

Warming up the Climate Change Debate: A Critical Review on the North-South Debate and the Position of Forest- dependent Communities

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Abstract

Climate change has attracted the attention of scientists, researchers, politicians, organizations and other people who dwell on the planet earth. Among other things, the controversy over what climate change constitutes and how it should be mitigated is one of important factors that have attracted the attention of different actors. This has produced an enormous debate. I consider this debate as valuable as it pushes people to search for a better understanding of climate change. It is the same posture, this paper was written. This paper briefly contributes to the debate with a particular focus on the North-South aspect of the debate in relation to the position of local communities in the climate change discussions. The paper applied a political ecology perspective in an attempt to shed light on the forces behind introduced climate change mitigation options.

Keywords: *climate change, political ecology, power, REDD+, forest conservation*

Introduction

Climate change poses a serious threat to the future of the planet earth (IPCC, 2014). It has been suggested that if no human actions are put in place, the earth will not support habitation or fulfill the livelihood of people who depend on it (IPCC, 2012). This threat has attracted the attention of many experts and researchers to search for possible options to fix the problem (Westholm et al. 2011) Over the past two decades, we have witnessed the perhaps paradoxical twin processes of growing scientific certainty about the causes and consequences of climate change, and rising concern that the issue presents an intractable problem for global governance (Bulkeley and Newell, 2015).

For a long time now, different efforts have been initiated in an attempt to deal with the problem. In the past 25 years, these efforts have evolved from an issue of interest to some natural scientists into one of the top priorities on the global policy agenda (Bernauer, 2013). Global initiatives on environmental conservation can be traced back to the formation of the World Commission for Environment and Development (WCED) in 1984 by the General Assembly of the United Nations. The objective of the Commission was to ensure sustainable development. At the meeting held in 1987 in Nairobi Kenya, the commission called for a global initiative to preserve the environment as there were growing threats to the environment at the regional and global scale that threatened the survival of the planet. It called for a change of perceptions about resources, by claiming that some are not national but global (WCED, 1987). Additionally, the Rio Earth Summit of 1992, which is considered a pivotal point in the history of global forest policy, defined new international values on the environment and focused on building a new system of international responsibility through inclusive multilateral agreements (Levin, McDermott and Cashore, 2008). Despite the fact that the Rio Summit failed to launch a legally binding convention, it managed to establish the United Nations Framework Convention on Climatic Change (UNFCCC). According to Maradan, (2010) the main objective of UNFCCC is to collect and share information between all parties about Green House Gas (GHG) emissions, stabilization and slowing down GHG emissions. One of the strategies introduced by UNFCCC is "Reduced Emissions from Deforestation and Degradation" (REDD+) policy.

Amidst these efforts there exists a big controversy over the matter. Different groups including researchers, scientists and individuals are questioning the way climate change is conceptualized and the suggested options to address the problem (see, Paterson and Grubb, 1992; Figieres and John, 2009; Verchot and Petkova, 2009; Methmann, 2011; Visserren-Hamahers et al. 2012; Bernauer, 2013).

This paper engages itself in the debate aiming at exploring power relations embedded in climate change. The objective is to spell out the less said side of the climate change story. Equally important, this paper wishes to map the position of local communities, precisely forest-dependent communities in climate change discussions. In order to achieve that, the paper applies a political ecology perspective- a perspective that enables us to go beyond the appearance (observable) by enlightening the underlying processes and mechanisms (Robbins, 2004).

North-South Debate on Climate Change: A Review

Among other issues, the controversy between the 'North and the South' is an important point of the divide in international environmental negotiations. According to Paterson and Grubb (1992) the North-South debate is based on two main issues, namely responsibility for emissions and how the burden of reducing emissions should be shared.

