Management Program, and locally managed marine areas in the Pacific (Springer, 2009). Scholars of common property argue that communities are successful and sustainable alternatives to both private and state management of resources. Scholarship regarding the commons (Berkes, 1989) has highlighted the important context specific knowledge possessed by members of local communities and the institutional arrangements they establish to achieve successful, local based resource management. India and Nepal witnessed significant changes in the 1980s when experimental local

initiatives resulted in increasing biological regeneration and income flows; therefore, the governments supported joint and participatory forest management by issuing new policies in 1990 in India and 1993 in Nepal. These policies encouraged the engagement of NGOs as facilitators of local group formation and resulted in the designation of around 20,000 forest protection committees and forest users' groups in these two countries, responsible for managing nearly 1.85 million hectares of forest, mostly with their own rules and sanctions (Pretty & Ward, 2001). Such models resulted in increasing fuelwood and fodder productivity, improving biodiversity in regenerated forests, and led to income growth for the poorest households (Pretty & Ward, 2001). However, Brockington et al. (2008) argues that even community-based conservation ends up supporting a small group of people benefiting of conservation-oriented market opportunities while many others suffer the consequences of conservation without realizing any significant advantages; all what community conservation does is introducing different sets of inequities to protected areas. Agrawal and Gibson (1999) highlighted the uselessness of community-based conservation if 'community' is not examined properly, suggesting the importance of examining communities through a political approach. In the context of development and conservation, communities must be approached by first understanding the different interests and actors within communities and how these actors influence decision-making as well as the external and internal institutions that influence and shape the decision-making process. Therefore, community-based conservation initiatives must be founded on images of community that recognize their internal differences and processes, their relations with external actors, and the institutions that affect both (Agrawal & Gibson, 1999). In addition, Berkes (2004) revealed how community-based conservation, which

is based on the idea that if conservation and development could be simultaneously achieved, then the interests of both could be served, might not result in the expected outcomes since community development objectives are not necessarily consistent with conservation objectives in some cases. Adams and Hulme (2001) argued that community conservation is a complex process through which the following must be contextually considered: who should set the objectives for conservation policies and how should trade-offs among the different objectives and priorities of diverse stakeholders be negotiated. By exploring the political ecology of conservation, particularly the establishment of protected areas, Adams and Hutton (2007) revealed the importance of considering the rights of indigenous people and the contextual relationship between biodiversity conservation and the reduction of poverty before the allocation of any conservation policies. Kohler and Brondizio (2017) suggested that public policies and conservation programs should consider locals' attitudes toward conservation and local needs and expectations before delegating responsibility for managing protected areas to local and indigenous communities.

Therefore, while biosphere reserves, based on significant developmental paradigms, might be successful alternatives reducing the negative impact of protected areas on rural communities, the efficiency and authenticity of these paradigms have been highly controversial further questioning the efficiency of biosphere reserves.

F. Lebanon as Case Study

Being at the crossroads of three continents, the Mediterranean region encompasses different natural features and a great variety of landscapes, soils,

vegetation, geology, climate and biodiversity. This region has been considered a true biodiversity hotspot, globally ranking third among hotspots in plant diversity and endemism (MoE/UNEP/GEF, 2016). In the Arab region, the diverse biogeographic and climate conditions result in a significant diversity of fauna and flora of which a considerable share is endemic; of the 1,700 mammals estimated to exist in this region, 39 are endemic in addition to 132 species of reptiles, 8 amphibians and 30 birds (WRI, 2002; SCBD, 2010). On the other hand, ecosystems and biodiversity face a multitude of threats with habitat destruction being one of the most serious causes of biodiversity loss.

Overexploitation, hunting, deforestation, overgrazing and degradation of rangelands have continued for millennia in this region by increasing threats from urban and industrial developments, and pollution has been increasing at an alarming speed (Krupp et al., 2009). About 1,746 species are reported to be threatened with extinction of which 13% are mammals, 25% are fish, 12% birds, 12% plants, 5% reptiles, and 0.5% amphibians (El Shaer, 2017).

Lebanon's topography, its altitudinal diversity, and its location at the far eastern end of the Mediterranean Sea have resulted in unique ecosystems and rich biological diversity (MoE/ECODIT, 2002). Despite its small area covering 0.007% of the world's land surface, Lebanon hosts about 0.8% of the world's recorded species and includes a high percentage of endemic terrestrial and marine plant species (12%) (MoE/UNDP, 2011; NBSAP, 2016). In addition, more than 6% of the global marine species exist in Lebanese waters which represent less than 1% of the world's ocean surface (MoE/UNDP, 2011). However, this diversity has been highly threatened; forests currently constitute 13% of the country's area after comprising 70% hundred years ago (Khater & Hajj, 2012; Sattout & Zahreddine, 2013). Economic development has been

promoting urbanization, increasing pollution and threatening wildlife, and political and social instability has been pushing for the unsustainable exploitation of natural resources (Khater & Hajj, 2012). As a result of such devastations, forests areas have been diminishing, and species have been threatened by extinction. For instance, 10 mammals like the Syrian brown bear (*Ursus arctos*) are already extinct, and 36.54% of the existing mammals are rare (Ramadan-Jaradi et al., 2010); the evergreen Cypress forests are threatened (UNDP, 2010); and the evergreen cedar forests currently account for an area not exceeding 2,200ha after extensive stands of cedar, fir and juniper had been estimated to cover 500,000ha before 5000 years of exploitation (Alptekin et al., 1997; UNDP, 2010).

As a response to these environmental threats, protected areas have been allocated throughout Lebanon since the 1930s for the aim of conserving what is left of Lebanon's biodiversity (Laymen, 2006). Lebanon today offers at least 15 nature reserves, 18 protected natural sites, 15 protected forests, 14 protected touristic sites, 8 protected natural sites and monuments, 7 Himas, and 42 sites of natural and ecological importance in need for protection (MoE, 2006, 2012, 2015; CBD, 2003; Spnl). Nature reserves alone occupy around 2.4% of the country's area (MoE, 2015). The national biodiversity targets developed as part of the ongoing NBSAP (National Biodiversity Strategies and Action Plans which are the principal instruments for implementing the CBD at the national level), state that: "By 2030, at least 20% of natural ecosystems are protected and all types of ecosystems are represented in the PA network."; and "By 2030, the total area of nature reserves is increased to reach at least 5% of Lebanon's area." (MoE, 2015).

Upon the designation of any land as protected area, new regulatory framework is introduced and imposed on the traditional users of the land, modifying land use and land tenure which play pivotal role in rural development. Since the 19th century (through the Ottoman Land Code followed by the French Mandate and the laissez-faire economy deployed since independence), shifts in land tenure in Lebanon have been devastating for peasants leaving them without any guarantee or security of tenure and constituting a major limitation for Lebanese rural development (Daher, 1974; Sadr, 1972).

1. Protected Areas in Lebanese Legislation

Many of the natural sites in Lebanon are protected by Lebanese laws, decrees, ministerial decisions and resolutions. These sites are classified and protected as nature reserves, protected forests, natural sites, and Hima (local community-based conservation practice) (Khoury et al. 2019). Ministerial laws in Lebanon protects only Natural Reserves; ministerial decisions grant other designations some protection status but with milder conservation rights (Matar & Anthony, 2019). The government bodies who are engaged in protected areas include: the MoE for legistlation related to the protected core area; the MOA - Department of Natural Resources (Forestry) for Afforestation laws; the Ministry of Culture; and Ministry of Interior and Municipalities.

The Department of Ecosystems at MoE is accountable for everything related to protected areas, nature reserves and nature sites; it develops the policies, regulations and governance's structure related to the nature reserves and nature sites under MoE's protection. The MoE Decree 2275 specifies the units affiliated to the MoE and their roles, ownerships and employment conditions in some of their positions. The decree

specifies that the Department of Ecosystems in the MoE is responsible for: identifying and allocating protected areas, and specifying the conditions that should be met in these areas, and how they should be protected, managed and invested through a decree announced by the Minister of the Environment. In addition, the Department of Ecosystem is accountable for appointing PA committees and monitoring the committees' works and plans. This is all what is mentioned in this decree concerning the allocation of PAs.

The MoE developed a draft Protected Areas Framework Law in which unified regulations for the allocation and management of PAs are identified. The draft law was submitted to the Parliament and was discussed by the Parliamentary Committees which approved its latest amendments and is currently pending final endorsement. Within this draft law, protected areas are divided into 4 categories Natural Park (vast rural territory, partially inhabited, with exceptional natural and cultural heritage / might include several PAs), Natural Site and Monument (includes one or several natural features of exceptional importance which deserve protection), Nature Reserve (marine or terrestrial area where ecosystems, habitats and species of specific importance must be protected since they are either endemic, or rare or endangered), and Hima (Community Based Natural Resources Management System that promoting Sustainable Livelihood, Resources Conservation, and Environmental Protection for the human wellbeing) which is a land-use concept referring to a Pre-Islamic practice in the Arabian Peninsula (Khoury et al., 2015).

2. Protected Areas Management

The Protected Area Project (1996 – 2002) had established the frame for the management of protected areas in Lebanon. The management of the protected areas involves three main entities: 1) the Ministry of Environment (MoE); 2) a Governmental Appointed Committee (GAC); and 3) the Management Team (MT). This MoE-GAC-MT model has a vertical structure since the MoE holds the major decision-making power by approving on the management plans, the budget, the annual work plans and major activities on sites. Annual reports on the management development must be presented to MoE. The MT implements the management plans under the supervision of the GAC (Bachir, 2005a).

According to a graduate study (Bachir, 2005b) implemented on the stakeholder involvement in the collaborative management of two protected areas in Lebanon, this model (MoE-GAC-MT) removes some stakeholders from the decision-making platform, specifically resource users such as herders, fishermen and farmers (those who rely mostly on nature for their livelihoods). Hence, this model permits powerful holders to impose control on sites. In addition, the GAC does not include diverse local actors; women, farmers and herders are usually excluded (Bachir, 2005a).

3. Jabal Moussa Biosphere Reserve

Jabal Moussa Biosphere Reserve (JMBR) is located in Kesrouan District (Figure 1), ranging between 350 meters in the North-West and 1,700 meters to the South-East. It covers an area of 6,500ha with a core area of 1,250ha (Figure 2). Jabal

Moussa is located within or surrounded by seven main villages: Yahchouch, Qehmez, Jouret el Thermos, Nahr ed Dahab, Ghbale, Aabri, and Chouwan.

According to Abi Habib Khoury (2009), the main sectors practiced in Jabal Moussa surrounding villages include services (commercial/industrial…) (57%); construction (20%); agriculture and charcoaling (12%); and intellectual services (education, art) (10%).

Figure 1: Geographical location of JMBR on Mount Lebanon Range, Lebanon (Baydoun et al. 2017).

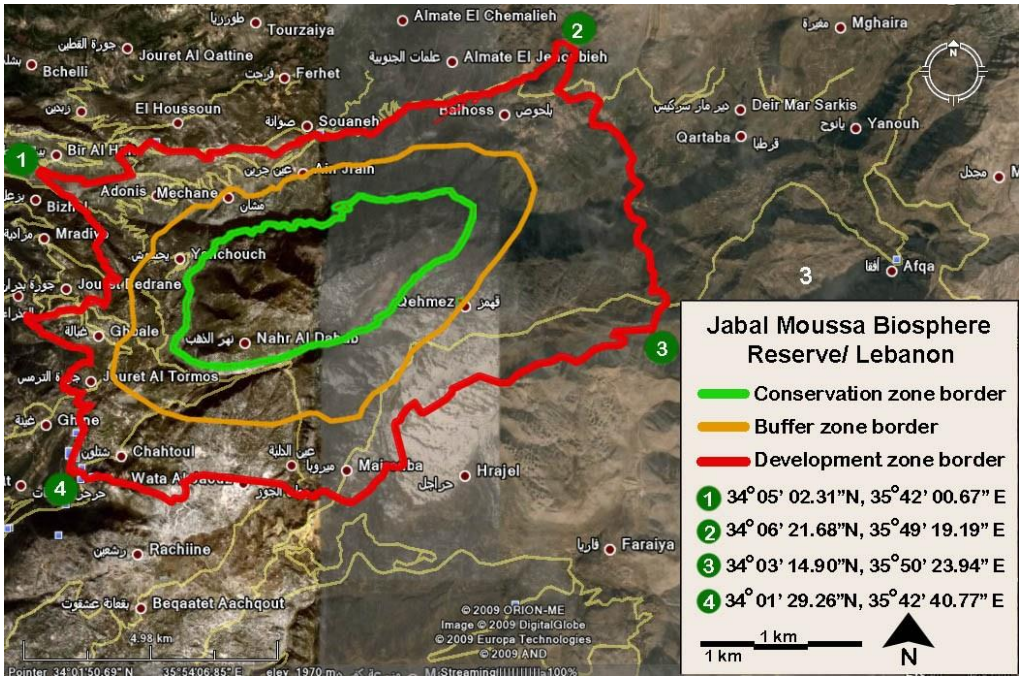


Figure 2: Zonation map of Jabal Moussa Biosphere Reserve. Source: SPNL. Jabal Moussa. https://www.spnl.org/ibas-kbas/jabal-moussa/

In 2008, Jabal Moussa and surrounding villages became part of the UNESCO Network of Biosphere Reserves under the Man and Biosphere (MAB) program. JMBR addresses nature conservation as well as rural community development through integrating natural sciences with education and social sciences (JMBR, 2019).

Jabal Moussa is different from other protected areas delineated in Lebanon by being mostly Waqf land. The Lebanese legislation recognizes Nature Reserves on public lands only. However, through funding lease contracts with the religious endowments to rent large area of the mountain and by turning to various international denominations, Jabal Moussa management team was capable of convincing the Lebanese Government of the importance of the site which was then protected under legislative laws of natural site, protected forests, and protected natural site. Jabal

Moussa became a UNESCO Biosphere Reserve in 2008, and a Global Important Bird Area (acc. to BirdLife Intl. criteria) and a member of IUCN in 2009 (Doumet, 2018).

This biosphere reserve highlights the issue of the usage of Waqf lands in Lebanon. Waqf immobilizes property preventing its disposal by sale, mortgage, donation, partition or seizure. Individuals cannot obtain ownership of such property by prescription, but the property can be acquired for public use (Sakr, 2018). In Lebanon, Waqf holds significant potential in socioeconomic development restoring distribution of wealth and income. For the achievement of such purposes, prerequisites are in urge for improvement including the enhancement of management of Waqf especially its investment kind and the provision of managerial, technical and financial support to the Waqf management (Sakr, 2018).

CHAPTER II

DESIGN AND METHODOLOGY

A. Overall approach

Mixed methods (qualitative and quantitative) and triangulation are used for an in-depth understanding of the raised topic for the aim of increasing the validity of the research (Berg, 2001a; Morgan & Spanish, 1984). Archival data are investigated. Data is collected from differing actors - the Ministry of Environment; the Management Unit; local people; and Waqf stakeholders - through personal interviews or focus groups discussions, gathering detailed data and experiences (Morgan & Spanish, 1984; Berg, 2001b). Participant observation is adopted throughout the data collection period. The surveyed sample is diversified including people with different socioeconomic statuses - farmers, women and youth – as well as respondents from different distances in relation to the biosphere reserve.

This research induces confidentiality considerations and participant's protection respecting participants' privacies and never revealing their identities, neither explicitly nor inductively.

B. Site and Population

Being a biosphere reserve, Jabal Moussa's management system is supposed to be affected by the increasing trends of local participation and local empowerment. Jabal Moussa is chosen in this study in order to check the usefulness of such integration. In

addition, by investigating the impact of a protected area designated mainly on Waqf lands, this study highlights the usefulness of such land use shift.

This study addresses local people in the surrounding villages, the management team, Ministry of Environment, and Waqf land stakeholders.

C. Data Gathering Methods

Documents related to protected areas in Lebanon are examined to investigate the process of the designation of protected areas and the rules regulating the protected area and the local communities. These documents help in the processes of contextualization and verification of data in later stages (Van Onselen, 1993).

1. Ministry of Environment

A relevant respondent from the Ministry of Environment is interviewed in order to understand the process of allocation of protected areas in Lebanon and the management systems of such protected areas in general. Semi-standardized interview is conducted to identify the history and process of the allocation of protected areas in Lebanon and their extent of success, in addition to the relation between the protected areas and rural communities and the integration of rural communities in the declaration process of protected areas.

2. Management Team of JMBR

A relevant member from the management team of Jabal Moussa is addressed to understand the process of allocating Jabal Moussa Biosphere Reserve, the challenges that were faced during its allocation and the challenges still faced today in addition to the management plan followed in this reserve. A personal interview is conducted with the respondent in order to understand the perception of these individuals towards the efficiency of the protected area, the relationship of the management unit with the local people, and how the rural communities are helping or hindering the conservation process.

3. Local Communities

A total of 61 random respondents are approached (32 respondents approached through focus group discussions and 29 respondents approached through personal interviews). Respondents' selection was area based: 31 respondents residing in close proximity to the JMBR (mainly in Yahchouch, Chouan and Qehmez); 16 respondents residing in the villages surrounding JMBR but distant from the JMBR (mainly in Ghbele and Jouret el Termos); and 14 respondents living in villages within Keserwan district but far from JMBR (including Ghazir, Bazhel, Okeibe, and Kfour).

Three focus group discussions (FGDs) are held targeting a total of 32 young locals to discuss youth's perception of conservation especially that the young generation plays a significant role in the sustainability of nature conservation. At this stage, focus group discussion is chosen for the practicality of this method and to reveal the general

collective perception of the young generation towards protected areas (Berg, 2001b; Morgan & Spanish, 1984).

A total of 29 local citizens residing in the villages surrounding Jabal Moussa are interviewed through semi-standardized personal interviews to collect individual experiences and detailed personal perception towards conservation and protected area (Berg, 2001b). Standardized questions on the socio-economic conditions are inquired for the aim of analyzing statistically the correlation between the respondents' conditions and particular attitudes. These respondents include key-note interviewees, farmers, women, youth and marginalized citizens. Each participant is interviewed only once, and each interview lasted for 15-30 minutes.

Interviews/FGDs with local communities are conducted for the sake of understanding their perception towards nature and conservation in general and protected areas in particular; their extent of dependence on natural resources for their livelihoods; the socioeconomic changes that occurred due to the allocation of Jabal Moussa a biosphere reserve; the relationship between the rural people and the management team; and the ways in which Jabal Moussa altered space materially and discursively ("How did the components of the setting change with time and with the designation of the protected area? What does the creation of new places through conservation intervention do to the places being symbolically and materially remapped by conservation topologies? How do these productions of space alter local social relations with people's surroundings?" (West et al., 2006 p. 264)). The aspects that are considered during interviews comprise: economic impact; socio-cultural impact; and political impact.

D. Methodology Framework

The empowerment framework designed by Scheyvens (1999) for the analysis of the impact of ecotourism projects on local communities is considered for the development of customized questions that were addressed to respondents in order to reveal the impact of the protected area on rural communities' development. This framework attempts at emphasizing the significance of local communities having control over any local initiative and sharing in its benefits.

In addition, the methodology adopted in this study is influenced by the Sustainable Livelihood Framework (SLF). The SLF is an instrument used for the investigation of poor people's livelihoods through exploring the main factors of influence. The SLF displays local communities as living in a vulnerability context within which they have access to livelihood assets (human, natural, social, physical and financial capital). The values of these assets are determined by transforming structures and processes (social/institutional/governmental factors) that influence the livelihood strategies that are sought by people for the sake of achieving livelihood outcomes (Chambers & Conway, 1991). In compliance with the SLF, this study adopts the approach of centralizing local communities throughout the research process. However, this study differs from the SLF by exploring any historical change of livelihoods with respect to the allocation of Jabal Moussa Biosphere Reserve instead of exploring the current static factors and influences affecting livelihood strategies (Scoones, 2009).

About 2 months are spent in the local villages for the conduction of interviews. During these visits, observations are held for the setting, the behavior of the people and their way of living. These observations help in better understanding the larger context of these communities and help in validating or questioning the data collected from

interviews and focus groups (Morgan & Spanish, 1984; Hammersley & Atkinson, 2007).

The Framework developed for determining the impact of protected area on local communities is represented in Table 2. The framework is inspired by Scheyvens (1999) framework for determining the impacts of ecotourism initiatives on local communities and by the Sustainable Livelihoods Framework taking into consideration Scoones (2009) critics and arguments of the importance of addressing questions across four significant themes: knowledge, politics, scale and dynamics.

Table 2: Framework determining the impact of protected areas on local communities inspired by Sheyvens (1999)

	Signs of empowerment / disempowerment
Economic empowerment	- Are there any signs of economic development (infrastructure; access to resources; access to technologies…)? - Was gain equally distributed among local communities or did it go to local elites, outside operators, government agencies? - How shifts in livelihood strategies emerged? Was the protected area behind those shifts? How did rural communities respond to such shifts? - Were livelihood strategies adopted before the allocation of the protected area more profitable than those adopted as a result of the allocation of protected area? - Did the protected area result in displacing rural communities?
Psychological empowerment	- Is self-esteem of community members enhanced because of outside recognition of the uniqueness and value of their culture, their natural resources and their traditional knowledge? - Did the increasing confidence of community members lead them to seek out further education and training opportunities? - Did vulnerable groups (women, youth) gain access to employment and cash hence increasing their status?