For developing countries, (according to Paterson and Grubb 1992) climate change is a 'Northern' issue because it is the north that created the problem. The argument is that developed countries account for 75 percent of global emissions. Data also indicate that per capita emissions from regions such as the India sub-continent and Africa are around one-twentieth of those of the US (Paterson and Grubb 1992: 297). The USA alone generates 23% of the world's total GHG emissions while Africa generates only 4% (IPCC, 2014). Thus, developing countries see the problem as largely caused by the consumption patterns of the North. Thus, the main emitter (that's the North) should hold greater responsibility for emissions (Parikh, 2004).

On the other side, the North claims that because of their much greater and still growing population, developing countries are likely to quickly increase their emissions and therefore the South's emissions should not be undermined Paterson and Grubb (1992). However, Paterson and Grubb argue that developed countries' projection of future emissions in the south (to be above the atmospheric cleaning capacity) is politically-motivated to blame developing countries for climate change and perpetuate the current global inequality in the use of the earth's environment and its resources.

The North-South debate manifests itself also on how the burden of reducing emissions should be shared. Developed nations require both developed and developing nations to share the reduction of carbon emissions (Parikh 2004:18). This shows that sharing the burden of reducing emissions is itself an issue of power because countries that affect the environment want to share the burden of reducing emissions with countries that have a less negative effect on the environment. In other words, local people in countries of the developing world have to share the burden through climate change mitigation options introduced in their localities.

Paterson and Grubb (1992:20) are of the view that developed countries are far from seriously addressing the problem. One important example is the failure of the Kyoto protocol of 1997. The protocol attempted to commit industrialized countries to reduce greenhouse gas emissions by an average of 5.2 percent below 1990 levels by 2008-2012 (Ganga and Armitage 2005). However, due to the fear of jeopardizing individual national development ambitions, some countries did not ratify the protocol. For example, shortly after the Kyoto Protocol was concluded, it became evident that the United States, the largest GHG emitter at that time (now it is China), would not join the agreement. Canada, which ratified the Kyoto Protocol in 2002, formally withdrew from it in 2012. Moreover, obtaining specific reduction commitments from emerging economies and developing countries has turned out to be far more difficult than expected (Benuauer, 2013:3). Even for countries that ratified the Kyoto protocol, implementation of the agreement has not been as expected. As a result, the reduction of greenhouse gas emissions by industrialized countries has become problematic (Ganga and Armitage 2005: 75).

More recently discussions on climate change have shifted from concerns about establishing targets (by developed nations to reduce their emissions) to the contributions of deforestation and forest degradation in Green House Gas (GHG) emissions (Angelsen, 2009). Deforestation is currently closely associated with the current problem of climate change especially because it is claimed that the extensive loss of forest cover lowers the capacity of the World to absorb excess carbon emissions from industries and other production sectors (Sern, 2006; Angelsen, 2009) In this regard, there have emerged global strategies to deal with climate change and deforestation in particular. Figieres and John (2009) argue that the need for global concerns to deal with the problem lies in the realization of the fact that tropical forests are the second biggest stock of carbon on earth after oceans, therefore they contribute to mitigating climate change. It has been recognized that deforestation has huge environmental consequences at the global level (Figieres and John, 2009:61). Consequently, the preservation of tropical forests became a global issue and is now a hot topic on the agenda of international environmental negotiations.

The argument that has been raised regarding deforestation, is that until post-Kyoto, there was limited recognition (in terms of studies) of the role of deforestation and forest degradation in gas emissions (Ganga and Armitage 2005). Commenting on how deforestation is propagated, Parikh (2004:20) says,

“while in the past transport and industrial sector were held responsible for large amounts of global carbon emission, more recent studies indicate otherwise; loss of natural forests around the world due to deforestation is greater than the annual of the industrial sector.”

The above claim is an attempt to shift the burden of reducing emissions from developed countries to developing countries. This manifests itself in that developed countries are now interested in assisting developing countries to reduce deforestation and forest

degradation instead of reducing their industrial emissions. This can be observed in how the REDD+ policy discussions have dominated the UNFCCC meetings since the 2005 conference held in Montreal (Madeira, 2008). For example, at COP11 in Montreal in 2005, the Coalition for Rainforest Countries (CfRN) introduced the issue of compensating with carbon finance for reducing national rates of deforestation. They emphasized that deforestation in developing countries accounts for a significant amount of global greenhouse gas emissions and that action to reduce emissions from deforestation in developing countries is essential for battling climate change effectively (Madeira 2008: 19).

Some environmentalists and conservationists support the above argument. The reason that they give is that reducing deforestation and forest degradation would address the climate change problem and importantly conserve biodiversity (Hammer and Stiep, 1995). It is important to note that, conservation science can be used to justify political decisions (Forsyth, 2003). Conservation science allows forest and carbon to be counted, calculated, and clear divisions of natural (forest) and human (forest-dependent communities) (Mukono and Sambaiga, 2016). Forest conservation is assumed to foster reducing emission from deforestation; reducing emission from forest degradation, conservation of forest carbon stocks, sustainable management of forests; and enhancement of forest carbon stock as vital for biodiversity (Dickson and Kapos, 2012).

Evidence also indicates that mitigation of climate change through the introduction of the REDD+ scheme was also propagated based on the assumption that REDD+ schemes are one of the cheapest ways of facing climate change, an assumption stated in the Stern Review (Stern 2006: 537). Also the British government-sponsored Eliash review supported this assumption, estimating: “the finance required to halve emissions from the forest sector to 2030 could be around \$17-33 billion per year if included in global carbon trading” (Stern, 2006:19). Ferrari (2010) argues that the agreements reached in the COP15 in Copenhagen, to provide positive incentives to developing countries to reduce deforestation was partly based on this assumption.

Political Ecology: A Conceptual Framework

In this review, I apply a political ecology perspective in order to unearth the reality beneath the climate change and thus analyze the debate presented above. According to Watts (2000) cited in Robbins (2004), political ecology seeks to understand the complex relationship between nature and society through a careful analysis of what one might call the forms of access and control over resources and their implications for environmental health and sustainable livelihood. Political Ecology is a multi-disciplinary field that has its roots in neo-Marxism and political economy and has been influenced by the social movement’s theory and post-structuralism (Bryant and Bailey, 1997).

According to Robbins (2004:11), there are two major assumptions of political ecology. First, environmental change and ecological conditions are products of political processes. Second, cost and benefits associated with environmental change are for the most part distributed among actors unequally... (which inevitably) reinforces or reduces existing social and economic inequalities ... (which holds) political implications in terms of the altered power of actors in relation to other actors. Political ecology is described as seeking to explore flaws in dominant approaches to the environment favored by co-operating, states and international authorities, working to demonstrate the undesirable impacts of policies and market conditions especially from the point of view of local people, marginal groups, and vulnerable populations. This approach seeks to “denaturalize” certain social and environmental conditions, showing them to be the contingent outcomes of power that are however not inevitable (Robbins 2004: 12).

Central to political ecology is the exploration of multi-level connections between the local and global phenomena. These connections include both environmental functions, decision making and hierarchies of power (Adger, *et. al* 2001; Walker, 2005). Thus, political ecologists follow a model of explanation that evaluates the influence of variables acting at a number of scales each nested within another, with local decisions influenced by regional policies, which are in turn directed by global politics and economics (Robbins, 2004:11). In this manner, environmental problems apparent in the third world countries, for example, are not simply a reflection of a single factor but a manifestation of broader political and economic forces. Forest degradation, for example, cannot be adequately analyzed by focusing only on what is happening at the community level but requires a wider analysis of political and economic forces of different levels, namely national and international levels.

Political ecology is also understood as a theory that contains a lot of concepts. Therefore this paper uses the concept “*power*” to analyze policy interventions regarding climate change (such as the REDD+). This is because forest governance is an issue that revolves around “*power*” whether in decision making, access or benefit.