	- Were rural communities denied access to essential resources for their livelihoods hence resulting in confusion, frustration, disinterest or disillusion with the protected area? - Did the protected area offer rural communities any recreational opportunities hence increasing their welfare and satisfaction?
Social and Cultural Empowerment	- Is community cohesion improved as individuals and families work together in developmental projects? - Were funds used for community development purposes? - Do individuals, families, ethnic or socio-economic groups compete with each other for the perceived benefits of the protected area instead of cooperating? - Are there feelings of resentment and jealousy? - Are outside values being adopted by local communities? Are local communities losing respect for traditional culture and elders? - How did the protected area affect the components of the setting? Did it end up preserving the natural landscape by limiting anthropogenic devastations or did it result remapping the setting symbolically and materially through conservation topologies and by hindering locals' relations with nature? - How did the changes imposed on the setting alter local social relations with people's surroundings?
Political Empowerment	- Does the political structure present a forum through which people can raise their concerns relating to the protected area? - Are rural communities engaged more in decision-making after the allocation of the protected area? - Does the management unit of the protected area seek out the opinions of community groups (including special interest groups of women, youths and other socially disadvantaged groups) and does it provide opportunities for them to be represented on decision-making bodies? - To what extent is participation being employed? Are rural communities being engaged in decision making or merely treated as passive beneficiaries? - Do national policies engage rural communities in conservation processes? - Do national policies protect the rights of rural communities? Are rural and urban right equally protected within national policies?

	- How conservation acting under a laissez-faire neo-liberal economy create both processes of marginalization and opportunity?

E. Data Analysis

In this research, data analysis is sequential starting at the onset of data collection. Data is explored inductively using content analysis and categories, and explanations are generated accordingly. Data is categorized according to 1) the extent of harm or beneficence posed by the protected area on the different aspects of local communities: economic, social, psychological, cultural and political and 2) people's perception towards nature, conservation and protected areas. The data, relevant to each category, are identified and examined through the 'constant comparison' process; each datum is compared with the rest of the data to form analytical categories. Then, analysis is taken forward beyond the basic descriptive process towards a more analytic induction; the investigator gives propositions about the data and gives recommendations comprising the different categories.

In addition to the qualitative analysis, statistical analysis (chi-square test) is conducted to analyze the correlation between the respondents' socio-economic characteristics and their particular attitudes. Statistical analyses are performed using SPSS version 20 computer software program.

F. Limitations

This study is qualitative in nature and the quantitative analysis included is very basic and minimal as the study aims to evaluate social phenomena instead of counting and identifying statistically a representative set of respondents (Berg, 2001a). This might seem as a drawback for many researchers who prefer quantitative analysis over qualitative.

The results are based on the assumption that respondents' answers were objective; however, their opinions, which are subjective in nature might not reflect actual findings for the questions addressed in this research.

Data collection method, based on the random selection of respondents, might end up in the under-representation of direct beneficiaries of the PA or the people directly harmed from the PA.

G. Ethics

Qualitative research induces confidentiality considerations and participant's protection (Shaw, 2008). Throughout data collection, the researcher respected respondents' privacies and asked their consents before starting any interview; respondents were given the freedom to skip any question they do not feel like answering and to stop if the they were uncomfortable. The researcher ensured that respondents understood the purpose behind the study; respondents have the full right to understand the purpose and methods used in the study and to be protected from harm (Berg and Lune, 2004).

This research induces confidentiality considerations and participant's protection. During the implementation of the study and within the resulting documentations the names of the people and any description that might reveal their identities were never identified.

CHAPTER III

RESULTS AND DISCUSSIONS

A. Demographic and Socio-economic Information

1. Characteristics of the respondents

Quantitative data on demographic and social characteristics were collected and analyzed based on semi-structured interviews with respondents. Respondents were asked about their age, gender, marital status, working status, and educational background. Direct questions targeting family income were not raised, but respondents were divided into 3 categories (Category I, II, and III with Category III being the wealthiest) based on the predictions made out of other indicators (school or university attended, profession, assets owned…). Respondents from 3 zones were targeted: 31 respondents residing in Zone A - living very close to the JMBR; 16 respondents residing in Zone B - living in the villages surrounding JMBR but distant from the JMBR; 14 respondents living in Zone C - living in villages within Keserwan district but far from JMBR.

2. Demographic and Socio-economic Characteristics

The age range distribution of the respondents participating in the personal interviews showed that 32% of the respondents are in the 18 - 30 age group, 14% in the 31 – 40 age group, 22% in the 41 - 50 age groups and 32% are above 50 (Table 3). The average age of the respondents was within the range of 31 - 40 years. With regards to

marital status, respondents were equally divided between single and married. 69% of the interviewed respondents were males and 31% were females. Most of the respondents (34%) attended university, followed by 28% who are illiterate, 21% can read and write, and 17% reached Secondary Level.

Table 3: Distribution of Respondents of the personal interviews by age, gender and education status

Age Group	**Frequency**	**Percentage**
18 - 30	9	31
31 - 40	4	14
41 - 50	6	21
Above 50	10	34
Gender		
Male	20	69
Female	9	31
Educational Level		
Illiterate	8	28
Read and Write	6	21
Secondary Level	5	17
University Level	10	34

The working status showed that 24% of households rely on the environment in their livelihood's strategies (small ruminants, farming, herb collection, camping site). Only one household rely completely on the environment for its livelihood by growing small ruminants. Most respondents in the current study are engaged in the services sector (80%). Around 15% of households are engaged in agricultural practices, 5% are engaged in construction and about 2% in intellectual services. Predictions on households' wealth status revealed that 24% of respondents belong to Category I (have

a low wealth status), 50% belong to Category II (have a mid-wealth status) and 24% belong to Category III (have a high wealth status).

The Focus Group Discussions were conducted with 32 young people aged between 18 and 30 of which 44% were males. Almost all respondents were not married, and most were studying or searching for jobs. All participants are educated; 50% reached secondary level and 50% reached university. Most of respondents (80%) have a mid-wealth status (Category II), 10% have a low wealth status and 10% have a high wealth status.

B. The Allocation of JMBR: Bias Against Rural Inclusion

Jabal Moussa is owned mainly by the Maronite (Roman Catholic) Patriarchate and several Church endowments and was used by neighboring villages for forestry, charcoaling and small-scale pastoral and agricultural activity. The land was accessible by all people and was rented by those charcoaling practitioners. After realizing one day that there were efforts to construct a road in the mountain nearby the famous Roman Road and Emperor Hadrian's forest inscriptions for the aim of facilitating charcoal extraction, a group of "local nature lovers and their urban friends" were worried about the health and the future of the mountain and therefore formed the Not-For-Profit Association for the Protection of Jabal Moussa (APJM) NGO for the aim of conserving the cultural and natural heritage of the mountain. Since most of the land is privately owned by the church, turning it into a Nature Reserve was not possible according to the Lebanese legislation that states that Nature Reserves are allocated on public lands. The only solution these nature lovers had was to rent the land and protect it themselves.

APJM negotiated and funded a 10-year lease contract with the religious endowments to rent large areas of the mountain. APJM then turned to various international denominations to convince the Lebanese Government of the importance of the site: becoming a UNESCO Biosphere Reserve in 2008, a Global Important Bird Area (according to BirdLife International criteria) a member of IUCN in 2009 and an Important Plant Area and Key Biodiversity Area. According to Jabal Moussa manager, renting the land, gives APJM the right of land ownership. APJM currently manages the biosphere reserves.

Local communities never had a say in the allocation of the biosphere reserve, were neither consulted nor included in the allocation process. Their exclusion resulted in having negative perceptions towards the biosphere reserve and its management unit. Many of the locals expressed their dissatisfaction towards Jabal Moussa founder "Let him – APJM founder - protect his own village instead of protecting mine. Does his love for nature stand in the face of his wealthiness and economic development? He - *the president of APJM* - owns a cement manufacturing company in Chekka and hence is damaging nature in order to gain wealth. Then he decides to be environmentally friendly and protect nature in my village and restrict us from using our land." "The founder of APJM lives in a village facing the mountain… He just wants a beautiful view on his balcony; he never cared about the environment". "What I could not understand is why the founder is buying so much lands all around the protected area… There is something not right about this man."

Regarding the founder an outsider and the lack of trust in his intentions prevent the locals from seeing any positive potentials of the biosphere reserve and from valuing the efforts of the management unit even if the reserve hasn't affected these locals

negatively. The allocation of Jabal Moussa reserve, which could be regarded as a rural development tool, has ended up ignoring the poorest people and the most vulnerable communities. Chamber (1983a, 1983b) revealed the failure of outsiders to help in developing the rural poor stressing on six biases - spatial, project, person, dry season, diplomatic, and professional biases - that prevent outsiders from reaching and understanding the poorer people. Of these biases, “person” and “professional” could be considered applicable in the case of JMBR preventing the reserve from reaching poor people. The people with whom APJM was in contact for the allocation of the BR and from whom they obtained feedback are biased against poorer people; where the “elite bias” and “active biase” could be applicable in such context as the elite most influential and most active individuals end up being recognized by PA management unit. “Professional biases” is as well applicable in such context as specialization prevents the observers from understanding and accepting the truth based on the views of the poor communities and from understanding the linkages of rural deprivation which is a web in which poverty, physical weakness, isolation, vulnerability to contingencies and powerlessness all interconnect. However, professionals, focusing on conservation and environmental protection, end up examining only parts of the truth. “Professionals in rural areas become even more narrowly single-minded. They do their own thing and only their own thing. They look for and find what fits their ideas” (Chambers; 1983a, p.23).

C. Biosphere Reserve Shifting Land Use

In light of environmental degradation in Lebanon, one cannot disregard the need for conservation actions. The high activity of quarries in Qehmez reveals the importance

of JMBR in conserving the region's landscape and heritage specially that APJM gives a significant importance for cultural monuments in the reserve.

On the other hand, APJM is restricting the practice of traditional activities in the region. Of the greatest impacts of PAs on rural communities worldwide is displacement. In the current study, shepherds, charcoal extractors and hunters were among the groups displaced by JMBR bearing in mind that "displacement" includes the restriction to access resources even without direct physical removal. According to the respondents, agriculture and charcoaling were highly practiced during the 90s, but these practices are declining due to the challenges facing such livelihood strategies including vulnerability to climate change, lack of social security, lack of supportive policies, and lack of interest for coming generations. Almost all respondents pointed that JMBR did not have any direct negative impact on the decline of these livelihood strategies; however, its management exerts pressure on some of these practitioners (especially small ruminants) and is not encouraging the sustainable agricultural practices that hold significant potentials for fostering Food Security. Shepherds (three local shepherds were indicated by APJM and the interviewed respondents), being main users of Jabal Moussa land before its allocation a biosphere reserve, were never convinced of JMBR aims, and tended always to break the reserve's rules. After the rising of several conflicts with the shepherds, JMBR management unit allocated a specific path for the movement and grazing of herds; however, shepherds did not comply by these rules, and one of them kept on moving throughout the reserve resulting in fines issuance by the MoE. According to the shepherd's family members, he was doing good for the reserve upon passing the herd, and taking the herd to graze in the limited allocated path was a favor he provided for the management unit since the specified path was not enough to feed his

small ruminants. The dissatisfaction of such stakeholders towards the reserve's rules reflects the lack of debates between land users and JMBR management unit and policy makers.

In addition, farmers living in Zone A had other plans for the mountain specifically those living in Qehmez, one of the most marginalized villages surrounding JMBR, where local inhabitants mainly work in agriculture, planting apples and tomatoes. The village also contains few herders and charcoal producers; however, herding and charcoal extraction have been decreasing in this village since they cannot sustain a wealthy livelihood especially with the competing international market. According to personal interviews with the citizens of this village, almost all citizens are against this protected area and are definitely not benefitting from it. According to the respondents, Qehmez, being located on about 1300m elevation, suffers from extreme snow during winter leading to the inaccessibility of all roads and the displacement of most villagers to lower areas. In addition, Qehmez suffers from a very weak infrastructure. These factors render Qehmez an 'undesired' village for visitors and inhabitants. A road was supposed to be established connecting Qehmez directly with the Mchati village further facilitating transportation to adjacent villages. However, this road was stopped upon the allocation of the protected area as the road passes through the JMBR area. Villagers were seeing in this road potential opportunities to develop their region since this road would have offered them various services. This road would have decreased transportations for farmers to deliver their crops. This road would have stayed accessible during winter due to its steep slope and rapid declining altitude; this would have also facilitated transportation and even offered the locals the possibility to stay in their home village during winter. In addition, this easy fast roadway would have

encouraged people to visit the village, hence activating the village and even increasing its population.

Adams and Hutton (2007) highlights the romanticizing images of non-Western primitive 'other' and 'ecological noble savagery' that argues that indigenous people who wish to preserve their right to land and conservationists who wish to conserve wild habitats for biodiversity share common interest and both would end up in sustaining biodiversity. However, the interests of indigenous people and their priorities might be very different from those of nature conservationists (Redford & Stearman, 1993; Redford & Sanderson, 2000). Indigenous people are not supposed to live up to the 'novel savagery' and 'ecological nobility' expectations of the Westerns (Redford, 1991). Instead, they might have the same desires, capacities and needs to exploit the natural environment, and there is no cultural barrier that hinders them from doing so even if the long term sustainability of natural resources is threatened (Redford, 1991). In this respect, rural communities have the right to develop their livelihoods and their villages; instead of inhibiting their development, biosphere reserves could be a main advocate for their development while securing nature protection. The main inquiry here remains how this could be accomplished. Many researchers consider the indigenous resource use systems as the ideal systems for development, and scientists have proved that indigenous people adopt methods that are superior to those used by other people. On the other hand, many experts have argued that indigenous people do have techniques that are more sustainable but under specific conditions - abundant land, low population density and a limited involvement with a market economy – which no longer exist. The Irapa-Yukpa Indians of western Venezuela, for example, traditionally moved over an extensive area in search of game and plant food and ended up being stationary. Redford

(1991) argues that indigenous knowledge is extremely important as it reflects the accumulated wisdom of unique cultures, but in order to meet the needs of a given situation and the demands of development, a "mosaic of methods" should be adopted in which we learn from indigenous people and twist their methods through selecting, refining and innovating. By adopting the mosaic of methods, biosphere reserve's management could promote sustainable indigenous land use methods and back them up with innovation to ensure the sustainability of natural resources without hindering the development of rural communities.

1. Hindering Agro-Cultural Practices – the case of small ruminants

Jabal Moussa land was used for some agro-cultural practices including grazing activities that are now hindered by the BR. Surprisingly, a significant portion of youth appreciated shepherds although none would think of adopting this livelihood strategy. Around 43% of respondents expressed the negative impact of protected areas on shepherds. Six participants highly stressed on the importance of conserving such practices and encouraging their practitioners to continue their adoption of such a harsh livelihood strategy. In Lebanon, the small ruminant's production is threatened with extinction due to the serious challenges it faces related to the know-how, marketing, labor fees, feeding cost and grazing potential (Hosri et al., 2016).

In assessing pasture-based farming and associated greenhouse gas emissions, A Greener World (2016) confirms that the most sustainable livestock production comes from pasture. Sustainable pastoralism has a positive impact on soil fertility, soil formation, and soil carbon, water regulation, pest and disease regulation, biodiversity conservation and fire management. In addition, it contributes to economic growth and

resilient livelihoods in regions that are exposed to unpredictable climates and natural hazards. Livestock pathways support greater biodiversity as a result of their direct and indirect effects of plants, below and above-ground consumers, predators and nutrient cycles (Manzano & Malo, 2006). Therefore, pastoralism enhances biodiversity, reduces soil loss, improves mineral and water cycling, maintains vegetation cover, reduces fire risks and improves connectivity between adjacent ecotones (Davies et al., 2012). Sheep and goat production have always been an important livelihood of the rural population in the Near East (Nygaard & Amir, 1988; Fitzhugh, 1987). However, the management of small ruminants in these countries is mostly extensive, with low productivity and facing numerous constraints (Economides, 1995). In Lebanon, the growth and viability of pastoralism is constrained by the lack of pro-poor policies that would promote the growth of pastoralism especially that smallholder livestock keepers, and pastoralists are among the most vulnerable to climate change (FAO, 2018). In addition, small ruminant dairy producers are among the Lebanese communities most negatively affected by the Syrian crisis (Mercy Corps, 2014). These are among the most marginalized communities lacking access to resources, knowledge, and market. Marginalization is further expressed by the weak availability of data on pastoral areas, weak understanding of pastoralism, and low degree of consultation with pastoralists in investment and development planning (Davies et al., 2010). According to farmers perceptions in West Bekaa of Lebanon, the major constraints faced by small ruminant farmers include limited governmental role in regulating the market and controlling the border, lack of financial and veterinary services and inadequate policies regulating land use and pasture management (Chedid et al. 2018). Therefore, special attention should be focused on these threatened communities which have been further marginalized by conservation

practices and PA allocation. According to an interviewed shepherd, although other grazing lands might exist elsewhere, the JMBR has made their livelihoods more challenging.

2. Sense of ownership towards the land

All respondents from Zone A expressed a sense of ownership towards JMBR land. Respondents who used to practice certain activities in the land (20% of respondents) expressed a stronger sense of ownership. Although the Roman road and Roman stairs have been famous in the reserve and experts have been investigating the heritage of the mountain, one of the respondents claimed out that: “My grandparents lived in this mountain and they, among others, built the stairs and the house that the management team call “Roman” just to gather more visitors hence more money.” Similarly, local citizens surrounding two East and Central European (ECE) national parks maintained a strong place attachment to the protected lands (Petrova et al., 2011). Some local respondents are not satisfied at all neither of having to pay to enter the biosphere reserve nor of having to stop practicing some of the activities that were freely practiced prior to the allocation of the PA. This sense of ownership renders “participation” and “inclusion” of local communities in the PA harder specially when inclusion is being planned and managed by people regarded as “outsiders”. The strong sense of ownership local respondents revealed towards the land could have been taken as granted by APJM founders in order to protect the land through triggering local social movements instead of the employed top-down movement. Social movements can result in a unique approach to biodiversity conservation through the cultural politics they enact. This approach is understood in terms of territorial defense, cultural difference and

some measure of social and political autonomy (Escobar, 1998). When seen from this perspective, Escobar (1998) argues that particular challenges within biodiversity debates (such as territorial control, alternative development, intellectual property rights, genetic resources, local knowledge, and conservation itself) take on new forms as whenever they are not limited to the managerial and economizing instructions offered by dominant powerful actors. The entire conservation network would be transformed by placing these debates in the context of the political ecology of social movements, and marginal sites - including local communities and social movements - would transform into emergent centers of innovation and alternative worlds developing a political strategy for the defense of their territory, culture, and identity. Instead of strictly separating the biophysical, the humans, and the supernatural worlds, social movements could shift biodiversity into a "construction constituting a powerful interface between nature and culture and originating a vast network of sites and actors which concepts, policies and ultimate cultures and ecologies are contested and negotiated" (Escobar, 1998 p.75). In Latin America, in countries such as Peru, Ecuador, Colombia, Bolivia and Brazil, significant experiences have taken place in this regard, mainly in conjunction with the demarcation of collective territories. For example, the social movement of black communities of the Colombian Pacific region, could be described as a cultural and ecological attachment to a territory and represents a cultural politics that is highly impacted by ecological concerns, including biodiversity. Escobar (1998) values this social movement by its establishment of an alternative political ecology framework for biodiversity debates as it articulated a link between nature, culture, and development hence revealing that work, nature, social life, and culture can be organized differently than dominant models of culture and the economy mandate.

D. Impact of JMBR on Livelihoods

The conducted interviews and focus groups discussions revealed that the biosphere reserve has different impacts on rural residents who are characterized by differential perceptions and needs. Within such heterogeneous communities, finding a middle ground that would satisfy all stakeholders, sustain natural resources and support local development becomes more challenging and requires extensive communication and interdisciplinary inclusive plans. One-size-fits-all policies do not provide adequate solutions for degradation and poverty challenges. In such contexts, the diversity of locals' perceptions, needs and livelihoods should act as a starting point for sustainable development, poverty alleviation and resource management (Ruben & Pender, 2004). This section describes people's perceptions and the impact of the biosphere reserve on the local communities, reflecting on the biosphere reserve concepts and recommending inclusive solutions for the raised challenges.

1. Conservation Consolidating the Separation Between Humans and Nature

The personal interviews conducted showed that respondents found difficulties in explaining their perceptions of nature revealing that they seldom discuss or think of their relations to the environment. They found difficulties in answering questions like "What does nature mean to you/ how do you perceive nature?". The semi-structured interviews led them thinking of values they haven't thought of before and helped them express their perceptions, feelings and thoughts. By asking facilitating questions and aiding respondents express their thoughts, the interviews and FGDs revealed the significance of discussing people's perceptions as it leads to conscious thought on

environmental values and threats. This was reflected by respondents' feedback pointing out "we never thought of this before / this discussion made me aware of this issue / in fact, after asking me this, you made me think of…". Similarly, the unconsciousness of people's connection to or perception of nature was stated by Schultz et al. (2004) who revealed that the connection or relationship people feel with nature is unconscious or implicit, and the use of techniques such as perspective taking could be useful in bringing people's awareness of their connection to nature to a more conscious level. Although changing the perception of individuals on their relations with nature is quite impossible through such techniques, making people more aware of their views would lead to conscious thought on the issue (Schultz et al., 2004). Engaging local communities in discussions relevant to nature conservation and local livelihoods is missing in Jabal Moussa Biosphere Reserve which should offer an open space for communication opening up forums for the exchange of ideas and perceptions to ensure that 'silent' voices are heard and taken into account. Such practices are highly significant as they tend to enhance social cohesion between different stakeholders, clarify locals' perceptions and result in better strategies complying with the different stakeholders needs.

In the current study, the results of the personal interviews are in compliance to the focus group discussions, revealing people's concern for the environment; almost all respondents (90%) appreciate nature's values. Around 70% appreciate the recreational services that nature offers for citizens, 56% stated that nature is essential for the livelihoods of rural citizens and 30% expressed the significance of nature in securing humans' health through the ecological services it provides. Only 24% of interviewed households depend on nature in their livelihood strategies. Personal experience is

significant in affecting personal perceptions. Research has revealed that loss of daily interactions with nature decreases people's appreciation of the natural world (Soga et al., 2016). In the current study, since most respondents use nature as a source for recreational activities, but a low share of respondents use nature in their livelihood's strategies, more participants appreciate the recreational value of nature than they perceive its empowerment value. Schultz (2000, 2001) examined the type of concern people have for the environment and discovered three different types of concern: egoistic (concerns for self - my health, my future, my lifestyle, me), altruistic (concerns for other people - people in my community, all people, children, my children), and biospheric (concerns for the biosphere - plants, animals, marine life, birds) (Schultz 2001; Stern & Dietz, 1994). In the current study, interviewees' feedback on the importance of nature were more oriented towards egoistic and altruistic concerns. Schultz (2001) argues that people's increased level of separation between themselves and nature is in close affinity with their egoistic and altruistic concern for nature. Reducing the level of separation between people and the environment is important to increase people's biospheric concern (Schultz, 2001). Conservation has been argued to increase the separation between rural communities and their environment. In this respect, Cronon (1996) criticizes conserving wilderness as it results in the separation of "wilderness" and "human" which is further stimulated by the idea that wilderness survival could be only achieved in the absence of human beings suggesting that any nature use is abuse denying any middle ground in which responsible sustainable use could result in a balanced relationship. In addition, Cronon (1996) argues that one of conservation drawbacks is that it privileges some parts of nature at the expense of others rendering us dismissive or contemptuous to humble places and to the nature found all

around us; Cronon highlights the importance of honoring nature within and next door as much as we respect the exotic species living far away. The solution is in discovering a common middle ground in which all things from the city to the wilderness can be encompassed in the word "home" hence removing any boundaries between human civilization, technological advancement and nature. People living in Zone A in this study implied for the concept of "home" highlighted by Cronon (1996). Their personal experience and their close relationship to nature was clear in some of their expressions: "saving nature should not be through a project or an activity; it should rather be a lifestyle"; "nature should not be protected from us; we do not harm nature and our activities held in the mountain have been practiced for so long that they are part of the natural ecosystem now"; "they – *Jabal Moussa management unit* - are harming the ecosystem if they do not let us – *shepherds* – practice grazing that has been a cultural practice held by our grand-parents and should be conserved for the next generations". Similarly, foresters and farmers in Germany are not sympathetic to conservation law and practice that seek the status quo in nature as they appreciate traditional ways and regard them as a sign of responsible management and a manifestation of best practice through shared management norms (Stoll-Kleemann, 2001).

Modern constructions tend to strictly separate between human, biophysical and supernatural worlds; however, local models are often based on links of continuity between the three spheres and are embedded in complex social relations that could not be simplified and reduced to modern, capitalist terms (Escobar, 1998). Instead of increasing people's connectedness to nature, biosphere reserves follow "modern constructions" manners further separating communities from the environment by dividing areas into core, buffer zone and development zone. As human population

increases, uninhabited wild zones are decreasing and protected areas' "core zones" are not enough to protect existing wildlife. Therefore, considering ourselves part of the ecosystem and adopting our ancestral skills of respecting wildlife is essential for the conservation of our environment. Biosphere reserves could play significant roles as learning sites to further promote sustainable lifestyles. Shliep and Stoll Kleeman (2010) highlighted the potential role BR can play as 'learning sites' for sustainable solutions in regional development. However, before being a learning site for the development of regional strategies and programs, biosphere reserves could play an important role as experimental sites for local and surrounding communities in which the upcoming generations have a weak engagement in agro-cultural activities and a low level of connectedness to nature. Biosphere reserves could be perfect candidates for the representation of this 'home' in which rural livelihoods and nature conservation are regarded as a single entity and never separated by boundaries; it is only then that communities would develop their biospheric concerns and hence respect the 'boundaries' that wildlife needs.

3. Socio-cultural Impact of JMBR

a. Perceptions towards conservation

All respondents are aware about the environmental threats in Lebanon and are aware of the importance of conserving natural resources. Around 45% of the respondents appreciated JMBR conservation efforts in protecting nature; on the other hand, 33% of the respondents revealed that conservation is important, but its

implementation should be modified as it tends to harm locals, and 21% revealed the uselessness of the current conservation practices.

Three themes emerged describing the positive perceptions residents have: recreation and aesthetics, environmental preservation, and economic benefits. Around 68% of the respondents appreciate the role of JMBR in preserving landscapes and green areas further highlighting the prevailing environmental degradation in Lebanon, 33% value its role in creating new job opportunities, and 12% pointed out the significant role of eco-tourism in the BR. On the other hand, four themes emerged describing the negative perceptions: negative economic impacts, negative impact imposed on culture, negative impact of wildlife, and limiting recreational activities. Among the interviewed respondents, 30% highlighted the negative impact the BR on the cultural aspect of their village through increasing waste and increasing visitors' numbers hence destructing the authentic "rural values" of their region. Respondents noted that the infrastructure in their villages are not accommodated to receive this big number of tourists. Around 43% of respondents believe that protected areas limit access to livelihoods. Similarly, 43% stated the negative impact of protected areas in limiting free recreational activities, and 19% of the respondents pointed out the negative impact wild animals have on rural communities. Similarly, restrictions on the use of natural resources and problems with wildlife were expressed by local communities residing around protected areas in Nepal (Allendorf, 2007), and damage caused by the conserved wild animals has been a significant cause of conflicts between many rural communities and PAs worldwide; this was witnessed for example in Wisconsin (USA) against wolves (Naughton-Treves et al., 2003), by the Norwegian sheep farmers against large carnivores (Røskaft et al., 2007), and against wildlife in general around Selous game reserve in Tanzania

(Songorwa, 1999). These negative attitudes highlight the need for some interventions in the area including waste management and infrastructure upgrading, in which APJM could play a major role.

These differential perceptions highlight the inefficiency of one-size fits all regulations in conservation. In order to reduce the negative impact of conservation while increasing its benefits, King and Peralvo (2010) - based on their research in rural South Africa - argue that detailed information about partnering communities is required. Understanding the different perceptions of local communities is highly recommended prior to the allocation of a more efficient inclusive PA and throughout the conservation action. This has been lacking in JMBR where communication with local communities has been very weak throughout the allocation process and the conservation strategy.

b. Lack of perceived benefits

Respondents perceiving the efforts held in JMBR as useless held high expectations for the biosphere reserve's impact on rural communities and could not perceive any extra benefits that JMBR is accomplishing although many did perceive the environmental benefits of protecting nature. On the other hand, according to JMBR management team, the reserve has initiated influential developmental projects in addition to the significant conservation efforts that have been conducted (conserving vulnerable species, planting wild trees…). Developmental projects include a kitchen for local women, capacity building and assets support for beekeepers, and the creation of job opportunities (guides and gate keepers) for local communities. In addition, according to the management unit, JMBR has been protecting the land from anthropogenic devastations, and if it wasn't for the allocation of the PA, the land would have been totally consumed by quarries. Many

projects implemented by JMBR management unit focus on the cultural heritage of the land, reviving the history of Jabal Moussa, and rehabilitating Roman Stairs. However, the respondents did not appreciate these projects and studies conducted.

The importance of these activities was not perceived by the locals who showed negative perceptions towards the reserve. This could be due to 1) the weak communication between APJM and the local communities and 2) to the different aims and priorities these two entities hold. The lack of communication between JMBR and the local communities was expressed by both the local respondents and the management unit. Focus group discussions held recently by Saint Joseph University and APJM with local communities reflected the low knowledge people have on biosphere reserves and their aims (Barakat, 2019). This lack of communication results in conservation efforts not focusing on habitats and species valued by local communities for food, medicine or cultural significance; instead, conservation efforts end up reflecting Northern priorities towards rare, endangered species and habitats (Roe & Elliott, 2006). Adam and Hulme (2007) argue that conservation is highly political and debates about what should be done and how are inevitable; the most important inquiries about conservation are who should set the objectives for conservation policy on the ground and how should trade-offs between the diverse objectives of different interests (e.g. biodiversity preservation and local livelihoods) be negotiated *(*Adam & Hulme, 2007). All protected areas related issues should be well communicated with local communities and all projects should be planned and decided on with locals – which has been missing in JMBR.

In addition, the lack of trust between the locals and the management unit impede locals from perceiving any benefits resulting from the APJM efforts. According to 30% of the respondents, benefits are not distributed equally among the stakeholders, and APJM is

the main beneficiary in this process. Therefore, social trust (based on social connectedness or perceptions of shared identities) is lacking due to the weak communication between APJM and local communities, and rational trust (based on expectations of reciprocity and benefits from the relation) is lacking due to the failed expectations that locals had and to the unperceived impact of the reserved explained above.

c. Relationship between Socio-economic Characteristics and Perceptions towards Biosphere Reserves

Chi-square results show a significant association between respondents' proximity to the reserve and their perception towards conservation ($X^2(4)>=16.121$, p=0.003). The 90% of the respondents who revealed the usefulness of conservation or the harm conservation imposes on livelihoods live in close proximity of the reserve; while almost all participants living in Zones B and C believe that conservation is highly needed. Personal experiences of people living in close proximity of the reserve might be behind their negative perceptions of conservation. Durrant and Durrant (2008), by investigating the Mount Kilimanjaro Community Conservation Service (CCS), revealed that residents' attitudes are highly connected to the amount of exposure to conservation that locals have encountered. Similarly, survey results in National Parks in Ecuador indicated that local residents living either within or adjacent to the National Park hold a variety of negative attitudes towards the Park (Fiallo & Jacobson, 1995). In addition, a significant association is revealed between respondents' employment and their perception towards conservation ($X^2(2)=18.671$, p=0.000) and between respondents' age and their perception towards conservation ($X^2(4)=17.549$, p=0.002). Respondents

having livelihoods strategies related to the environment (e.g. farming, collection of herbs), and who usually belong to the older generation, had more negative perceptions towards conservation practices. The results of this study show how those who depend on ecosystem services are the most vulnerable communities affected by conservation practices. This is in compliance with Kumar and Yashiro study that assessed the significance of ecosystems services for poverty alleviation, especially in South Asia and Sub-Saharan Africa. Furthermore, Kumar and Yashiro (2014) argue that by being among the poorest and most powerless in their communities, those who depend on ecosystem services tend to benefit less from nature conservation activities than those who are not poor.

In the current study, neither the level of education ($X^2(6)=10.797$, $p=0.095$) nor the level of wellness ($X^2(4)=5.659$, $p=0.226$) impacted people's perception towards PAs. Many studies revealed that socioeconomic characteristics play a moderating role in people's attitudes towards PAs (e.g. Fiallo & Jacobson, 1995; de Boer & Baquete, 1998; Mehta & Kellert, 1998; Holmes, 2003). However, in many other cases, individuals with higher level of education have been found to have more positive attitudes towards conservation and protected areas (Infield, 1988; Heinen, 1993; Akama et al., 1995; Fiallo & Jacobson, 1995; Mehta & Heinen, 2001). In National Parks in Ecuador, respondents' level of education and knowledge about conservation issues led respondents to have more positive views about the parks (Fiallo & Jacobson, 1995), and King and Peralvo (2010) revealed that the level of education shapes the views of households towards the reserves as in South Africa where respondents with formal education were with the expansion of Mahushe Shongwe reserve (King & Peralvo, 2010). In light of the current results, one cannot but note that environmental awareness

in Lebanon is very minimal as students in schools and universities do not take courses on the Lebanese environment, the importance of the local species and the threats facing each – unless they are specializing in environmental majors. Therefore, education is not a reflection of the extent of how well people know about their local environment. People are aware of the environmental challenges faced in Lebanon through social media and their daily encounters; however, they are unaware of the importance of wild species and their ecological role in sustaining the environment; most people regard wild animals, even the most peaceful ones, as beasts, and people are still attached to some of the old myths related to wild animals.

Other potential factors influencing locals' perception and satisfaction are receiving benefits from the BR and their relationship with the management unit. In the current study, receiving benefits from the BR and having a good relationship with the staff did not impede some respondents from expressing their distrust towards the management unit and the uselessness of the biosphere reserve in developing rural communities. On the other hand, many studies have argued that people's perceptions of management bodies play an important role in people's attitudes toward conservation and protected areas (e.g. Machalilla National Park, Ecuador (Fiallo & Jacobson, 1995); Botswana (Parry & Campbell, 1992); Tanzania (Newmark et al., 1993; Holmes, 2003); Nigeria (Ite, 1996); Beliz (Alexander, 2000); Uganda (Adams & Infield, 2001; Infield & Namara, 2001); South Africa (Picard, 2003); Ecuador (Fiallo & Jacobson, 1995) and Kenya (McClanahan et al., 2005)). The current study reveals that benefitting economically from the biosphere reserve and having a positive relation with the management unit reduce conflicts between locals and the management unit; however, they are not enough in convincing locals about the efficiency of the BR and its social

and environmental impacts. This goes back to 1) the weak communication between local communities and BR managers, 2) the exclusion of locals in decision making and 3) the lack of sense of ownership towards the BR. Local ownership in this respect is highly influential; in order for locals to be highly satisfied about the PA mission, plan and activities, locals should be part of the decision-making body and should be integrated in the project development process as the major, most prioritized stakeholders.

This study points out that socioeconomic interventions are not enough to improve locals' attitudes towards BRs. Instead, understanding people's perceptions is highly significant in this respect; and using local residents' perceptions as a starting point to improve the PA-locals relationship can yield efficient and targeted interventions that are useful for local communities and PAs (Allendorf et al., 2006). Allendorf (2007) argues that demographic and economic characteristics explain some, but not all, of the relationship that people have with a protected area; therefore, understanding locals' perceptions from their point of view is a must.

d. Lack of Environmental Awareness

JMBR does execute environmental awareness activities such as conducting awareness sessions in schools. Few participants (3) revealed attending an awareness session by JMBR when they were kids, but they do not recall receiving information on wild animals except the Hyrax which is JMBR's "charismatic species". Such flagship species are usually used to garner sympathy for nature and attract the attention of local and global stakeholders (Caro & O'Doherty, 1999). Focusing on these species might lead to the conservation of less charismatic taxa indirectly or might result in the

neglection of less charismatic species which are of equal ecological importance. In the current study, none of the respondents showed environmental awareness; none of them recognize the importance of wild species. Many respondents referred to wild mammals as “beasts”. When asked about wild species (hyena in particular), even the local respondents who themselves work in JMBR or those who have close relatives working in the BR considered this wild species as being dangerous to humans. Respondents were asked about the hyena in particular due to the bad reputation and misconception this species has (Abi Said, 2006). Similarly, the study on the socio-economic investigation of the region surrounding Jabal Moussa conducted in 2009 revealed the low environmental awareness of locals (Abi Habib Khoury, 2009). Therefore, JMBR is not having any positive impact on the environmental awareness of locals. This threatens the sustainability of conservation beyond the biosphere reserve boundaries and existence. Respondents from villages further away from Jabal Moussa revealed their ignorance about all what is related to Jabal Moussa; they have never been targeted in any of JMBR activities.

4. Economic Impact

The biosphere reserve has been supporting the livelihood strategies of locals by providing the following work opportunities: 5 full-time staff (ecotourism and conservation), 6 full-time guards and 20 guides on demand, 5 guest houses, 20-30 ladies working seasonally in JMBR kitchen and artisanal making. In addition, according to JMBR management unit, local people are engaged in many activities held in the reserve (e.g. trails opening, planting and research…). According to JMBR management unit, the engagement of the locals in JMBR activities is significant to develop the locals’ sense

of ownership and increase their knowledge and skills. In addition, ecotourism is an essential strategy in JMBR to support conservation and provide income for rural communities through 1) the generation of revenues that can be used to sustain JMBR and 2) the provision of local employment (e.g. guides, guest houses). Success stories from around the world have been documented on the positive impact protected areas and ecotourism have on rural economy (e.g. Philippines (Jalani, 2012); Peru (Stronza, 2007); India (Surendran & Sekhar, 2011)). In addition, the importance of ecotourism in poverty eradication was recognized by the UN General Assembly who developed a resolution entitled "Promotion of sustainable tourism, including ecotourism, for poverty eradication and environment protection". The resolution is based on a report developed by UNWTO Secretariat and includes recommendations on promoting sustainable tourism as a tool to fight against poverty and to promote sustainable development in a well-balanced and integrated manner (UNWTO, 2018). The report pursuant to the General Assembly resolution 67/223 on the promotion of ecotourism for poverty eradication and environment protection highlights the importance of locals' participation and recommends governments and relevant stakeholders to use tourism to engage local and indigenous communities in order to preserve indigenous knowledge, which might result in innovative tourism strategies promoting sustainable development. The report encouraged governments and relevant stakeholders as well to adopt practices and policies that would promote the full participation of local communities and the empowerment of women. However, the participation of local communities is not clearly defined and addressed in such documents. According to the critics of the participatory approach, participatory techniques simplify the lives of people in order to fit them into diagrams, charts and tables and obey the rules and boundaries of the methodological

tools (Kothari, 2001). Cooke and Kothari (2001) argue that even local knowledge might be shaped by what the agency was expected to deliver instead of identifying planning processes and outcomes. The participatory approach indicated by APJM was not appreciated by this study's respondents who never felt engaged in decision making procedures and who felt that the positive economic impact was very minimal benefiting only very few locals. Although APJM has been trying to engage participants in developmental activities, access to benefits from conservation is typically in the hands of JMBR authority. It is subject to rules of eligibility and compliance with a range of regulations. In such arrangements, there is ample room for elite capture of revenues (Adams and Hutton, 2007). This has been expressed by one of the participants who explained that "We cannot even benefit from tourists since usually the visits of big groups are managed by APJM; hence visitors are being 'boxed' and are being articulated upon the will of the management team benefiting only the association of Jabal Moussa". According to 30% of the respondents, benefits are not distributed equally among the stakeholders, and the management unit is the main beneficiary in this process. Power relations and inequalities have been argued of being at the core of the failure of rural development, and "participatory approach" tends to exacerbate power relations and inequalities empowering key actors over local communities (Lipton, 1982; Chambers, 1983; Patel, 2012; Kothari, 2001; Mohan, 2007).

In Lebanon, peoples' direct dependence on natural resources in their livelihoods strategies (e.g. pastoralism, charcoal production, collection of edible plants…) has been on the decline. This was strongly expressed by the respondents and the management unit. As a result, 30% of respondents expressed that protected areas in Lebanon do not harm locals economically due to the limited number of people depending on nature for

their livelihoods strategies. On the other hand, in Nanda Devi Biosphere Reserve, north-western Himalaya, India, all respondents regarded nature as significant to humans' livelihoods due to their strong dependence on nature for their livelihoods needs (Silori, 2007). In the current study, locals who expressed the negative impact of the JMBR on their livelihoods strategies were mainly located in Qehmez which is among the poorest villages surrounding the BR. Respondents explained that charcoaling and grazing were practiced prior to the allocation of the protected area, and that many people relied on these as a livelihood strategy. However, almost all respondents, mentioned that livelihoods that rely directly on the environment have been on the decline due to the changes in lifestyles and due to the high risks and low profits of such practices. Those relying on the environment remain the older generation or the poorest of the poor who do not own a land for agriculture and are incapable of going to the cities to work in services or construction. According to the management team, few livelihoods might have been altered due to the allocation of the JMBR (three to five households), but these are very few minorities in comparison to the benefits this PA is resulting in for the whole population. This is a major debate in conservation policies. Who matters more in this equation? Is it the minor community who used to rely on the environment for its livelihood or is it the major population who is benefiting from the environmental benefits and recreational values that the PA is incurring? By exploring the political ecology of conservation, particularly the establishment of protected areas, Adams and Hutton (2007) reveal the importance of considering the rights of indigenous people and the contextual relationship between biodiversity conservation and the reduction of poverty before the allocation of any conservation policies. In addition, Kohler and Brondizio (2017) further suggest that public policies and conservation programs should

consider locals' attitudes toward conservation and local needs and expectations even before delegating responsibility for managing protected areas to local and indigenous communities.

5. Political Impact

Based on the conducted interviews, rural communities were never engaged in decision-making throughout and after the allocation of the protected area. The sense of exclusion highly influenced their negative attitudes. In addition, as mentioned earlier, many respondents from Zone A consider the president and the appointed committee of the reserve as outsiders although the team is composed of people from surrounding villages. This has been highly observed in the allocation of PAs worldwide; in Ecuador, for example, locals perceived national parks negatively due to the lack of their involvement in the allocation and conservation process (Clay, 1985).

The participatory approach on which Biosphere Reserves are based was not implemented throughout the allocation of JMBR. As described by Mohan (2007), "participation has various meanings which are in danger of producing tautologies". During the allocation and management of JMBR, "passive participation" (Agrawal, 2001) has been implemented without influencing the decision-making process and the predetermined agenda.