Conceptualizing Power

There are various ways in which power is understood. These conceptions or forms of power are what Foucault (in Gordon, 1980:119) refers to as technologies of power. One way in which power is understood is that it is repressive or dominative (Hindess, 1996). This conception of power is considered to carry the force of prohibition, the one that suppresses, negates or abstracts. To Foucault, this form of technology of power was dominant in feudal societies in which power functioned essentially through signs and levies (Gordon 1980:119); signs of loyalty to the feudal lords, rituals, ceremonies and levies in the form of taxes, pillage,

hunting, and war. However, Foucault (Gordon 1980: 120) considers this conception of power which is curiously widespread as narrow and skeletal. This is because the notion of repression is quite inadequate for capturing what is precisely the productive aspect of power. To Foucault (Gordon 1980:120) what makes power accepted is simply the fact that it does not only weigh on us as a force that says no, but it traverses and produces things, it induces pleasure, forms of knowledge produces discourses (Gordon 1980: 119). In other words, Foucault argues that power should not be conceived simply as a force that is placed on us, forcing us to act or behave in certain ways enforced, for example, by the state apparatus (such as the army, police, fiscal administration); but power needs to be understood as it manifests itself in ways that come to be conceived as socially acceptable more than as a negative force whose function is repressive.

The technology of power that is very interesting to Foucault (Gordon 1980:120) and the one that can help us clearly understand how power manifests itself is that which begins to exercise itself through social production and social services (Gordon 1980:125). This power is able to gain access to the bodies of individuals, to their acts, attitudes, and models in everyday behavior. With regard to forest management, for example, this form of power does not force people to do something, but it designs mechanisms that influence people's perceptions making them freely accept certain practices. These technologies of power that are considered a productive network that runs through the whole social body may take many forms such as ideological manipulation, rational argumentation or moral advice.

In order to analyze power in climate change, this review adopts Foucault's conception of power. This is because his conception of power is broader, encompassing different techniques that actors use to exercise power. It also helps us to understand that power may manifest itself in ways that cannot be easily noticed by people as opposed to the repressive conception of power.

Issues Regarding Power in the Climate Change Debate: An Analysis

Bryant and Bailey (1997: 67) have defined power as follows:

“Power is primarily understood by political ecologists in relation to the ability of an actor to control its interaction with the environment and the interactions of other actors with the environment”.

Bryant and Bailey (1997) noted that there is general agreement on the role of power and the resulting inequality in human relationships in determining a pattern of human-environmental interaction. Additionally, control over the use of natural resources and capability to influence the actions of other actors vary between the actors and this control is based on power.

There are various ways in which one actor may seek to exert control over the environment of other actors. Bryant and Bailey (1997:38) assert that the most important way is by discursive means. Here power is linked to “*the attempted regulation of ideas*”. This means that people may use ideas to influence others. Bryant and Bailey consider ideas as never “innocent,” as they either reinforce or challenge social and economic arrangements. And thus power is partly a matter of “winning the battle of ideas” over human use of the environment since actors typically seek to legitimate the triumph of their individual interests over the interests of others through an attempt to assimilate them to ‘the common good’ (Bryant and Bailey 1997: 40). The introduction of forest governance policies such as the REDD+ policy in countries like Tanzania, for example, was not by force, but through making actors believe that everyday livelihood activities (such as timber production, agriculture) has a negative impact on climate and therefore they need to adopt different practices which are environment-friendly. Thus power is used to influence ideas and practices of other actors regarding their interaction with nature. This “technique” has enabled (as shown in the previous section) developed nations to shift discussions on climate change from concerns about establishing targets (by developed nations to reduce their emissions) to the contributions of deforestation and forest degradation in Green House Gas (GHG) emissions. This is how certain actors exercise their power (or what Foucault, (1991) refers to as “techniques of power”) by influencing other actors' knowledge and practices. In this way, the powerful actors are able to enhance their power over the environments of other actors by controlling what Scott (1990) terms the ‘public transcript’- the socially accepted versions of events represented in public documents, political ideologies, and popular musical theatre and so on.