The results of this study raise inquiries about the international policies of Biosphere Reserve allocation. Biosphere reserves are nominated by national agencies and are then internationally recognized by the MAB Program. The prerequisite of these reserves is to have three interconnected functions, conservation, development, and

logistical support. The “development” function states: “Development to foster sustainable economic and human development” (France Diplomatie). However, what constitutes sustainability and development and how to achieve them have not been elaborated. Therefore, such reserves end up being contradictory as local people’s concerns, needs and priorities are not required for the allocation of biosphere reserve, but development of these same people is targeted within the biosphere reserve functions.

The MAB Strategy (2015-2025) mentions local participation and empowerment through the following (UNESCO & MAB, 2015):

- Biosphere reserves recognize the role of traditional and local knowledge in ecosystem management focusing on a multi-stakeholder approach that emphasizes on the involvement of local communities in management, and often have highly participative governance systems.
- The fair and participatory planning for sustainable development in biosphere reserves takes into account the rights, needs and abilities of the youth, women and local communities, and their ownership and use of natural resources within biosphere reserves.
- Biosphere reserves act as models to explore, demonstrate and establish innovative approaches that promote the opportunities for youth and the resilience of local communities, through livelihood diversification, social enterprise and green businesses.
- Traditional knowledge is considered as a ‘knowledge input’ for the management of biosphere reserves while acknowledging the significance of maintaining cultural identity and of empowering local communities as guardians of this unique knowledge.

Within the Lima Action Plan and the 2030 Agenda for Sustainable Development and its Sustainable Development Goals, the Strategic Action Area A stresses on "The World Network of Biosphere Reserves consisting of effectively functioning models for sustainable development". The Action 2.2 urges to "Ensure processes for selecting, designing, planning, and nominating BRs are open and participatory, involving all concerned stakeholders, taking into account local and indigenous practices, traditions and cultures, and based on sound science" and Action 2.3 "Ensure processes for implementing, managing, monitoring and periodic review of BRs are open and participatory and take into account local and indigenous practices, traditions and cultures" (UNESCO & MAB, 2016).

Local participation, local knowledge and the rights and needs of indigenous people are well acknowledged within the above-mentioned strategies. However, as described, these could be identified by specialists and professionals rather than locals. Who should call for a biosphere reserve and indicate its priorities was not stated within these strategies. Nominating, designing, and planning BRs should be based on participatory approach and should include local communities, who in the above-mentioned processes are not given any privilege in decision making. All above mentioned recommendations keep the decision-making power in the hands of BR managers and do not restructure power relations keeping rural communities stuck with expressions like "participation; local knowledge recognition; local rights and needs taken into account" which might result in only passive participation and deceiving results as revealed in Jabal Moussa BR.

a. Urban Bias Versus Pro-Poor Conservation

APJM identifies the management plan for JM and indicates its regulations which are guided by the MoE rules and world class standards and global organizations. They include paying fees to access JM; restricting grazing to specific tracks, and limiting activities within JMBR... According to the management team, the BR might be imposing a negative impact on a very small number of people, but at the other hand, it is resulting in a positive impact for the whole nation as the environment is for everybody, and its conservation ends up benefitting all either through eco-tourism by giving the chance to all people (local, national and foreigners) to access the BR benefitting from its recreational values or by enhancing the public health specially with the pollution found in urban areas. This rational reflects the Urban Bias theory in which the PAs initiatives are benefitting those living in more urban areas than those living in rural areas. According to Lipton (1982), the failure of rural poverty eradication in developing countries is due to "urban bias" resulting in more resources being allocated to urban areas; the allocation of resources between rural and urban areas is not being based on neither equity nor efficiency but based on urban priorities (Lipton, 1982). In the case of biosphere reserves and protected areas, we would imply that urban bias theory is favored through prioritizing urban requirements over rural needs. The urban population is the one with a need for nature-related recreational activities (eco-tourism) and green spaces to preserve air quality and compensate for the resulting industrial pollution. Therefore, protected areas are being allocated and their policies are being put to meet these urban needs regardless of rural priorities. Lack of communication and lack of locals' participation in the allocation of Jabal Moussa further reflect this urban bias theory.

By considering pro-poor conservation, initiatives would consider poverty eradication and social justice as important as biodiversity conservation and even more important. According to Roe and Elliott (2006), "pro-poor conservation" builds on the often-ignored fact that conservation can be a tool as significant for poverty reduction as it is for protecting biodiversity and critical habitats. "Pro-poor" term is used to stress on the approach that is people-centered and locally driven and that is based on the aim of enhancing local livelihoods (Roe & Elliott, 2006). Therefore, biodiversity conservation would aim for fostering food security and poverty reduction. Pro-poor conservation would put poor people, their needs, perceptions and priorities at the center of decision making. Roe and Elliott (2006) suggest a typology for pro-poor conservation encompassing a spectrum of approaches including 1) "poverty reduction as a tool of conservation" (i.e. recognition of the importance of addressing poverty issues to accomplish conservation aims), 2) "conservation that does no harm to poor people" (i.e. conservation agencies provide compensation and mitigation measures whenever poor communities are harmed), 3) "conservation that generates benefits for poor people" (i.e. conservation remains the main objective but generates some benefits to the poor throughout its process) and 4) conservation as a tool for poverty reduction (i.e. social justice and poverty reduction are the overall aims). The overarching object in the mentioned approaches moves from focusing on conservation in the first mentioned approach to prioritizing poverty reduction in the fourth approach. In this respect, and in order to turn conservation into a tool for poverty reduction, protected areas and biosphere reserves in particular should play an important role as pro-poor conservation agents targeting both poverty and food security. PAs have significant potentials in promoting food security through mitigating and adapting to climate change, protecting

heterogeneous habitats and species, and conserving wild crop species. The interdependence of biodiversity and agriculture, and the important role each plays in the maintenance of the other make of PAs potential agents for enhanced food security (Chappell & LaValle, 2011). Protected areas offer a vital source of food as they comprise diverse edible plants and animals. Holding a rich biodiversity, protected areas affect agriculture directly through controlling pests and diseases and supporting soil fertility including recycling of nutrients, regulation of microclimate and local hydrological processes, suppression of undesirable organisms and detoxification of noxious chemicals (FAO, 2008; Chappell & LaValle, 2011). As a result, protected areas affect the food security status at the local level. In Costa Rica, for example, Guanacaste National Park benefits neighboring citrus plantations through ecosystem services such as pest control, pollination and water and nutrient supply (MacKinnon et al., 2011). Moreover, protected areas guard an important diversity of crop wild relatives. Crop wild relatives are adapted to diverse range of habitats and hold genetically important traits such as biotic and abiotic stress resistances; hence, they encompass the ability of enhancing yield and production stability (Guarino and Lobell, 2011; FAO, 2008). In this context, in-situ conservation through protected areas is vital as it maintains the evolutionary dynamics of the wild varieties and retains the farmers' access to such a heritage (Vincent et al. 2013) hence resulting in an indirect impact on food security at the national level.

Therefore, PAs should be managed in a way to promote agroecology and traditional agro-cultural practices offering rural communities healthy food and additional income hence promoting their livelihoods and enhancing food security in

addition to developing programs for conserving the crop wild relatives and retaining the farmers' access to them.

The developmental projects of Jabal Moussa Biosphere Reserve - employing local women to produce traditional "Mouneh" and employing local people in conservation jobs; could be primitive in relation to pro-poor conservation and could be classified under the third approach identified by Roe and Elliott (2006) "conservation that generates benefits for poor people" in which conservation is still considered the main aim of the BR and the initiative is designed in a way that would generate some revenue for poor people. The developmental approach adopted by JMBR requires attention to various key issues: How can these beneficiaries be shifted from being employees to being "shareholders" equally benefitting from the BR, developing a sense of ownership of the reserve and developing a sense of interest for self-investing (efforts and/or resources) to conserve this reserve and ensure the sustainability of the cultural activities being practiced? How could the limited number of beneficiaries be increased to give the whole community an equal chance to participate? How could the participation of the poorest citizens who usually tend to rely on the environment in their livelihoods strategies be ensured?

By shifting the main objective from conservation to poverty reduction and food security and by considering conservation a tool for poverty reduction (the fourth approach described by Roe and Elliott (2006)), a strategy could be developed in partnership with local communities, experts and private and public stakeholders to maximize the efficiency of the BR in fostering food security and local livelihoods. In this respect, integrating agro-ecology with cultural and conservation actions would promote the participation of farmers, pastoralists and women who are among the

poorest groups in their communities, and the formation of cooperatives could play an important role in reaching the mentioned aims while pooling resources, enhancing capacities and following well organized regulations (Taimni, 2001, Lewis, 2006).

E. National Policies

The following section looks closely into the Nature Reserve regulation as this is the most widespread PA category in Lebanon including management plans and management units and the most restrictive to local communities. In addition, Biosphere Reserves core and buffer zones are managed following the Nature Reserves regulations in Lebanon. Local communities do not differentiate between the different categories and they usually consider and refer to the "Nature Reserves" and "Biosphere Reserves" as "Protected Areas".

There is no unified law for the management of PAs in Lebanon; instead, a separate decree is issued upon the allocation of each PA. Based on the interview conducted with MoE representative, usually the same regulations are specified in PA's decrees, and their laws are all very similar, and the PA draft law which is pending upon final endorsement states well all these regulations (described below).

As described by the MoE respondents, the allocation of Nature Reserves (NR) requires the following steps: 1) Requests for the allocation of a NR should be submitted through the relevant municipalities presenting the required evidence for the appropriateness and need for the NR in the identified area. 2) MoE Department of Ecosystems reviews the request. 3) Upon MoE's confirmation, a committee is appointed by the MoE – the committee includes representatives from the relevant ministers (Finance, Agriculture), Municipalities, environment-related organizations; and

relevant specialists. 4) The MoE with the committee develops the NR's management plan. 5) A decree specifying the role of the committee, the management and rules of the NR is issued by the MoE. 6) The MoE monitors the work and action plan of the committee. 7) The committee allocates a management team to manage the NR upon the approval of the MoE on its members. 8) The Management team (MT) members and their roles are designated through a decision issued by the committee and the MoE and after the approval of the General Directorate of the Environment. The MT includes Guards to protect the NR. They have the right to issue seizure records. 9) The committee works with the MT on developing a 5 years Action Plan to be approved by the MoE. The plan is issued through a decree suggested by the MoE. The Action Plan should detail the initial state of the PA and its aim in protecting the allocated area and in ensuring its sustainable development with the identification of the priorities to protect or rehabilitate the area.

The MoE Financial Budget includes allocations for the PAs. All stakeholders, private and public, local and international organizations, and institutions have the right to fund PAs upon the approval of the MoE.

According to the MoE, awareness is very important, and one of the PA draft law's articles tackles awareness and knowledge sharing stating that the committee in collaboration with the MoE puts an environment awareness plan aiming at increasing the PA value at the national, regional and international level. Within this plan, the committee shall identify awareness raising and educational activities to "encourage ecotourism, foster local organic production, and crafts production that play a significant role in environment protection and sustainability on condition that this does not impose any negative impact on the protection purposes".

Activities that threaten the PA or break its rules are prohibited in the PA and 500m away from its borders including: cutting trees; access of livestock; exploitation of metals or water or soil (except for research purposes); putting fires; hunting; depositing wastes; and any other activity that might harm the PA, its environment, natural resources and natural sight. Fines for violators include the following: whoever violates the Forests Protection Law 558 dated 24/7/2005 is prone to jail from 3 months to 3 years and pays a fine of 2,500,000LBP for each kilogram of wood extracted from the PA, and whoever enters his/her herd within the PA borders is fined by 250,000LL per head and is confined to jail for 2 to 6 months.

1. Rural Communities Exclusion

The regulations described above totally ignore rural communities in the allocation, management and sustainability of the PA. According to the Head of Department of Ecosystems at the Ministry of Environment, rural communities are not involved in any phase of the PAs' allocation and management except that the management team is composed of local members. According to some local interviewees, local communities do not even rely to the MoE to object against the PAs policies and practices as they are aware of the MoE's neglection of their needs and perceptions. Locals' participation in the PAs allocation and management is being very minimal as local communities do not have control over processes or structures.

Similarly, assessing governance of biosphere reserves in Central Europe reveals a weak participation of stakeholders in communal decision-making. According to Pretty (1995), participatory efforts could be systematized in seven types ranging from the "pretense type" to "self-mobilization type" in which local stakeholders are self-

mobilized independently of external institutions. Following this typology of participation, Schliep and Kleemann (2010) reveals that the three investigated case studies (Czech Republic—Sumava Biosphere Reserve; Hungary—Aggtelek Biosphere Reserve; and Poland—Babia Góra Biosphere Reserve) conduct very weak active participation as the management of the BRs is mainly in the hands of the governmental bodies. Local stakeholders and landowners were not even recognized, and participation is considered as a "formal process of downward vertical information transfer" (Schliep & Kleemann, 2010). This is revealed in PA allocation in Lebanon and in JMBR case study. The described Lebanese legislation further consolidate our argument of Urban biases as policies reflect governmental state control and urban and professional considerations over rural needs and perceptions.

2. SWOT Analysis

The result of the SWOT evaluation of the legislation described above is depicted in Table 4. Summarizing the governance situation, a strong agent for nature protection can be attested but only within the limits of the PA. Eco-tourism plays an important role in ensuring revenues for the PA, and eco-touristic activities have been on the rise in Lebanon; however, no regulations or restrictions organize their development. If not regulated, eco-tourism can have serious drawbacks on the environment and can be critical for sensitive wild population. This was witnessed in the subalpine area of Switzerland for example where snowshoe walking has been on the increase hence increasing threats on sensitive wildlife including bird population (Finney et al., 2005). The Lebanese Tourism Strategy that was developed in 2008 was never implemented, and according to eco-touristic experts, more than 80 eco-touristic suppliers are currently

active with no policies organizing their activities hence further imposing stress on rural resources (Btaich, 2019). In such a chaotic context, regulation of eco-touristic activities is significant for a better conservation of rural resources. However, PA legislation do not put strict restrictions on eco-tourism. Instead, PA's basic activity held is eco-tourism where millions visit the reserves yearly. One of the local interviewees commented "Youth cannot camp in the mountain like they used to do earlier. They – *PA managers* – think they are protecting the mountain this way; what about the thousands of visitors who walk in the reserve? Aren't they harming biodiversity?" The allocation of PAs sheds the light on a land, turning it into an eco-tourism center whose revenues are not being divided equally among locals in contrast to the pre-allocated land that never witnessed such a big number of visitors and was accessible by all locals equally.

As indicated earlier, another important drawback of the current legislation is the lack of acknowledgement of local communities which might end up in marginalizing poor local residents who ensure their livelihoods from natural resources. In addition, low involvement of local communities decreases the efficiency of conservation efforts beyond the limits of the allocated protected areas and increases the potential conflicts between PA managers and local communities.

Table 4: SWOT Analysis of the PA legislation

STRENGTHS	**WEAKNESSES**
- Strong agent for nature protection in allocated area - Growing revenues from eco-tourism	- Lack acknowledgment of local communities - Lack limitations for eco-tourism - Lack specific legislations related to biosphere reserves - "One-size fits" all policies

	- Exclusive to main land users (e.g. shepherds and farmers)
OPPORTUNITIES - Promotion of environmental conservation through awareness and education - Decrease the dependence of PAs on external funders	**THREATS** - Growing pressure from tourism - Low involvement of communal authorities and local communities - Increased conflicts between PAs and local communities - No sustainability of conservation efforts beyond PA boundaries

3. Revisiting Regulations

In order to sustain conservation practices, a review of the MoE regulations is needed to acknowledge local communities by shifting from urban biased to pro-poor policies. Based on this study's results, we discuss the need of MoE to revisit the regulations related to PAs to further engage local communities in allocating, managing and sustaining PAs. Table 5 depicts mechanisms for local communities' integration through the life cycle of NRs within the MoE legislation.

Table 5: Mechanisms for local communities' integration through the life cycle of PAs within the MoE legislation

ALLOCATION
The MoE assigns a committee (of key local stakeholders) to approach local communities, discuss the potentials for designating a PA, its concept, its importance and aim.
MoE assigns an external committee to assess: i) the perceptions of local communities towards a potential PA; ii) the impact of the PA on local communities
The perceptions and needs of vulnerable communities (farmers, shepherds, women) are prioritized in the assessment and final decision of the MoE.
The allocation of the PA is accompanied with the establishment of local, politically appointed management boards with significant decision-making authority.

MANAGEMENT

Rules are shaped to meet locals' needs.

Local communities are included in the decision-making body through the politically appointed management boards; the most vulnerable groups are equally represented, and Action Plans are developed accordingly

Impact assessment on local communities is held regularly by an external committee allocated by the MoE, and mitigation actions are taken respectively.

Local communities are equally participating in M&E.

Promoting vulnerable local sustainable livelihoods – e.g. organic agriculture, beekeeping, small ruminants, edible plants collection – is the main priority of the PA hence further promoting pro-poor conservation.

PAs management is associated with capacity building and knowledge sharing.

SUSTAINABILITY

PA's action plans focus on spreading awareness and sharing knowledge.

The decision of sustaining PA, modifying rules, introducing management pillars… are always related to the local impact assessment and to the locals' needs, perceptions and will.

The proposed mechanism should be associated by a strong collaboration between the Ministry of Environment and the Ministry of Education to ensure environmental education is well presented in the Lebanese academic system; schools should aid in building healthy connections between generations and their environment for the aim of promoting the "home" approach, increasing people's "biospheric" concern for nature and respecting wildlife.

Within the legislative structure existing in Lebanon for the allocation and management of PAs, the proposed mechanism is seen as the most inclusive. The mechanism described above raises the voices of local communities, prioritizes their

needs and perceptions, and represents a shift from centralized state control to local and community-based control in conservation policy.

The proposed mechanism might not avoid benefitting a group of people over others; however, it would (i) ensure an increased local satisfaction of the allocated PA, (ii) ensure that local communities are equally engaged in its allocation and management decisions, and (iii) compensate for locals being harmed from it. Balancing multiple stakeholder interests through participatory approach is a very challenging process. This has been highlighted by APJM respondent. In order to develop a shared vision, early reconciliation of interests is required taking into consideration all relevant stakeholders. In addition, building trust among the different stakeholders is not that easy as well and requires time and patience (Milligan et al., 2008; Hartje et al., 2002; Dawkins & Colebatch, 2006).

The proposed mechanism complies with the Noregian reform of protected areas management which sought to strengthen the local involvement in protected areas through the establishment of local, politically appointed management boards with significant decision-making authority (Fauchald and Gulbrandsen, 2012). In addition, the mechanism is in alliance with the three strategic pillars – 1) communication, 2) participation, 3) capacity building, education and public awareness – identified by Schliep and Stoll-Kleemann (2010) as the most significant to bridge the governance gap between local and national levels.

4. Biosphere Reserves in Lebanese Legislation

As described in the SWOT analysis, Lebanon lacks specific legislations related to biosphere reserves. The core areas of BRs in Lebanon are allocated by the MoE as

natural reserves (e.g. Shouf Biosphere Reserve) or natural site (e.g. JMBR). The core area of JMBR is composed of a Protected Forest - by a Decision of the Ministry of Agriculture. In 2012, JMBR was assigned a Natural Site through a Decree issued by the MoE (Matar & Anthony, 2019). This nomination allows the MoE to regulate the conditions of quarries and investments within Jabal Moussa. In addition, being rich in historical and cultural sites, Jabal Moussa has been given some local protection status by the Ministry of Culture (e.g. Roman Stairs) (APJM, 2019). APJM endorse the same regulations as Nature Reserves (e.g. no hunting, limiting grazing activities, limiting activities held in core and buffer zones.)

Biosphere reserves are designated by the International Coordinating Council of the Man and Biosphere (MAB) program (ICC or MAB Council) which is responsible of the following tasks among others: guiding, supervising and reviewing the progress made by the MAB program, recommending research projects to countries and making proposals on the organization of regional or international cooperation, assessing priorities among projects and MAB activities, coordinating the international cooperation of Member States participating in the MAB Program, deciding on new designations of BRs and giving feedback and recommendations on progress reports (UNESCO, 2010; Matar, 2015). The functioning mechanism of the MAB program gives the management authorities of the participating countries full responsibility for translating its BR objectives. While this flexibility ensures the customization of BR management to local needs and contexts, implementing social and livelihood perspectives at local levels have been suffering from serious deficits (Schliep & Stoll-Kleemann, 2010). This has been reflected in JMBR as described in previous parts namely weak communication, minimal development and minimal engagement and passive participation of local communities.

According to JMBR management unit, not given legal recognition make it hard on the management team to endorse some regulations and prohibit the team from being assisted through the budget allocations granted by the MoE; on the other hand, this has given APJM more flexibility for implementing activities and searching for funding without returning back to the MoE every time a decision was to be made. Similarly, this has been argued out by Cuong et al. (2017), pointing out that the lack of legal status could provide the BR with some flexibility hence promoting "adaptive interpretation and application of the central laws and regulations in order to fit local conditions".

Discussions have been raised within the MAB Program and regional BR networks on giving BRs legal recognition in national legislation. Challenges in managing the transition zone, establishing dedicated authorities for BRs, and creating a framework for cooperation among stakeholders were the main issues raised in these discussions (Bonnin & Jardin, 2009). Within the Madrid Action Plan, member states of MAB UNESCO Program were recommended that 'Biosphere Reserves receive a reinforced legal recognition, and that Member States are encouraged to include BRs in their legislation' (Target 11, action 11.1) (UNESCO, 2008; Schliep & Stoll-Kleemann, 2010). In addition, the lack of national legal recognition might hinder stakeholders' engagements as they have no legitimacy and accountability in management practice because this is strongly influenced by the legal basis and regulation. Therefore, including biosphere reserves in the MoE laws is essential to ensure a fair inclusion of local communities through the application of the mechanisms suggested in Table 5. In addition to the inclusion procedure suggested in Table 5, MoE regulations should specify the conversion of biosphere reserves into "learning sites" for the application of the "home approach" discussed earlier hence promoting sustainable livelihoods and

contributing to poverty alleviation and food security through the “mixed mosaic method” and “pro-poor conservation”.

F. Practicing Conservation on Religious Lands

IUCN, in its guidelines for privately protected areas (Mitchel et al., 2018) stressed on the role of Religious entities in contributing to conservation through developing protected areas on their own land. In Brazil, for instance, a protected area is maintained by the Soka Institute belonging to a Buddhist entity that supports environmental education and restoration (Mitchel et al., 2018).

JMBR constitutes a typical case study for setting a protected area on religious lands as Jabal Moussa land is owned in large part by the Maronite Patriarchate and several Church endowments. Since this study reveals the drawbacks of JMBR (e.g. lack of conservation sustainability; lack of locals satisfaction; passive participation of rural communities…) hence highlighting the challenges of investing Waqf lands in private protected areas, the following section examines closely Maronite Waqf land management structure and recommends a structure for a sustainable usage of Waqf that would promote rural development while conserving natural resources.

1. Waqf Lands

A considerable portion of Lebanese woodlands and forests are privately owned. Prominent among the private sector are the religious institutions as Muslim, Christian and Druze authorities who have considerable holdings of land known as Waqf in Arabic. Precise information on religious land properties is not available; however, some

estimates indicate that about 10% of Lebanese territories and around 40% of forests and woodlands are Waqf (Mitri & ElHajj, 2008).

Deriving from the word "stop" in Arabic; "Waqf" refers to giving up a land for God to be deployed for the aim of benefiting poor communities. The aim of "Waqf" is to meet the needs of the people and the communities that cannot be met except through the Waqf development. This what makes the Waqf missionary and gives "working" and "earning" a missionary vision. Waqf lands were divided into 2 major divisions: 1) part specific for worshiping - spending money over mosques and religious centers; 2) the socio-cultural part specific for upgrading schools and other developmental aspects. Although the Christian and Islamic values and teachings extensively encourage people to care for and protect the environment, Waqf, employed for environmental protection, has been much less popular than any other form of waqf, such as for purposes of religion, health, education, and poverty alleviation (Budiman, 2011).

2. Maronite Waqf

Based on the conducted interviews, according to the Maronite Church, land is sacred; it is a heritage from our ancestors; it links us to the past generations who have put in it a lot of their bloods and efforts. Therefore, the church aims at protecting the land and preserving it for the benefit of local communities to be mainly used for prayers, education, agriculture and rural development.

Many of the Waqf elements (nature, aims, target…) were present since the Roman Empire, and during the Islamic age, Waqf principles were consolidated and supported. Christianity was highly affected by these regulations in its development of the Christian Waqf and its laws (Rajeh, 2007).

The beginning of land tenure system in Lebanon goes back to the land tenure system under the Islamic Government Era where lands were divided into 4 main categories including: 1)Waqf land (land bestowed for religious purposes); 2) Hima (communal lands used for public purposes); 3) Agricultural lands (include Miri Lands Mulk Lands, and Mawat Lands); and 4) Houses (considered Mulk Lands). Under the Ottoman rule, lands were divided into five main categories through the 1858 Ottoman Land Code. "1) Mulk Land, held in absolute free hold ownership (both rights of "raqaba" (right of absolute ownership) and the "tasarruf" (right to the usufruct of land) belong to the individual owner). 2) Miri land, land of which the "raqaba" belongs to the state, but the "tasarruf" to the individual. It is a form of inheritable 1ease-ownership in which the state leases land to the individual. 3) Waqf land, land dedicated to some pious purposes. 4) Matruka land, land reserved for some public purposes as, for example, village threshing floors, and 5) Mawat land, land which is dead or unreclaimed (Daher, 1974; Warriner, 1948)". During the Ottoman period, the Christians Waqf Land flourished and increased, and in 1856, Sultan Abd Al Majid gave the Christian Authorities the full right to manage all Waqf lands without having to go back to civil government. The Oumara' (*princes*) promoted the flourishing of Waqf lands and played a significant role in establishing churches and monasteries for the purpose of encouraging farmers to stay in their villages and keep their lands productive and ensure the payment of taxes. Since the Catholic Waqf was well organized and its monasteries and monks had the independence and social security, and their lands were productive, many farmers gave the Church their lands to avoid high taxes; seeking security and escaping from the injustice of the feudal lords; and escaping from the unjust social and economic system and from the unstable environmental conditions. By giving their lands to the church,

farmers secured their futures by being partners in these lands; the church would cover taxes in return and provide food and assistance and prayers upon death (Rajeh, 2007). During the French Mandatory Power, the religious interests were respected, and the French Mandate code pledged that the Mandatory Government shall not interfere in the management of all religious properties. During the French Mandate, different decisions were issued relevant to Waqf properties such as Decision number 79 (1926) related to renting Waqf lands permitting land rental up to 99 years, and Decision number 3339 (issued year 1930) prohibited selling any Waqf land, mortgaging it, or inheriting it. During the Independence Era, a law was issued on 10 March 1947 to manage the Waqf, and religious sects issued their own personal laws (Rajeh, 2007). All these have promoted the flourishing of the Waqf resulting in Christians Waqf providing 4 universities, more than 400 schools, 25 vocational schools, considerable number of hospitals, elderly centers, health centers, more than 200 monasteries, and more than 2000 churches.

Historically, the motivations behind the Waqf lands have been: 1) for masses and prayers, 2) redemption from the sins, 3) religious attachment, 3) to encourage monks to live in a certain village, 4) to protect lands confiscation by the government, 5) for the immortality of families' memory, 6) to build monasteries, 7) to reform a land, 8) to cover taxes, 9) personal subsistence until death, 10) to educate children in the village, and 11) for agricultural reformation that would result in economic profits for both the monastery and the original land owner specially when monks were known for their agriculture expertise (Rajeh, 2007). On the other hand, Aoun (1982) argue that if we go back to the "legal origin" of the Waqf lands, these lands have been taken by force from peasants or left due to high taxes or high interest rates on debts.

3. Maronite Waqf Lands Management

The Church has enacted laws defining the purposes of the Waqf, the manner in which it is administered, the principles of its investment and the spirituality of its service. It has developed a system of committees for the management of endowments in the parishes, based on legal rules. It is based in particular on the current laws in force (Maronite Church Law; Church Directives 2006):

1) The Code of Eastern Churches published by Pope John Paul II on 28 October 1990 (Laws 868-879; 1007 1054).

2) The Personal Status Law of the Catholic Communities enacted by the six Catholic Churches in Lebanon in 1952 (Articles 247-288).

3) The law of April 2, 1951 promulgated by the President of Lebanon and defining the powers of Christian denominational references (Articles 7 and 8).

4) The law regulating the Waqf issued by the Lebanese government on 10 March 1947.

According to these laws and based on the conducted interviews, Waqf land could be either rented or invested by the church for developmental purposes. Six years ago, the permitted leasing period was reduced to 12 years instead of 99 years. With the patronage of the Patriarch over all the endowments of the Church and its property throughout the Patriarchate in general, the Archbishop of the Diocese is the patron of the Waqf properties in his Diocese, and he may administer it either directly or through an agent or committee.

The Archbishop of the Diocese shall appoint, for a period of two years, renewable once, a committee to manage the Waqf of each Church, headed by the parish

priest or other clergy unless he sees otherwise. The committee is entrusted with maintaining the properties of the waqf, seeking to exploit its potentials, developing its resources, taking care of its interests and those of the community, and implementing the relevant regulations of the waqf. The members of the committee shall be members of the parish, residing in the parish, of good standing, practitioners of religious duties, and possessing acumen and experience. Members of the Committee shall avoid partisan and family divisions and shall not apply during their term to any municipal or political positions in general.

The Committee shall convene a regular fixed meeting once a month and shall also meet exceptionally, when necessary, to discuss the affairs of the Waqf, to adjust financial issues, to discuss what has been accomplished the past month, to assess the new plans, and to take the necessary administrative decisions. Decisions shall not be effective unless accompanied by the approval of the absolute majority of the members. At the end of each year, the Committee shall submit to the Archdiocese a financial statement and a report indicating the number of meetings held, achievements and projects to be implemented. The Committee is responsible for monitoring and taking care of the Waqf properties and should put a plan for investing in Waqf properties to meet the needs of local people. The Committee shall be assisted by a professional architect who shall supervise the development and implementation of any architectural projects of the Church approved by the Committee and approved by the Archbishop and the competent authorities. The Committee shall invest in Waqf properties, after making the necessary expenses and consulting competent specialists with the consent of the Archbishop of the Diocese.

The committee needs written permission from the Archbishop: (i) to employ money or to borrow money in the name of the waqf, to initiate a lawsuit, or to conduct a sale, mortgage and lease for Waqf property; (ii) to carry out restoration and renovation work, to create new buildings, or to acquire and replace or sell precious worship supplies and furniture.

Although Waqf aims at developing poor communities, waqf lands are not being invested efficiently; most of the lands are abandoned and many are leased for personal interests. The case study of Jabal Moussa reveals how renting Waqf lands by individuals (especially when a considerable area is rented) might result in the dissatisfaction of locals especially that local communities regard Waqf lands as commons.

4. Revisiting Waqf Lands Management

Conservationists might regard Waqf land abandonment as having a positive impact protecting wild landscapes threatened by urbanization. However, these lands hold significant potentials for poverty alleviation and food security enhancement. Applying approaches discussed earlier in this study – pro-poor conservation, "home" approach, mosaic method – the Church could make an influential impact on rural communities and the environment. Investing in Waqf land has a considerable advantage as it encourages long-term eco-friendly practices (e.g. agroecology).

Table 6 describes the SWOT analysis conducted for the current Waqf land usage. Although church authorities have been pulled by materialistic interests disregarding significant Christianity values, they are still trusted by local communities

(especially in rural areas) more than individuals. So, a developmental project led by the church would gain locals' trust easier than those led by separate individuals.

Table 6: SWOT Analysis for current Waqf Land management

Strengths	**Weaknesses**
- A considerable area of lands being protected by religious authorities - The Church has the full autonomy of managing its properties - People trust the Church	- Lands are not being invested effectively - most lands are abandoned. - No environmental assessment is being conducted - Lands are not mapped - Religious authorities do not have the potentials to strategize land usage
Opportunities	**Threats**
- Investing these lands hold significant potentials for poverty alleviation and food security especially for vulnerable rural communities. - All Church properties are eventually under the patronage of the Pope; such network could result in building international linkages between programs, sharing knowledge and up-scaling best practices. - By trusting the Church and regarding Waqf lands as related to their heritage, local communities would develop a strong sense of ownership of the developmental programs. - Waqf could encourage the investment in long term eco-friendly practices	- Religious authorities are prone to fraud - If invested in an unsustainable manner, Waqf lands could seriously threaten rural communities and their environment.

There is no plan for the management of Waqf lands. According to the interviewed priest, local communities are well attached to some of these lands; engaging locals in their investment and giving local communities the chance of

benefitting from these lands is a must especially for the poorest communities. Projects should be led by local communities and planning should be based on their needs and perspectives.

Based on the interviews conducted with relevant stakeholders, and based on local communities' perceptions towards Jabal Moussa, the following mechanism proposes a structure that can lead to an effective investment of the Waqf lands.

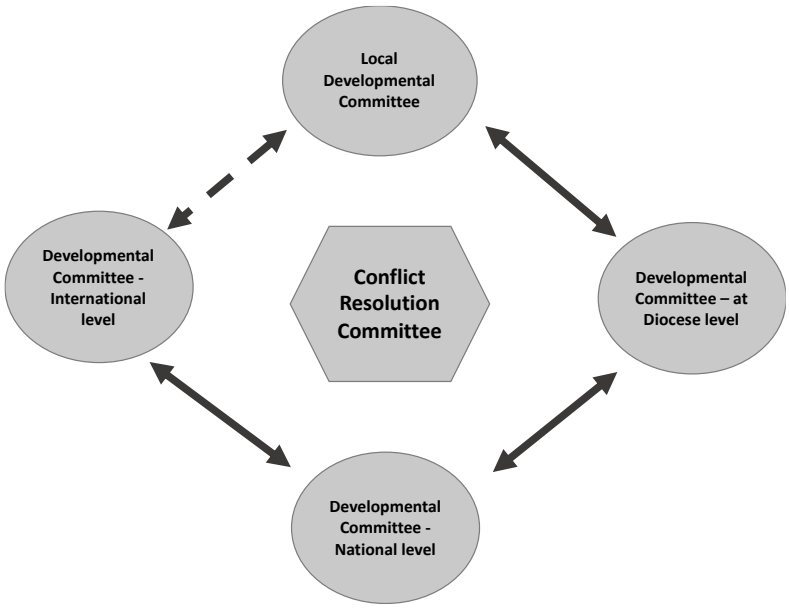
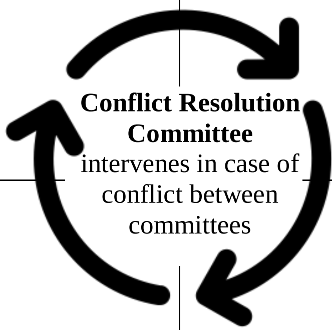


Figure 3: Envisaged Waqf lands Development Network

Table 7: Envisaged Waqf Land Development mechanism

Local Developmental Committee	**Diocese Developmental Committee**
- Engaged in: mapping Waqf local lands, outreach, local community consultation, M&E - Work with local communities to Identify challenges and find solutions	- Communicates with local developmental committees - Engaged in: planning, providing expertise (for technical planning, feasibility studies, environmental

- The poorest should be represented in the committee	assessment…), building linkages, pooling resources, M&E. - Inspects land (field visits) to provide needed Specialists and advise. - Conducts environmental assessments regularly - Provides training for local committee to ensure inclusive participation - Supports horizontal collaboration system - Supports local communities in accessing resources (markets, information, assets)
International Developmental Committee - Communicates with national developmental committees - Engaged in: setting values and principles, building linkages and M&E	**National Developmental Committee** - Communicates with Diocese Developmental committees - Engaged in: developing national strategies, and M&E at national level



This mechanism should be associated with well-defined regulations based on the following:

- The process starts with the Archbishop indicating the Waqf lands in each village and the type of projects valid for these lands. These are announced in each village and villagers

interested in working in these lands are identified. Accordingly, a local committee is formed representing these locals. The Priest is responsible of making sure vulnerable communities are engaged in the process.

- All identified committees have equal power in proposing projects and rejecting projects.
- Each developmental committee works in close collaboration and under the patronage of the relevant religious authorities (local committees work in collaboration with the priests; committees at Diocese level works under the supervision of the Archbishop; the national committee is supervised by the Patriarch; and the international committee is supervised by the Pope).
- The Conflict Resolution Committee intervenes in case of conflict over a certain project and has the right to request a reformation of a certain committee (in case personal interests were dominating the committees' decisions) and works on resolving conflicts behind certain projects for the benefits of rural population.
- Proposing and rejecting projects are led by the following values: 1) rural communities, especially the poor population, are the main beneficiaries and leading agents of these projects; (2) projects with a direct impact on food security are prioritized; (3) the practices are intertwined with environmental concerns and protection; (4) cultural heritage must be protected on the lands where developmental projects are implemented focusing on 3 main pillars: socio-cultural, economic and environmental pillars.
- Developmental programs should be initiated following the "home" approach supporting eco-friendly practices (e.g. agroecology, organic production, green energy technologies…)
- Land should not be used for residency purposes (no residential buildings can be established)

- Land usage shall prioritize farming, pastoralism, harvesting and collection of forest produce – livelihood strategies usually practiced by the poorest communities.
- Land usage shall prioritize projects with a direct impact on food security for the community especially the poorest population (e.g. farming & pastoralism, establishment of women cooperatives / community kitchens, agricultural cooperative, establishment of farmers market…)
- Projects are initially owned by the church, which is the initial investor, and local practitioners are major shareholders in the projects which are collectively planned and managed.
- Local committees work on voluntarily basis while the rest of the committees are employed based on competence.
- Local committees should represent the people who are interested in and in need of working in Waqf lands.
- Projects and stakeholders will be linked through Horizontal Collaboration System promoting wholistic approaches and sustainable impacts.

  The mechanism proposed is inspired by the challenges facing bottom-up approach and the challenges revealed from Jabal Moussa case study. Smith (2008) explores the four most pertinent and problematic critiques of the bottom-up participatory approach: 1) tokenistic attempts at a participatory process; 2) the myths of "communities" as coherent and cohesive bodies working towards same goals and outcomes; 3) lack of financial resources for some bottom-up projects; and 4) the lack of knowledge about the process of community participation and its complex nature conducted by those who are practicing its facilitation.

The proposed mechanism (Fig. 3; Table 7) addresses these challenges enhancing the potentials for a more efficient, empowering and sustainable approach to environmental management through Waqf land management. The bottom-up participatory approach constrains are addressed through the following:

Tokenism – tokenism is reflected by projects not translating into real meaningful participatory process on the ground; instead, local communities end up being mere information providers and not involved in effectual positions with decision making power (Heyd & Neef, 2004). The proposed Circular approach divides power equally at all levels so that local communities have effectual decision-making power. In this approach, local communities are not "invited" to participate; instead they are owners and shareholders in developmental ideas and implementations.

The Community Myth – Bottom-up participatory approaches regard the communities as homogeneous and cohesive groups unified in their interests and goals rather than complex organizations of people with differential interests and power relations (Nelson & Wright, 1995; Agrawal, 1999, Godfrey & Obika, 2004). Oates (1999) describes this image of cohesive communities participating in management projects as a "romantic myth", endorsed for project managers and implementers to "feel good" (Oates, 1999 p. xi). Therefore, problematizing these images of unified groups is essential for more realistic descriptions to be accepted and adopted in the participatory literature (Rocheleau & Slocum, 1995). Through (i) regarding local communities as major stakeholders in the developmental process, (ii) representing local communities by a local inclusive committee, (iii) giving local communities full potentials for identifying their challenges and coming up with their solutions and (iv) not having a pre-planned program or a determined agenda, the proposed approach respects the differentiation of

local groups and the complexity of local communities in which the differentiated needs and perspectives are fully acknowledged and lead projects ideas, planning and implementation.

Local-level capacity constraints - the financial capacity constraints commonly experienced by bottom-up projects present a serious challenge for rural development. Communities might have valuable knowledge about local environments and considerable motivation and commitment toward the project they are initiating, but material resources limitation might hinder the efficiency of local mobilization (Cleaver, 2001). The proposed mechanism provides local communities with basic material resources for the initiation of their projects and promote pooling resources among the different communities maximizing the potential success of their projects.

Critical lack of facilitator knowledge - Another problematic element indicated by Smith (2008) is the critical lack of knowledge about community participation held by facilitators especially when management processes and projects are externally inspired but seek local input (Dreyer, 2001). People, regarded as outsiders lacking the essential capacities and skills, are required to facilitate and initiate community participation activities. Chambers (1997) indicate the importance of training and preparing people who will be engaged in facilitating a participatory process. The proposed mechanism promotes a successful facilitation of participatory process that is conducted by insiders who are from the local communities and know them really well; training these facilitators would further ensure the inclusiveness of the participatory activities held by the local committee.

CHAPTER V

CONCLUSION AND RECOMMENDATION

This study was conducted in Jabal Moussa Biosphere Reserve in order to understand locals' perceptions towards BR and its impact on rural communities. Results are analyzed in relation to BR concepts which call for participation and rural development. By highlighting the advantages and the disadvantages of the current policies and management approach, this study enables decision-making bodies and protected areas managers to take into consideration the specific local concerns that are related to protected areas management. In addition, since JM is on Waqf land, this study further investigates the efficiency of current Waqf land management in relation to nature conservation and rural development.

The study shows how JMBR allocation process was a top-down approach where locals were totally excluded. Local communities ended up lacking social and rational trust towards the BR management system hence rendering rural development even harder. These results stress on the importance of locals' engagement in the whole conservation process and the transparent communication between BR management unit and local communities in order to reduce the gap between the aims and priorities of BR management units and locals.

JMBR is playing an important role in the conservation of the landscape by preventing devastating practices (i.e. quarries) from ruining its natural and cultural heritage. On the other hand, the BR resulted in the displacement of traditional land use practitioners (e.g. grazing, charcoaling). Although the BR did not have a direct impact

on the reduction of these livelihood strategies which have been on the decline due to several challenges including vulnerability to climate change, lack of social security, lack of supportive policies, and lack of interest for upcoming generations, JMBR has been exerting extra pressure on some of these livelihoods especially small ruminants whose practices, if managed sustainably, would result in influential impacts on biodiversity conservation. The dissatisfaction of original land users towards the reserve and its management reflects the lack of debates between land users and the management unit and policy makers. Keeping in mind that rural communities might have the same desires and needs as urban dwellers to exploit their natural environment, BR could be a main advocate for their development while securing nature protection. In this regard, a "mosaic of methods" should be adopted in which policy makers and BR managers learn from indigenous people and twist their methods through selecting, refining and innovating hence ensuring the sustainability of natural resources without hindering the development of rural communities. In addition, the strong sense of ownership original land users possess toward the land offers the potentials of protecting the environment through local social movements in which rural communities would transform into emergent centers of innovation and alternative worlds developing a political strategy for the defense of their territory, culture, and identity.

Respondents' perceptions towards nature were more oriented towards egoistic and altruistic concerns instead of biospheric concern reflecting the increased level of separation between communities and the environment. Instead of increasing people's connectedness to nature, BRs follow "modern constructions" behaviour further separating communities from the environment by dividing areas into core, buffer zone and development zone. As human populations increase, PAs' "core zones" won't be

enough to protect existing wildlife. In this respect, BR should play important roles as "learning sites" to further promote sustainable lifestyles and to support a system in which no boundaries are established between human culture and nature and both are encompassed in the same "home" led by environmentally responsible actions and sustainable practices. This would therefore increase people's connectedness to nature and develop their biospheric concerns.

Three themes emerged describing the positive perceptions residents have towards JMBR: recreation and aesthetics, environmental preservation, and economic benefits. On the other hand, four themes emerged describing the negative perceptions: negative economic impacts, negative impact imposed on culture, negative impact of wildlife, and limiting recreational activities. These negative attitudes highlight the need for some interventions in the area including waste management and infrastructure upgrading, in which the BR could play a major role. These differential perceptions highlight the inefficiency of one-size fits all regulations in conservation. In order to reduce the negative impact of conservation while increasing its benefits, understanding the different perceptions of local communities is highly recommended.

The results of this study show how those who depend on ecosystem services are the most vulnerable communities affected by conservation practices. These communities should be major stakeholders in the PA allocation, rules identification and PA planning and management. This study points out that socioeconomic interventions (such as increasing wealth, having a positive relationship with the management unit) are not enough to improve the BR-people relationships. Instead, understanding people's perceptions is highly significant in this respect. Local ownership is highly influential; in order for locals to be highly satisfied about the BR mission, plan and activities, locals

should be part of the decision-making body and should be integrated in the project development process as the major, most prioritized stakeholders.

JMBR is not having a significant impact on the environmental awareness of locals. This threatens the sustainability of conservation beyond the BR boundaries and existence. In a country where the national academic system lacks environmental education, PA's role in environmental awareness is highly required.

Although APJM has been trying to engage participants in developmental activities, access to benefits from conservation is typically in the hands of JMBR authority. In such arrangements, there is ample room for elite capture of revenues (Adams and Hutton, 2007). Power relations and inequalities have been argued of being at the core of the failure of rural development. Such disparities could be diminished through rendering local communities shareholders in the BR and main stakeholders in the decision-making processes.

The results of this study raise inquiries about the international policies of Biosphere Reserve allocation. Such reserves end up being contradictory as local people's concerns, needs and priorities are not required for the allocation of biosphere reserve, but development of these same people is targeted within the biosphere reserve functions. Acknowledging the importance of local participation and local rights and knowledge while keeping the decision-making power in the hands of BR managers is not enough to ensure inclusive strategies and real empowerment.

The BR regulations and the Lebanese policies related to PA allocation reflect the Urban Bias theory through prioritizing urban requirements over rural needs. Protected areas are being allocated and their policies are being developed following professional recommendations and international guidelines to eventually meet the urban needs

regardless of rural priorities. By considering pro-poor conservation, initiatives would consider poverty eradication and social justice as important as biodiversity conservation. Therefore, BRs should promote agroecology and traditional agro-cultural practices offering rural communities healthy food and an additional income hence promoting their livelihoods and enhancing food security.

The study stresses on the exclusion of rural perceptions and needs in the Ministry of Environment's PA allocation and management policies and proposes a mechanism that would raise the voices of local communities, prioritize their needs and perceptions, and represent a shift from centralized state control to local and community-based control in conservation policy. This mechanism strengthens the local involvement in protected areas through the establishment of local, politically appointed management boards with significant decision-making authority represented during allocating, managing and sustaining the PA. The mechanism stresses on three main pillars: i) communication, ii) participation, iii) capacity building, education and public awareness.

Finally, the study investigated the efficiency of Waqf land management which holds great potentials for rural development and nature conservation. For this purpose, developing a Waqf Land Management Network that would operate at the local, diocese, national and international levels is highly recommended. Giving the four levels equal decision-making power is required for a fair and real development of rural communities and specifying certain regulations that would support environmentally friendly land use practices and sustainable livelihoods would ensure conserving the environment while promoting poor communities.

APPENDIX I

QUESTIONNAIRE IN ENGLISH

Respondents from the Ministry of Environment

How many protected areas exist today? Under what categories? How are they managed? What laws/decisions/policies regulate them?

What is the process of establishing a protected area in Lebanon?

Do you consider them a success? Why? What are their pros and cons?

How did Jabal Moussa emerge? Were any challenges witnessed during its emergence?

What are the perceptions of rural communities towards protected areas? Have you received any objections? What about Jabal Moussa context?

Do you consider rural communities perceptions before the declaration of any regulation or decision concerning protected areas?

Which land can be converted into protected area (private, public, 'machaa'…)? What happens to this land upon its declaration as a protected area?

Is Jabal Moussa land a public or private land? What was the land used for before its allocation as aprotected area?

Members from the Management Unit of Jabal Moussa Biosphere Reserve

Where are you from? Where do you settle?

Why are BR in general important?

What is special about Jabal Moussa Biosphere Reserve?

How was this BR established?

Which organization funded the establishment of the protected area?

Did rural communities play any role in the establishment of this protected area? Please explain.

What challenges have you faced during its establishment? What challenges are still faced today?

Why did you choose to work in this protected area? Rate your motivations to serve in the protected area: Protecting animals and plants; increasing income; recreational causes…

What are the rules applied in the protected area? How do you monitor their application?

Have you faced any conflicts with rural communities? If so, what were their causes and consequences?

Do rural communities play any role in the protected area? Please justify.

What kind of activities are practiced in the protected area? By whom are they managed? Who benefit from the profit?

Does the protected area benefit rural communities? How? How many individuals are benefitting from JMBR?

How many tourists visit the protected area yearly? Are the majority of tourists urban settlers or rural settlers or foreigners?

Rural people from the villages surrounding Jabal Moussa Biosphere Reserve

Age

Sex

Marital status

Number of Children

Educational status

Employment status

Are you a permanent settler in this rural village or a seasonal migrant?

What is your livelihood strategy? How did your livelihood strategy change with the allocation of protected area? What was it before the protected area allocation?

What is the importance of nature for you? What do you use nature for? Do you directly depend on nature in your livelihood strategy?

How do you perceive conservation? What do you think of protected areas? What are their pros and cons? Are they appropriate strategies for nature conservation?

What do you think of Jabal Moussa? Is it a successful practice of conservation?

How was it established?

Did you have any role in its establishment? Were your perceptions taken into consideration?

How is the protected area managed? What are the rules applied in the protected areas? By whom are these rules arranged and monitored?

Are you with or against these rules? Why?

What practices are you banned from performing due to the allocation of the protected area?

What opportunities did the protected area offer you? Do you or any of your relatives/friends benefit from the protected area in a way or another? How?

Do you serve in the protected area? Voluntarily or paid? What motivates you to do so? Rate your motivations to serve in the protected area: Protecting animals and plants; increasing income; recreational causes…

Who are the direct and indirect beneficiaries of the protected area?

How many tourists visit the protected area yearly? Where do they come from (urban, rural, foreigner)?

Do tourists bother you? Do you benefit from tourists? Please explain.

What was the land used for before its allocation as a protected area?

Did any conflict ever rise between rural communities and the management unit? Please explain.

Did the protected area affect your cultural practices/heritage? How?

Did the protected area affect your perception towards your village? Do you value your village now more? Do you prefer to leave towards an urban setting? Please explain.

If you had the choice to control this protected area? What would you change and why?

Respondents Related to Waqf Land Management

What are Waqf properties? How are they managed? By whome?

Are Waqf lands being invested in a sustainable way?

What do you think of allocating protected areas on Waqf lands?

How can we ameliorate Waqf land sustainable investment?

APPENDIX I

QUESTIONNAIRE IN ARABIC

١. وزارة البيئة

ما هو عدد المناطق المحمية الموجودة اليوم؟ تحت أي فئات؟ كيف يتم إدارتها؟ ما القوانين / القرارات / السياسات التي تنظمها؟

ما هي عملية إنشاء محمية طبيعية في لبنان؟

هل تعتبرها ناجحة؟ لماذا ا؟ ما هي إيجابياتها وسلبياتها؟

كيف تم انشاء محمية جبل موسى؟ هل حدثت أي تحديات أثناء بروزها؟

ما هي تصورات المجتمعات الريفية تجاه المناطق المحمية؟ هل تلقيتم أي اعتراض من قبل المجتمعات الريفية؟ ماذا عن سياق جبل موسى؟

هل تأخذون بعين الاعتبار تصورات المجتمعات الريفية قبل الإعلان عن أي قرار بشأن المناطق المحمية؟

أية أراضي يمكن تحويلها إلى منطقة محمية (ملك خاص، ملك عام، مشاع؟) ماذا يحدث لهذه الأرض عند إعلانها كمنطقة محمية؟

هل أرض جبل موسى ملك عام أو خاص؟ بما كانت تستخدم الأرض قبل تخصيصها كمحمية؟

٢. أعضاء من إدارة جبل موسى

من أي منطقة أنت؟ أين تستقر؟

لماذا تعتبر المناطق المحمية مهمة بشكل عام؟

ما هو مميز حول جبل موسى؟

كيف تم إنشاء هذه المنطقة المحمية؟

أي منظمة مولت إنشاء المنطقة المحمية؟

هل لعبت المجتمعات الريفية أي دور في إنشاء هذه المنطقة المحمية؟

ما هي التحديات التي واجهتكم خلال إنشائها؟ ما هي التحديات التي لا تزال تواجهكم اليوم؟

لماذا اخترت العمل في هذه المنطقة المحمية؟ قيم دوافعك للخدمة في المنطقة المحمية: حماية ... الحيوانات والنباتات؛ زيادة الدخل؛ أسباب ترفيهية

ما القواعد المطبقة في محمية جبل موسى؟ كيف يتم مراقبة تطبيق القواعد؟

هل واجهتم أية مشاكل مع المجتمعات الريفية؟ فما كان أسبابها وعواقبها؟

.هل تلعب المجتمعات الريفية أي دور في المنطقة المحمية؟ يرجى تبرير

هل تستفيد المجتمعات الريفية من المناطق المحمية؟ كيف؟

ما نوع الأنشطة التي تمارس في المناطق المحمية؟ من ينظمها؟ من يستفيد من الربح؟

كم عدد الأشخاص الذين يستفيدون من المناطق المحمية؟ كيف؟

لكم عدد الأشخاص تقوم محمية جبل موسى بتوليد الدخل؟

كم عدد السياح الذين يزورون المنطقة المحمية سنوياً؟ هل غالبية السياح مستوطنون حضريون أم مستوطنون ريفيون أم أجانب؟

٣. سكان الريف

العمر

الجنس

الحالة الاجتماعية

عدد الاطفال

المستوى العلمي

الحالة الوظيفية

ما هي استراتيجية سُبل العيش التي تتبعها؟

كيف تغيرت استراتيجية عيشك مع تخصيص جبل موسى منطقة محمية؟

هل أنت مستوطن دائم في هذه القرية الريفية أم مهاجر موسمي؟

ما هي أهمية الطبيعة / الغابة بالنسبة لك؟ كيف تستخدم الطبيعة؟ هل تعتمد بشكل مباشر على الطبيعة في استراتيجية سُبل العيش الخاصة بك؟

ما رأيك في المناطق المحمية؟ ما هي إيجابياتها وسلبياتها؟ هل هي استراتيجيات مناسبة للحفاظ على الطبيعة؟

ما رأيك في جبل موسى؟ هل هو ممارسة ناجحة للمحافظة على البيئة؟

كيف تم تأسيسها؟

هل كان لديك أي دور في إنشائها؟ هل تم أخذ تصوراتكم وحاجاتكم بعين الاعتبار؟

كيف تتم إدارة المنطقة المحمية؟ ما القواعد المطبقة في المناطق المحمية؟ على من يتم ترتيب هذه القواعد ومراقبتها؟

هل أنت مع أو ضد هذه القواعد؟ لماذا؟

ما هي الممارسات التي تم منعك من تنفيذها بسبب تخصيص المنطقة المحمية؟

ما هي الفرص التي وفرتها لك المنطقة المحمية؟ هل تستفيد أنت أو أي من أقاربك / أصدقائك من المنطقة المحمية بطريقة أو بأخرى؟ كيف؟

هل تخدم في المنطقة المحمية؟ عمل طوعي أو مدفوع؟ ما الذي يحفزك على القيام بذلك؟ قيم ... دوافعك للخدمة في المنطقة المحمية: حماية الحيوانات والنباتات؛ زيادة الدخل؛ أسباب ترفيهية

من هم المستفيدون المباشرون وغير المباشرين من المنطقة المحمية؟

كم عدد السياح الذين يزورون المنطقة المحمية سنوياً؟ من أين أتوا (حضري، ريفي، أجنبي)؟

.هل يضايقك السياح؟ هل تستفيد من السياح؟ يرجى التوضيح

كيف كانت الأرض مستخدمة قبل تخصيصها كمنطقة محمية؟

.هل نشأ أي صراع بين المجتمعات الريفية ووحدة الإدارة؟ يرجى توضيح

هل أثرت المنطقة المحمية على ممارساتك / تراثك الثقافي؟

هل أثرت المحمية على إدراكك تجاه قريتك؟ هل تقدر قريتك الآن أكثر؟ هل تفضل المغادرة نحو بيئة حضرية؟ يرجى توضيح.

إذا كان لديك خيار التحكم في هذه المنطقة المحمية؟ ما الذي ستغيره ولماذا؟

٤. مستجيبون ذو علاقة بإدارة الأراضي الوقف

ما هي خصائص الوقف؟ كيف تدار؟ من قبل من؟

هل يتم استثمار أراضي الوقف بطريقة مستدامة؟

ما رأيك بتخصيص أراضي الوقف مناطق محمية؟

كيف يمكننا تحسين الاستثمار المستدام للأراضي الوقفية؟

BIOGRAPHY

Abi Habib Khoury, R. (2009). Enquete socio-economique dans la region de Jabal Moussa, University Saint Joseph de Beirut, Communautes et societies, annals de sociologie et d'anthropologie, volume 20.

Abi-Said, M.R. (2006): Reviled as a grave-robber: The ecology and conservation of striped hyaenas in the human-dominated landscapes of Lebanon. – Ph. D. thesis. University of Kent, Canterbury, UK.

Adams, W.M. (2001) Green Development: environment and sustainability in the third world (2nd edn). Routledge, London

Adams, W. B. (2004). Against extinction: the story of conservation. Routledge.

Adams, W. M., & Hulme, D. (2001). If community conservation is the answer in Africa, what is the question?. Oryx, 35(3), 193-200.

Adams, W. M. and J. Hutton .2007. People, parks and poverty: Political ecology and biodiversity conservation. Conservation and Society 5(2): 147-183.

Adams, W.M. & Infield, M. (2001) Park outreach and gorilla conservation: Mgahinga Gorilla National Park, Uganda. In: *African Wildlife and Livelihoods: The Promise and Performance of Community Conservation,* ed. D. Hulme & M. Murphree, pp. 131– 147. Oxford, UK: James Currey.

Adams, W.M, et al. (2004) Biodiversity conservation and the eradication of poverty. Science 306:1146–1149.

Adams, W. M. and J. Hutton .2007. People, parks and poverty: Political ecology and biodiversity conservation. Conservation and Society 5(2): 147-183.

Andam K.S., Ferraro P.J., Sims K.R.E., Healy A., and M.B. Hollande. (2010). Protected areas reduced poverty in Costa Rica and Thailand. PNAS, 107, 202.

Agarwal, B. (2001). Participatory exclusions, community forestry, and gender: An analysis for South Asia and a conceptual framework. World development, 29(10), 1623-1648.

Agrawal, A. and K. Redford. (2009). Conservation and Displacement: An Overview. Conservation and Society 7(1): 1-10, 2009

Agrawal, A. and Gibson, C.C. 1999. Enchantment and disenchantment: the role of community in natural resource conservation. World Development, 27 629-49

Agrawal, A. 1999. Enchantment and disenchantment: the role of community in natural resource conservation. *World development*, 17(4): 629–649.

A Greener World. (2016). A Breath Fresh Air of The truth about pasture-based livestock production and environmental sustainability. https://agreenerworld.org/wp-content/uploads/2016/09/A-Breath-of-Fresh-Air-Aug-2016-ONLINE-copy.pdf

Akama, J.S., Lant, C.L. & Burnett, G.W. (1995) Conflicting attitudes toward state wildlife conservation programs in Kenya. *Society and Natural Resources* **8**: 133–144.

Allendorf, T. D. (2007). Residents' attitudes toward three protected areas in southwestern Nepal. Biodiversity and Conservation, 16(7), 2087.

Allendorf, T., Swe, K. K., Oo, T., Htut, Y., Aung, M., Allendorf, K., ... & Wemmer, C. (2006). Community attitudes toward three protected areas in Upper Myanmar (Burma). *Environmental Conservation*, *33*(4), 344-352.

Alexander, S.E. (2000) Resident attitudes toward conservation and black howler monkeys in Belize: the Community Baboon Sanctuary. *Environmental Conservation* **27**: 341–350.

Alexander, S.E. (2000) Resident attitudes toward conservation and black howler monkeys in Belize: the Community Baboon Sanctuary. Environmental Conservation 27: 341–350.

Alptekin, C.U., Bariteau, M., Fabre, J.P., 1997. Le cèdre de Turquie: Aire naturelle, insectes ravageurs, perspectives d'utilisation pour les reboisements en France. Biologie et Forêt 49, 19–31.

Andam KS, Ferraro PJ, Pfaff A, Sanchez-Azofeifa GA, Robalino JA (2008) Measuring the effectiveness of protected area networks in reducing deforestation. Proc Natl Acad Sci USA 105:16089–16094

Andam KS, Ferraro PJ, Sims KRE, Healy A, Hollande MB. (2010). Protected areas reduced poverty in Costa Rica and Thailand. PNAS, 107, 202.

Aoun, M. (1982). The history of land tenure in Lebanon (Arabic). تاريخ ملكية الارض في لبنان. بيروت: دار المصير.

APJM. (2019). Association for the Protection of Jabal Moussa official website. www.jabal moussa.org

Armsworth PR, Daily GC, Kareiva P, Sanchirico JN (2006) Land market feedbacks can undermine biodiversity conservation. Proc Natl Acad Sci USA 103:5403–5408.

Ashley, C. and Roe, D. (1997) Community Involvement in Wildlife Tourism: Strengths, Weaknesses and Challenges. London: Evaluating Eden Project, International Institute for Environment and Development.

Ayanu Y., Jentsch A., Müller-Mahn D., Rettberg S., Romankiewicz C. & Koellner T. (2015). – Ecosystem engineer unleashed: Prosopis juliflora threatening ecosystem services? Region.

Baral, N., & Heinen, J. T. (2007). Resources use, conservation attitudes, management intervention and park-people relations in the Western Terai landscape of Nepal. Environmental conservation, 34(1), 64–72. https://doi.org/10.1017/S0376892907003670

Bachir, M. (2005a). Protected Areas Management in Lebanon – Towards a Stable Institutional Management Structure, MoE and EC-LIFE.

Bachir, M. (2005b). Stakeholder involvement in Collaborative Management of protected areas in Lebanon: the case of Ammiq and Tyre Coast Nature Reserve.Msc Dissertation, University of London – Imperial College of Science and Technology, London, UK.

Barakat, J. (2019, April). Focus Groups in MENA BRs, Jabal Moussa. Presentation presented at the Thematic workshops in Jabal Moussa, Lebanon, Bzoummar, April 29, 2019.

Batisse, M. (1982). The biosphere reserve: a tool for environmental conservation and management. Environmental Conservation, 9(02), 101-111

Baydoun, S. A., Kanj, D., Raafat, K., Aboul Ela, M., Chalak, L., & Arnold-Apostolides, N. (2017). Ethnobotanical and Economic Importance of Wild Plant Species of Jabal Moussa Bioreserve, Lebanon. *J Ecosys Ecograph*, *7*(3).

Berg, B. L. (2001a). Introduction. In Berg, B. L. (Eds.) Qualitative research methods for the social sciences (4th ed.) (pp. 1-14). Boston: Allyn & Bacon.

Berg, B. L. (2001b). Chapter 5: Focus Group Interviewing. In Berg, B. L. (Eds.) Qualitative research methods for the social sciences (4th ed.) (pp. 111-132). Boston: Allyn & Bacon.

Berg, B. L., and Lune, H. (2004). Qualitative research methods for the social sciences. Vol. 5. Pearson Boston, MA.

Berkes, F. (1989) *Common Property Resources. Ecology and Community-based Sustainable Development*. London: Belhaven Press

Berkes, F. (1999) Sacred Ecology. Traditional Ecological Knowledge and Resource Management. London: Taylor and Francis.

Berkes F. 2004. Rethinking community-based conservation. Conservation Biology 18:621–630

Blench R. (1995). – Rangeland degradation and socioeconomic changes among the Bedu of Jordan: results of the 1995 IFAD Survey. In Changing migration strategies among Bedu. International Fund for Agricultural Development (IFAD), Ministry of Agriculture, Amman, Jordan.

Bonnin, M., and M. Jardin. 2009. Legal interpretation of the biosphere reserve concept in the framework of national legislation. Retrieved 10 September, 2011, from http://www.unesco.org/mab/doc/icc/2009/e_legal.pdf.

Brand, L.A. 2001. Displacement for development? The impact of changing state-society relations. *World Development* 29(6): 961-976.

Brandon K. 2000. Moving beyond integrated conservation and development projects (ICDPs) to achieve biodiversity conservation. In Tradeoffs or Syn- ergies? Agricultural Intensification, Economic Development and the Environment, ed. DCB Lee, pp. 417–32. Wallingford, UK: CAB Int.

Brockington, D., & Igoe, J. (2006). Eviction for conservation: a global overview. *Conservation and society*, *4*(3), 424.

Brockington, D., & Holmes, G. (2010). A Review of Research into the Relationships between Protected Areas and Human Well Being. Manchester, UK: Chronic Poverty Research Center.

Brockington D, Igoe J, Schmidt-Soltau K (2006) Conservation, human rights, and poverty reduction. Conserv Biol 20:250–252.

Brockington, D., Duffy, R., & Igoe, J. (2008). Nature unbound: conservation, capitalism and the future of protected areas. Routledge.

Btaich. N. (2019, August). Rural tourism Strategy in Lebanon, Overview. Presentation presented at Eco-REEF Lunching Workshop, Revisiting the Rural Tourism Sector - Tour REEF. Lebanon, Saghbin. August 3, 2019.

Budiman, M. A. (2011). The role of waqf for environmental protection in Indonesia. In *Aceh Development International Conference (ADIC), Kuala Lumpur*.

Caro, T. M., & O'Doherty, G. (1999). On the use of surrogate species in conservation biology. *Conservation biology*, *13*(4), 805-814.

Carrier, J. G. 1998. Introduction. Pages 1–24 in J. G. Carrier and D. Miller, editors. Virtu- alism: a new political economy. Berg, Ox- ford, United Kingdom.

Chappell, M. J., & LaValle, L. A. (2011). Food security and biodiversity: can we have both? An agroecological analysis. Agriculture and Human Values, 28(1), 3-26.

Chillo V., Ojeda R., Anand M. & Reynolds J.F. (2015). – A novel approach to assess livestock management effects on biodiversity of drylands. Ecolog. Indicat., 50, 69–78. doi:10.1016/j.ecolind.2014.10.009.

Chambers, R. 1997. *Whose reality counts? Putting the last first*, London: Intermediate Technology.

Church Directives. (2006). خدمة المحبة في الأوقاف والرعايا والأبرشية. توجيهات إدارية وراعوية للمطران بشارة الراعي

Cleaver, F. 2001. "Institutions, agency and the limitations of participatory approaches to development". In *Participation – the new tyranny?*, Edited by: Cooke, B. and Kothari, U. 36–55. London: Zed Books.

CBD. (2003). Thematic Report on Mountain Ecosystems.

CBD. (2014). Strategic Plan for Biodiversity 2011–2020. http://www.cbd.int/sp/targets/.

Cernea, M. 2005. ëRestriction of accessí is displacement: A broader concept and policy. Forced Migration Review 23: 48-49.

Chambers, R., (1983), Whose Knowledge?, In Chambers, R. (1983). Rural development: Putting the last first. London: Longman.

Chambers, R. (1994). The Origins and Practice of Participatory Rural Appraisal, World Development, Vol. 22, No. 7, pp. 953-969.

Chambers, R. and G.R. Conway, 1991, Sustainable Rural Livelihoods: Practical Concepts for the 21st Century, Institute of Development Studies; Discussion Paper, 296.

Charnley, S. 2005. From nature tourism to ecotourism? The case of the Ngorongoro Conservation Area, Tanzania. Human Organization, 64 (1), pp. 75-88

Chatty D. (2002). Animal reintroduction projects in the Middle East: conservation without a human face. See Chatty & Colchester 2002, pp. 227–43

Chedid, M., Tourrand, J. F., Jaber, L. S., & Hamadeh, S. K. (2018). Farmers' perception to change and adaptation strategies of small ruminant systems in the West Bekaa of Lebanon. *Small ruminant research*, *167*, 16-21.

Clark, B., & York, R. (2005). Carbon metabolism: Global capitalism, climate change, and the biospheric rift. Theory and Society, 34(4), 391-428.

Clark, B., & York, R. (2009). Rifts and shifts: getting to the root of environmental crises. Monthly Review, 60(6), 13.

Clay, J.W. (1985). Parks and people. Cultural Survival , 9(1), pp. 2-5

Cooke, B., & Kothari, U. (Eds.). (2001). Participation: The new tyranny?. Zed books.

COICA - Coordinator of the Indigenous Organizations of the Amazon Basin. 2004. Amazon indigenous agenda: Returning to the Maloca. COICA.

Coria, J., & Calfucura, E. (2012). Ecotourism and the development of indigenous communities: The good, the bad, and the ugly. *Ecological Economics*, *73*, 47-55.

Cronon, W. (1996). The trouble with wilderness. *Environmental history*, *1*(1), 20-25.

Cuello, C., K. Brandon and R. Margoluis. 1998. Costa Rica: Corcovado National Park. In: *Parks in Peril. People, Politics and Protected Areas* (eds. K. Brandon, K.H. Redford, and S.E. Sanderson). The Nature Conservancy, Washington, DC.

Cuong, C., Dart, P., Dudley, N., & Hockings, M. (2017). Factors influencing successful implementation of Biosphere Reserves in Vietnam: Challenges, opportunities and lessons learnt. *Environmental Science & Policy*, *67*, 16-26.

Daher. 1974. The social history of Lebanon (Arabic) / 1926-1914 تاريخ لبنان الاجتماعي

Das, M., & Chatterjee, B. (2015). Ecotourism: A panacea or a predicament?. *Tourism Management Perspectives*, *14*, 3-16.

Dasmann, R.F. (1973) A system for defining and classifying natural regions for the purposes of conservation. World Conservation Union, Morges, Switzerland.

Davies, J., Niamir-Fuller, M., Kerven, C., & Bauer, K. (2010). Extensive livestock production in transition: the future of sustainable pastoralism.:'Livestock in a Changing Landscape, Vol. 1: Drivers, Consequences, and Responses'.(Eds H. Steinfeld, HA Mooney, F. Schneider and LE Neville.) pp. 285–310.

Davies J., Poulsen L., Schulte-Herbrüggen B., Mackinnon K., Crawhall N., Henwood W.D., Dudley N., Smith J. & Gudka M. (2012). – Conserving dryland biodiversity. International Union for Conservation of Nature, Nairobi, 84 pp.

Dawkins, J., Colebatch, H.K., 2006. Governing through institutionalised networks: the governance of Sydney Harbour. Land Use Policy 23, 333–343.

DENR, (1992) The Nipas Law: a Primer, Department of Environmment and Natural Resources/Conservation International/Foundation for Sustainable Development Inc., Manila

De Boer, W. F., & Baquete, D. S. (1998). Natural resource use, crop damage and attitudes of rural people in the vicinity of the Maputo Elephant Reserve, Mozambique. Environmental Conservation, 25(03), 208-218.

Doak, D. F., Bakker, V. J., Goldstein, B. E., & Hale, B. (2015). What is the future of conservation?. In Protecting the wild (pp. 27-35). Island Press, Washington, DC.

Doumet, P. (2018). Working with religious endowments to set up a PPA: Jabal Moussa, Lebanon in Mitchell, B.A. Guidelines for privately protected areas, IUCN, Gland, Switzerland

Dreyer, L. (2001). Disappointments of participation: Finding the correct role for community participation. *Pretoria: Dreyer and Associates*.

Dudley, N. (Editor) (2008). Guidelines for Applying Protected Area Management Categories. Gland, Switzerland: IUCN.

Duffy, R., & Moore, L. (2010). Neoliberalising nature? Elephant-back tourism in Thailand and Botswana. *Antipode*, *42*(3), 742-766.

Durrant, M. B., and Durrant, J. O. (2008). The Influence of Location on Local Attitudes Towards Community Conservation on Mount Kilimanjaro. Society & Natural Resources 21(5): 371-386.

Dzingirai, V. 2003. The new scramble for the African countryside. Development and Change 34:243–263.

Economides, S. (1995). Animal production. In: Sustainable Range Dependent Small Ruminant Production Systems in the Near East region, FAO Regional Office for the Near East, Cairo, Egypt, 53-141.

Egenter C. Labo M. 2003. In search of equitable governance models for indigenous peoples in protected areas—the experience of Kayan Mentarang National Park. Policy Matters 12:248–53

Elliott, J. (2006). An Introduction to Sustainable Development, 3rd;3; edn, Routledge Ltd, Abingdon, Oxon.

Ellis, F. (2000). *Rural livelihoods and diversity in developing countries*. Oxford university press.

El Shaer, H. (2017). The current Situation of Protected Areas and biodiversity in the Arab Region. IUCN

Escobar, A. (1998). Whose Knowledge, Whose nature? Biodiversity, Conservation, and the Political Ecology of Social Movements. *Journal of Political Ecology* 5: 53-82

Fairhead J, Leach M, Scoones I. 2012. Green grabbing: a new appropriation of nature? Journal of Peasant Studies 39:237–261.

FAO, 2008. Climate Change and Biodiversity for Food and Agriculture. Food and Agriculture Organization of the United Nations, Rome.

FAO. 2018. World Livestock: Transforming the livestock sector through the Sustainable Development Goals. Rome. 222 pp. Licence: CC BY-NC-SA 3.0 IGO.

Fauchald, O. K., & Gulbrandsen, L. H. (2012). The Norwegian reform of protected area management: a grand experiment with delegation of authority?. *Local environment*, *17*(2), 203-222.

Fiallo, E.A. & Jacobson, S.K. (1995) Local communities and protected areas: attitudes of rural residents towards conservation and Machalilla National Park, Ecuador. *Environmental Conservation* **22**: 241–249.

Finney, S.K.; Pearce-Higgins, J.W.; Yalden, D.W., 2005: The effect of recreational disturbences on an upland breeding bird, the golden plover Pluvialis apricaria. Biol. Conserv. 121: 53–63.

Fitzhugh, H.A. (1987). Systems Approach to Small Ruminant Research and Development. Small Ruminants in the Middle East. FAO, Rome, Italy.

Fortin, M. J., & Gagnon, C. (1999). An assessment of social impacts of national parks on communities in Quebec, Canada. Environmental Conservation, 26(03), 200-211.

France Dimplomatie, https://www.diplomatie.gouv.fr/en/french-foreign-policy/sustainable-development-environment/french-policy-on-biodiversity/biosphere-reserves/

Freuler, B., & Hunziker, M. (2007). Recreation activities in protected areas: bridging the gap between the attitudes and behaviour of snowshoe walkers. Forest Snow and Landscape Research, 81(1/2), 191-206.

Friedmann, H. 2000. What on earth is the modern world-system? Food getting and territory in the modern era and beyond. Journal of World-Systems Research, 1(2), 480–515.

Gadgil, M. (1992) Conserving Biodiversity as if People Matter: a Case Study From India, Ambio 21 (3), 226-270.

Galvin, K.A., Ellis, J.E., Boone, R.B., Magennis, A.L., Smith, N.M., Lynn, S.J., and Thornton P. 2002. Compatibility of Pastoralism and Conservation? A Test Case Using Integrated Assessment in the Ngorongoro Conservation Area, Tanzania. In Conservation and Mobile Indigenous Peoples: Displacement, Forced Settlement and Sustainable Development. Dawn, C. and Colchester, M., eds. Pp. 36-60. New York: Berghahn Books

Ghimire, K.B. and Pimbert, M.P. (1996). (eds) Social Change and Conservation, Earthscan, London.

Gillingham, S., & Lee, P. C. (1999). The impact of wildlife-related benefits on the conservation attitudes of local people around the Selous Game Reserve, Tanzania. Environmental Conservation, 26(3), 218–228.

Godfrey, S. and Obika, A. 2004. Improved community participation: lessons from water supply programs in Angola. *Community development Journal*, 39(2): 156–165.

Guarino, L., & Lobell, D.B., (2011). A walk on the wild side. Nature Clim. Change 1, 374– 375.

Guerrero, K. and D.A. Rose. 1998. Dominican Republic: Del Este National Park. In: Parks in Peril. People, Politics and Protected Areas (eds. K. Brandon, K.H. Redford and S.E. San- derson). The Nature Conservancy, Washington, DC

Hammersley, M., & Atkinson, P. (2007). Research Design: Problems, cases, and samples. In Hammersley, M., & Atkinson, P. (Eds.) Ethnography: Principles in practice (pp. 23-53). Routledge.

Hansen, M.C. et al. (2013). High-resolution global maps of 21st-century forest cover change. *Science*, 342, pp. 850-853.

Hartje, V., Klaphake, A., Schliep, R., 2002. Consideration of the Ecosystem Approach of the Convention on Biological Diversity in Germany. BfN-Skripten 69, Federal Agency for Nature Conservation, Bonn, 63pp.

Heinen, J.T. (1993) Park-people relations in Kosi Tappu Wildlife Reserve, Nepal: a socio-economic analysis. *Environmental Conservation* **20**: 25–34.

Heyd, H. and Neef, A. 2004. *Participation of local people in water management: evidence from the Mae Sa watershed, northern Thailand*, Washington: International Food Policy Research Institute.

Holmes, C. (2003) The influence of protected area outreach on conservation attitudes and resource use patterns: a case study from western Tanzania. Oryx 37: 305–315.

Holmes, G (2014) What is a land grab? Exploring green grabs, conservation, and private protected areas in southern Chile. Journal of Peasant Studies, 41 (4). 547 - 567. ISSN 0306-6150 https://doi.org/10.1080/03066150.2014.919266

Holt FL. 2005. The Catch-22 of conservation: indigenous peoples, biologists, and cultural change. Hum. Ecol. 33(2):199–215.

Hooper D.U., Adair E.C., Cardinale B.J., Byrnes J.E., Hungate B.A., Matilich K.L., Gonzalez A., Duffy J.E., Gamfeldt L. & O'Connor M.I. (2012). – A global synthesis reveals biodiversity loss as a major driver of ecosystem change. Nature, 486 (7401), 105–108. doi:10.1038/nature11118.

Hosri, C., Tabet, E., & Nehme, M. (2016). Goat and sheep products value chain analysis in Lebanon. In *Options Méditerranéennes. Series A: Mediterranean Seminars*. CIHEAM-IAMZ, zaragoza(Spain)/FAO/INRA/CIRAD/Montpellier SubAgro/ICARDA/AGROPOLIS/CITA/INIA.

Ite, U.E. (1996) Community perceptions of the Cross River National Park, Nigeria. *Environmental Conservation* **23**: 351–357.

Infield, M. (1988) Attitudes of a rural community towards conservation and a local conservation area in Natal, South Africa. *Biological Conservation* **45**: 21–46.

Infield, M. & Namara, A. (2001) Community attitudes and behaviour towards conservation: an assessment of a community conservation programme around Lake Mburo National Park, Uganda. *Oryx* **35**: 48–60.

IUCN. 1980. The World Conservation Strategy. International Union for Conservation of Nature and Natural Resources, United Nations Environment Programme, World Wildlife Fund, Geneva.

IUCN. (2014). Retrieved from http://www.iucnredlist.org..

IUCN. (2018). http://www.iucnredlist.org

IUCN. (2014). Annual Report of the Species Survival Commission and the Global Species Programme. https://portals.iucn.org/library/sites/library/files/documents/2015-024.pdf

IUCN. (2018). More Than 28,000 Species Are Now Officially Threatened, But It's Just The Beginning. https://www.sciencealert.com/new-update-says-more-than-28-000-species-are-officially-threatened

IUCN and UNEP, The World Database on Protected Areas (WDPA) (United Nations Environment Programme World Conservation Monitoring Centre, Cambridge, UK, (2014).http://www.protectedplanet.net.

Jalani, J. O. (2012). Local people's perception on the impacts and importance of ecotourism in Sabang, Palawan, Philippines. Procedia-Social and Behavioral Sciences, 57, 247-254.

JMBR. (2019). The Reserve. http://www.jabalmoussa.org/reserve

Jones, B. 2004. Summary report: Lessons learned and best practices for CBNRM policy and legislation in Botswana, Malawi, Mozambique, Namibia, Zambia and Zimbabwe. South Africa: For WWF SARPO Regional Project for Community-based Natural Resource Management (CBNRM) Capacity Building in Southern Africa.

Keenan, R. J., Reams, G. A., Achard, F., de Freitas, J. V., Grainger, A., & Lindquist, E. (2015). Dynamics of global forest area: Results from the FAO Global Forest Resources Assessment 2015. Forest Ecology and Management, 352, 9-20.

Khater, C. and R. El-Hajj, 2012, Chapter VII: Terrestrial Biodiversity in Lebanon, in: Review and perspectives of environmental studies in Lebanon, Editors: Hartch Kouyoumjian, Mouin Hamze, 141–169.

Khoury, R. Anthoun, N. Khater, C. Abou Habib, N. (2015). Fifth national report of Lebanon to the convention of biodiversity. Ministry of Environment.

Khoury, R. et al. (2019). Sixth national report of Lebanon to the convention of biodiversity. Ministry of Environment and UNDP.

King, B., & Peralvo, M. (2010). Coupling community heterogeneity and perceptions of conservation in rural south africa. Human Ecology, 38(2), 265-281. doi:10.1007/s10745-010-9319-1

Kohler, F., & Brondizio, E. S. (2017). Considering the needs of indigenous and local populations in conservation programs. Conservation Biology, 31(2), 245-251.

Kothari, U. (2001), Power, Knowledge and Social Control in Participatory Development, 139- 152, in Khoraty & Cooke Participation; the New Tyranny?, Zedbooks, London.

Krupp, F., Khalaf, M., Malek, M., Streit, B., & Al-Jumaily, M. (2009). The middle eastern biodiversity network: Generating and sharing knowledge for ecosystem management and conservation. Zookeys, 31, 3-15. doi:10.3897/zookeys.31.371

Kumar, P., & Yashiro, M. (2014). The marginal poor and their dependence on ecosystem services: evidence from South Asia and Sub-Saharan Africa. In *Marginality* (pp. 169-180). Springer, Dordrecht.

Lambin, E. F., & Meyfroidt, P. (2011). Global land use change, economic globalization, and the looming land scarcity. *Proceedings of the National Academy of Sciences*, *108*(9), 3465-3472.

Laymen, 2006, Protected Areas in Lebanon - An integrated strategy for sustainable management, Stable Institutional Structure for Protected Areas Management SISPAM Project, EC-LIFE and MoE

Lewis, D. 2006. Let's Organize. A SYNDICOOP handbook for trade unions and cooperatives about organizing workers in the informal economy

Lipton, M., (1982) Why Poor People Stay Poor. In Hariss, J. (Ed.) Rural Development Theories of peasant economy and agrarian change (pp. 15-34). Routledge.

MacDonald, K. 2004. Developing 'Nature': Global Ecology and the Politics of Conservation in Northern Pakistan. In: *Confronting Environments: Local Environmental Understanding in a Globalising World* (ed. J. Carrier). AltaMira Press, Lantham.

MacDonald, K. 2005. Global hunting grounds: Power, scale and ecology in the negotiation of conservation. *Cultural Geographies* 12:259–291.

MacKinnon, K., Dudley, N., & Sandwith, T. (2011). Natural solutions: protected areas helping people to cope with climate change. *Oryx*, *45*(4), 461-462.

Maestre F.T., Quero J.L., Gotelli N.J., Escudero A., Ochoa V., Delgado-Baquerizo M., García-Gómez M., Bowker M.A., Soliveres S., Escolar C., García-Palacios P., Berdugo M., Valencia E., Gozalo B., Gallardo A., Aguilera L., Arredondo T., Blones J., Boeken B., Bran D., Conceição A.A., Cabrera O., Chaieb M., Derak M., Eldridge D.J., Espinosa C.I., Florentino A., Gaitán J., Gatica M.G., Ghiloufi W., Gómez-González S., Gutiérrez J.R., Hernández R.M., Huang X., Huber-Sannwald E., Jankju M., Miriti M., Monerris J., Mau R.L., Morici E., Naseri K., Ospina A., Polo V., Prina A., Pucheta E., Ramírez-Collantes D.A., Romão R., Tighe M., Torres-Díaz C., Val J., Veiga J.P., Wang D. & Zaady E. (2012). – Plant species richness and ecosystem multifunctionality in global drylands. Science, 335 (6065), 214–218. doi:10.1126/science.1215442.

Matar, D. A. (2015). *Status of concept implementation and management effectiveness of biosphere reserves in the Arab region* (Doctoral dissertation, PhD thesis. Budapest: Central European University).

Matar, D. A., & Anthony, B. P. (2019). 11 Sense and sustainability. *UNESCO Biosphere Reserves: Supporting Biocultural Diversity, Sustainability and Society*, 135.

Manzano P. & Malo J.E. (2006). – Extreme long-distance seed dispersal via sheep. Front. Ecol. Environ., 4 (5), 244–248. doi:10.1890/1540-9295(2006)004[0244:ELSDVS]2.0.CO;2.

Mbaiwa J (2004) The socio-cultural impacts of tourism development in the Okavango Delta, Botswana. Journal of Tourism and Cultural Change 2(2):163–185

McClanahan, T., Davies, J. & Maina, J. (2005) Factors influencing resource users and managers' perceptions towards marine protected area management in Kenya. Environmental Conservation 32: 42–49.

McGahey D., Davies J. & Barrow E. (2008). – Pastoralism as conservation in the Horn of Africa: effective policies for conservation outcomes in the drylands of eastern Africa. Ann. Arid Zones, 46 (2), 353–377.

McLean J, Straede S. 2003. Conservation, relocation and the paradigms of park and people management; a case study of Padampur Villages and the Royal Chitwan National Park, Nepal. Soc. Nat. Res. 16:509-26

McClanahan, T., Davies, J. & Maina, J. (2005) Factors influencing resource users and managers' perceptions towards marine protected area management in Kenya. *Environmental Conservation* **32**: 42–49.

Mehta, J. N., & Kellert, S. R. (1998). Local attitudes toward community-based conservation policy and programmes in Nepal: a case study in the Makalu-Barun Conservation Area. Environmental conservation, 25(4), 320-333.

Mehta, J.A. & Heinen, J.T. (2001) Does community-based conservation shape favorable attitudes among locals? An empirical study from Nepal. *Environmental Management* **28**: 165– 177.

Mercy Corps. (2014). Protect and Provide Livelihoods in Lebanon: Small Ruminant Dairy Value Chain Assessment. https://www.mercycorps.org/sites/default/files/FINAL%20Mercy%20Corps%20Lebanon%20Small%20Ruminant%20Dairy%20Value%20Chain.pdf

Millennium Ecosystem Assessment (MEA) (2005). – Ecosystems and human well-being: synthesis. Island Press, Washington, DC. Available at: www.millenniumassessment. org/documents/document.356.aspx.pdf (accessed on 24 August 2016).

Mitchell, R.J. & Duncan, S.L. (2009) Range of variability in southern coastal plain forests: its historical, contemporary, and future role in sustaining biodiversity. Ecology and Society 14(1): 17.

Mitri, G., & Elhajj, R. (2008). State of Lebanon's Forests. *Beirut, AFDC*

Mitchell, B.A., Stolton, S., Bezaury-Creel, J., Bingham, H.C., Cumming, T.L., Dudley, N., Fitzsimons, J.A., Malleret-King, D., Redford, K.H. and Solano, P. (2018). Guidelines for privately protected areas. Best Practice Protected Area Guidelines Series No. 29. Gland, Switzerland: IUCN. xii + 100pp.

Milligan, J., O'Riordan, T., Nicholson-Cole, S.A., Watkinson, A.R., 2008. Nature conservation for future sustainable shorelines: lessons from seeking to involve the public. Land Use Policy 26 (2), 203–213.

MoE/ECODIT, 2002, The 2001 State of the Environment Report.

MoE, 2006, Categories of Protected Areas. Extracted from http://www.moe.gov.lb/ProtectedAreas/categories.htm.

MoE/UNDP. (2011). State and Trends of the Lebanese Environment (SOER).

MoE, 2012. Extracted from http://www.moe.gov.lb/Sectors/Biodiversity-Forests/Sub-Sector/Sub-Sector/Protected-Areas-in-Lebanon/Protected-Area.aspx

MoE, 2015, Fifth National Report of Lebanon to the Convention on Biological Diversity. ELARD

MoE/UNEP/GEF. (2016). National Biodiversity Strategy and Action Plan – NBSAP

Mohan, G. (2007). Participatory Development, From Epistemological Reversals to Active Citizenship. Geography Compass 1/4: 779–796

Moore, J. (2003). 'Ecology and the Rise of Capitalism', Theory and Society.

Morgan, D.L., & Spanish, M.T. (1984). Focus Groups: A New Tool for Qualitative Research. Qualitative Sociology, 7(3), 253-270.

Mulongoy, K. J. and S. Chape, 2004, Protected areas and biodiversity. An Overview of Key Issues. CBD Secretariat and UNEP-WCMC, Montreal, Canada and Cambridge, UK

Naughton-Treves, L., Holland, M. B., & Brandon, K. (2005). The role of protected areas in conserving biodiversity and sustaining local livelihoods. Annu. Rev. Environ. Resour., 30, 219-252.

Nelson J, Hossack L, eds. 2003. Indigenous Peoples and Protected Areas in Africa. Moreton-in Marsh, UK: Forest Peoples Programme

Neumann R. 1997. Primitive ideas: protected area buffer zones and the politics of land in Africa. Dev. Change 28:579– 82

Newmark, W.D., Leonard, N.L., Sariko, H.I, and Gamassa, D.M. (1993). Conservation Attitudes Of Local People Living Adjacent To Five Protected Areas In Tanzania. Biological Conservation, 63, 177-183.

Newmark, W.D., Leonard, N.L., Sariko, H.I. & Gamassa, D.G.M. (1993) Conservation attitudes of local people living adjacent to five protected areas in Tanzania. *Biological Conservation* **63**: 177–183.

Nelson, N. and Wright, S. 1995. “Participation and power”. In *Power and participatory development: theory and practice*, Edited by: Nelson, N. and Wright, S. 1–18. London: Intermediate Technology.

Niamir-Fuller M. & Turner M.D. (1999). – A review of recent literature on pastoralism and transhumance in Africa. In Managing mobility in African rangelands: the legitimization of transhumance (M. Niamir-Fuller, ed.). Intermediate Technology Publications, London, 18–46. doi:10.3362/9781780442761.002.

Niamir M. (1991). – Traditional African range management techniques: implications for rangeland development. ODI Pastoral Development Network Paper No. 31d. Overseas Development Institute (ODI), London. URI: http://hdl.handle. net/10919/66423.

Nygaard, D.F., and Amir, P. 1988. Research strategies for development: Improving sheep and goat production in developing countries. In Increasing Small Ruminant ro tv in Semi-arid Areas, 37-50 (Eds. E.F. Thomson and F.S. Thomson). London: Kluwer Academic Publishers.

Oates, J. 1999. *Myth and reality in the rain forest: how conservation strategies are failing in West Africa*, Berkeley: University of California Press.

Oba G. (2012). – Harnessing pastoralists’ indigenous knowledge for rangeland management: three African case studies. Pastoralism: Res., Pol., Pract., 2 (1), 1. doi:10.1186/2041-7136-2-1.

Panusittikorn P, & Prato T. (2001). Conservation of protected areas in Thailand: the case of Khao Yai National Park. Protected Areas East Asia 18(2):67–76

Parry, D., & Campbell, B. (1992). Attitudes of rural communities to animal wildlife and its utilisation in Chobe enclave and Mababe depression, Botswana. Environmental Conservation, 19(3), 245–252. https://doi.org/10.1017/S0376892900031040

Patel, R. (2012). The long green revolution. The Journal of Peasant Studies, 40(1), 1-63.

Paudel NS. 2005. Conservation and livelihoods: an exploration of the local responses to conservation interventions in Royal Chitwan National Park in Nepal. PhD thesis. Univ. Reading, United Kingdom

Petrova, S., Čihař, M., & Bouzarovski, S. (2011). Local nuances in the perception of nature protection and place attachment: a tale of two parks. Area, 43(3), 327-335.

Picard, C.H. (2003) Post-apartheid perceptions of the Greater St Lucia Wetland Park, South Africa. *Environmental Conservation* **30**: 182–191.

Pimbert, M. P., & Pretty, J. N. (1997). Parks, people and professionals: putting 'participation'into protected area management. *Social change and conservation*, *16*, 297-330.

Pimm, S. L., Jenkins, C. N., Abell, R., Brooks, T. M., Gittleman, J. L., Joppa, L. N., ... & Sexton, J. O. (2014). The biodiversity of species and their rates of extinction, distribution, and protection. Science, 344(6187), 1246752.

Pretty J. (1995). Participatory learning for sustainable agriculture, World Development, vol. 23 8 (p. 1247-1263)

Pretty, J., & Ward, H. (2001). Social capital and the environment. World Development, 29(2), 209–227

Proctor, J. D. and Pincetl, S. (1996) 'Nature and the reproduction of endangered space: The spotted owl in the Pacific northwest and southern California'. Environment and Planning D: Society and Space 14: 683–708

Rae J, Arab G, Nordblom T. 2002. Customs excised: arid land conservation in Syria. See Chatty & Colchester 2002, pp. 212–26

Rajeh, A. (2007). Christian endowments in the contents of the Law (Arabic). Antonine University Publications. الأوقاف المسيحية في مضامين الشرع. منشورات الجامعة الأنطونية

Ramadan-Jaradi, G.H., et al., 2010, State and trend of Lebanese environment, Chapter 5: Biodiversity and Forests, MoE/UNDP/ ECODIT

Rao, K., & Geisler, C. (1990). The social consequences of protected areas development for resident populations. Society & Natural Resources, 3(1), 19-32.

Redfort, H. (1991). The Ecologically Noble Savage. Cultural Survival Quarterly 15.1

Redclift, M. (2005). Sustainable development (1987–2005): an oxymoron comes of age. Sustainable development, 13(4), 212-227.

Redford, K. H. (1991). The ecologically noble savage. Cultural Survival Quarterly 15: 46–48.

Redford, K.H. and A.M. Stearman. 1993. Forest-dwelling native Amazonians and the conservation of biodiversity—interests in common or in collision? *Conservation Biology* 7: 248-255.

Redford, K.H. and S.E. Sanderson. 2000. Extracting humans from nature. *Conservation Biology* 14: 1362-1364.

Ribot, J. and N. Peluso, 2003, A theory of access, Rural Sociology, 68, 2, 153-81.

Ripple, W. J., Estes, J. A., Beschta, R. L., Wilmers, C. C., Ritchie, E. G., Hebblewhite, M., ... & Schmitz, O. J. (2014). Status and ecological effects of the world's largest carnivores. *Science*, *343*(6167), 1241484.

Ripple, W. J., Wolf, C., Newsome, T. M., Galetti, M., Alamgir, M., Crist, E., ... & 15,364 scientist signatories from 184 countries. (2017). World scientists' warning to humanity: A second notice. *BioScience*, *67*(12), 1026-1028.

Robinson, J. G. (2011). Ethical pluralism, pragmatism, and sustainability in conservation practice. Biological Conservation, 144(3), 958-965.

Rocheleau, D. and Slocum, R. 1995. "Participation in context: key questions". In *Power, process and participation – tools for change*, Edited by: Slocum, R. 17–30. London: Intermediate Technology. Environ. Change, 15 (1), 155–167. doi:10.1007/s10113-014-0616-x.

Roe, D., & Elliott, J. (2006). Pro-poor conservation: the elusive win-win for conservation and poverty reduction. Policy matters, 14(03), 2006.

Rosenweig, M. L. (2003) 'Reconciliation ecology and the future of species diversity'. Oryx 37(2): 194–205

Røskaft, E., Händel, B., Bjerke, T. & Kaltenborn, B.P. (2007). Human attitudes towards large carnivores in Norway. Wildlife Biology, 13, 172-185.

Ruben, R., & Pender, J. (2004). Rural diversity and heterogeneity in less-favoured areas: the quest for policy targeting. Food policy, 29(4), 303-320.

Sakr, M. (2018). The Legal Regime of Waqf In Lebanon.

Sadr, S.K., 1972. *Land tenure in Lebanon* (Doctoral dissertation).

Sandbrook, C., Cavanagh, C. J., & Tumusiime, D. M. (Eds.). (2018). Conservation and Development in Uganda. Routledge.

Sanderson SE, Redford KH. 2003. Con- tested relationships between biodiver- sity conservation and poverty alleviation. Oryx 37:389–90

Sattout, E. and H. Zahreddine, 2013, Native trees of Lebanon and neighboring countries: A Guidebook for Professionals & Amateurs.

Scheyvens, R. (1999). Ecotourism and the empowerment of local communities. Tourism management, 20(2), 245-249.

Scoones, I. (2009) Livelihoods Perspectives and Rural Development, Journal of Peasant Studies, Vol. 36, No. 1

SCBD (2010). Country profiles. Convention on Biological Diversity. http://www.cbd.int/countries/.

Schliep, R., and Stoll-Kleemann, S. 2010. Assessing governance of biosphere reserves in Central Europe. Land Use Policy 27 (3): 917-927.

Schultz, P.W., C. Shriver, J.J. Tabanico, and A.M. Khazian. 2004. Implicit connections with nature. Journal of Environmental Psychology 24, 31-42.

Schultz, P. W. (2000). Empathizing with nature: Toward a social-cognitive theory of environmental concern. Journal of Social Issues, 56, 391-406.

Schultz, P. W. (2001). The structure of environmental concern: Concern for self, other people, and the biosphere. *Journal of environmental psychology*, *21*(4), 327-339.

Seid MA, Kuhn NJ, Fikre TZ. (2016). The role of pastoralism in regulating ecosystem services. Rev Sci Tech. 35(2):435-444. doi: 10.20506/rst.35.2.2534.

Shaw, Ian. 2008. Ethics and the practice of qualitative research. Qualitative Social Work 7, no. 4:400-414.

Silori, C. S. (2007). Perception of local people towards conservation of forest resources in Nanda Devi Biosphere Reserve, north-western Himalaya, India. *Biodiversity and Conservation*, *16*(1), 211-222.

Smith, J. L. (2008). A critical appreciation of the "bottom-up" approach to sustainable water management: embracing complexity rather than desirability. *Local environment*, *13*(4), 353-366.

Sneed, P., Dean, T. D., Herlihy, P., Nietschmann, B., & Stevens, S. (1997). Conservation through cultural survival: Indigenous peoples and protected areas. Washington: Island Press.

Soga, Masashi, Kevin J. Gaston, Tomoyo F. Koyanagi, Kiyo Kurisu, and Keisuke Hanaki. "Urban residents' perceptions of neighbourhood nature: Does the extinction of experience matter?." *Biological Conservation* 203 (2016): 143-150.

Solecki, W. D. (1994). Putting the biosphere reserve concept into practice: Some evidence of impacts in rural communities in the United States. Environmental Conservation, 21(03), 242-247.

Songorwa, A. N. (1999). Community-based wildlife management (CWM) in Tanzania: are the communities interested?. World development, 27(12), 2061-2079.

SPNL. http://www.spnl.org/hima/

Springer. (2009). Addressing the Social Impacts of Conservation: Lessons from Experience and Future Directions. Conservation and Society 7(1): 26-29, 2009.

Stern, M.J. 2008a. The Power of Trust: Toward a Theory of Local Opposition to Neighboring Protected Areas, Society and Natural Resources, 21:10, 859-875, DOI: 10.1080/08941920801973763

Stern, M. J. (2008b). Coercion, voluntary compliance and protest: the role of trust and legitimacy in combating local opposition to protected areas. *Environmental Conservation, 35*(3), 200-210

Stern, P. C. & Dietz, T. (1994). The value basis of environmental concern. Journal of Social Issues, 50, 65-84.

Stoll-Kleemann, S. (2001). Barriers to nature conservation in Germany: A model explaining opposition to protected areas. Journal of environmental psychology, 21(4), 369-385.

Stoll-Kleemann, S., De la Vega-Leinert, A. C. and L. Schultz, 2010, The role of community participation in the effectiveness of UNESCO Biosphere Reserve management: evidence and reflections from two parallel global surveys, Environmental Conservation, 37, 03, 227-238.

Stronza, A. (2007). The economic promise of ecotourism for conservation. Journal of Ecotourism, 6(3), 210-230.

Surendran, A., & Sekar, C. (2011). A comparative analysis on the socio-economic welfare of dependents of the Anamalai Tiger Reserve (ATR) in India. Margin: The Journal of Applied Economic Research, 5(3), 361-379.

Taimni, K. 2001. Cooperatives in Asia: From Reform to Reconstruction. International Labor Organization, Geneva.

Terborgh, J. (1999). Requiem for Nature, Island Press, Washington DC (p142).

The Fifth World Park Congress. (2003). https://enb.iisd.org/crs/worldparksV/sdvol89num9e.html

Tumusiime, D.M., Byakagaba, P., Tweheyo, M. and N. Turyahabwe. 2018. Predicting Attitudes towards Protected Area Management in a Developing Country Context. *Journal of Sustainable Development*, Vol. 11, No. 6. doi:10.5539/jsd.v11n6p99.

UNDP. (2010). State & Trends of the Lebanese Environment

UNEP-WCMC. (2018). Uganda protected areas coverage. www.protectedplanet.net/country/UG.

UNESCO. (2008). Madrid Action Plan for biosphere reserves (2008-2013). Paris, France: UNESCO.

UNESCO. (2010). Lessons from biosphere reserves in the Asia-Pacific region, and a way forward. A regional review of biosphere reserves in Asia & the Pacific to achieve sustainable development. Jakarta: UNESCO Regional Office. URL: http://unesdoc.unesco.org/images/0018/001883/188345e.pdf [consulted January 2012].

UNESCO & MAB. (2015). MAB strategy 2015-2025. http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/pdf/MAB_Strategy_2015-2025_final_text.pdf

UNESCO & MAB. (2016). The Lima Action Plan and the 2030 Agenda for Sustainable Development and its Sustainable Development Goals. file:///Users/sarah/Downloads/247418eng.pdf

UNU-INWEH. (2013). Human Integrated Management Approach.

UNWTO. (2018). Resolution A/RES/73/245 on "Promotion of sustainable tourism..." adopted by the UN General Assembly. https://sdt.unwto.org/content/resolution-ares73245-promotion-sustainable-tourism-adopted-un-general-assembly

Van Onselen, C. (1993). The reconstruction of a rural life from oral testimony: Critical notes on the methodology employed in the study of a black South African sharecropper. The Journal of Peasant Studies, 20(3), 494-514.

Vedeld, P., Jumane, A., Wapalila, G., & Songorwa, A. (2012). Protected areas, poverty and conflicts: A livelihood case study of Mikumi National Park, Tanzania. *Forest Policy and Economics*, *21*, 20-31.

Vincent, H., Wiersema, J., Kell, S., Fielder, H., Dobbie, S., Castañeda-Álvarez, N. P., ... & Maxted, N. (2013). A prioritized crop wild relative inventory to help underpin global food security. Biological conservation, 167, 265-275.

Vining, J., Merrick, M. S., & Price, E. A. (2008). The distinction between humans and nature: Human perceptions of connectedness to nature and elements of the natural and unnatural. Human Ecology Review, 1-11.

Vivanco LA. 2001. Spectacular quetzals, ecotourism, and environmental futures in Monte Verde, Costa Rica. Ethnology 402:79–92

Wallace, A. and L. Naughton-Treves. 1998. Belize: Rio Bravo Conservation and Management.

Wallerstein, I. (1976). The Modern World-System: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century. New York: Academic Press Area. In: Parks in Peril. People, Politics and Protected Areas (eds. K. Brandon, K.H. Red-ford and S.E. Sanderson). The Nature Conservancy, Washington, DC.

Wanner, T. (2015). The new 'Passive Revolution' of the green economy and growth discourse: Maintaining the 'sustainable development'of neoliberal capitalism. New Political Economy, 20(1), 21-41.

Warriner, D. (1948). Land and Poverty in the Middle East. Royal Institute of International Affairs, Lebanon.

West, P., Igoe, J., & Brockington, D. (2006). Parks and peoples: the social impact of protected areas. Annu. Rev. Anthropol., 35, 251-277.

West, P., & Brockington, D. (2006). An anthropological perspective on some unexpected consequences of protected areas. *Conservation biology*, *20*(3), 609-616.

West PC, Brechin SR. (1991). Resident Peoples and National Parks. Tuscon, AZ: University of Arizona Press.

Western, D., Wright, R.M. and Strum, S.C. (1994) Natural Connections: perspectives on community-based conservation, Island Press, Washington

Wilshusen, P.R., Brechin, S., Fortwangler, C., West, P. (2002). Reinventing a square wheel: critique of a resurgent 'protection paradigm' in international biodiversity conservation. Society and Natural Resources 15 (1), 17–40.

Whittaker, R.J., Willis, K.J. and R. Field, 2001, Scale and species richness: towards a general, hierarchical theory of species diversity, Journal of Biogeography, 28, 4, 453-470.

Wittemyer G, Elsen P, Bean WT, Burton AC, Brashares JS. (2008). Accelerated human population growth at protected area edges. Science 321:123–126.

Wolmer, W. (2007) *From Wilderness Visions to Farm Invasions: Conservation and Development in Zimbabwe's South East Lowveld*. Oxford: James Currey

Wong, C, 2012, Guidance for the Preparation of ESTR Products-Classifying Threats to Biodiversity, Canadian Councils of Resource Ministers.

Woodhouse, E., Homewood, K. M., Beauchamp, E., Clements, T., McCabe, J. T., Wilkie, D., & Milner-Gulland, E. J. (2015). Guiding principles for evaluating the impacts of conservation interventions on human well-being. Phil. Trans. R. Soc. B, 370(1681), 20150103.

World Bank (2017). Terrestrial Protected Areas (% of total land area). Accessed from https://data.worldbank.org/indicator/ER.LND.PTLD.ZS?end=2017&name_desc=false&start=2016

WRI (2002). World Resources 2002-2004: Decisions for the Earth: Balance, Voice, and Power. World Resources Institute. http://pdf.wri.org/wr2002fulltxt_230-283_datatables.pdf.

Zeppel, H. (2006). Indigenous ecotourism: sustainable development and management. Ecotourism Book Series

Zimmerer K. (2000). The reworking of conservation geographies: nonequilibrium landscapes and nature-society hybrids. Ann. Assoc. Am. Geogr. 90:356–69.