Thus, political ecology is a powerful theoretical tool that can illuminate the hidden agenda in the ways climate change problem is being approached. It can be argued that environmental policies implemented in the South under the so-called ‘international agreement’ reflect the power relations that exist between the global North and the global South. Consequently, developed nations have been forming policies that influence patterns of resource use in the South in the name of addressing climate change. Parikh (2004:294) argues that the South can no longer plan their development strategies as if climate change issues do not exist. As opposed to what is usually held that such policies serve to foster environmental conservation and development of the South, this paper argues that they may serve the interests of the developed countries while affecting forest resource utilization in the South. Samir (2010: 47) has noted this fact as he points out that:

“The noise made around the need for a “global” response to the challenge (climate change) is simply aiming at preventing the nations of the South to make any use of the resources of the planet in order to allow the North to continue its wasting pattern of production and consumption”.

Some political ecologists (such as Bachram, 2012) talk about “green” and “blue grabbing” to refer to how recently established conservation initiatives, steadily lead to local people’s loss of access to land and natural resources. Though these conservation plans are presented as if they have good intentions- “to preserve nature”, they may contain “hidden” intentions. In their analysis of wildlife and marine conservation in Tanzania, Benjaminsen and Bryceson (2012:350) concluded that

“..... ongoing processes of conservation of wildlife and marine and coastal areas in Tanzania may be seen as forms of green and blue grabbing in terms of the combination of dispossession of previous users and capital accumulation by some powerful actors”.

Notwithstanding, Leach (2012) argues that markets which are propagated under the REDD+ reinforce power dynamics within the international nexus system by encouraging green dependency and accumulation of capital by dispossession. Thus, countries in the global South are being constrained from the same development race by making them pay the price of the problems created by the capitalist nations. Additionally, the victims of these conservation practices (such as REDD+) are peasants and indigenous people (Fairhead et al. 2012).

Methmann (2011) in his “the sky is the limit: global warming as global governmentality” links the global carbon business to governmentality. To govern can be referred to as ‘any more or less calculated and rational activity, undertaken by a multiplicity of authorities and agencies ... that seeks to shape conduct by working through our desires, aspirations, interests and beliefs’ (Dean, 2010: 11). Thus, carbon business under the REDD+ schemes is a way of governing earth’s carbon cycle which is assumed to save the climate but in fact, it serves to protect business interests. This process results in politicization of climate politics because, it makes the structural causes of climate change invisible (Methmann, 2011). For example, fewer people are now talking about emissions from industries or transportation sector, most of the discussions focus on deforestation and forest degradation. This implies that a certain idea may be presented as if represents “good” intentions but may contain a hidden agenda in it.

Again, within forest governance, there is a hidden power “the conduct of conduct” - the social practices that intend to manipulate and or mold the conduct of individuals (Gordon, 1991) leading to changing the behaviour of the actors (Mukono and Sambaiga, 2016). That forest governance policies such as REDD+ are playing key role in normalizing, shape and control the behavior of actors in the forest communities (Mukono and Sambaiga, 2016). In other words, Mukono and Sambaiga assert that the REDD+ policy intends to change the way people used to interact with their environment through making people believe that their everyday livelihood activities (such as timber production, agriculture) has negative impact on climate and therefore they need to adopt different practices which are environment-friendly.

For those who use scientific knowledge (conservation science for example) to justify the need to limit the utilization of forest resources as a way of dealing with climate change are also subjected to critique. It has been established that science is never neutral (Latour, 1987; Jasanoff and Wynne, 1998; Jasanoff, 1990). Forsyth (2003: 103) has noted that scientific “facts” about environment reflect wider social framings and discourses which have also evolved historically. That science and politics co-evolved, thus we need to acknowledge the influence of politics in science. Jasanoff (1990: 393) uses the concept “coproduction” to refer to the influence of political action on the generation and legitimization of scientific knowledge. In other words, “knowledge about the biophysical world cannot be separated from social influences and particularly from how society is clustered and organized” (Forsyth, 2003: 104). Commenting about how science is embedded in politics, Methmann (2011: 84) says,

“...The epistemic approach to climate change makes it necessary that these global negotiations be guided by sound scientific findings such as the IPCC reports. This gives particular importance to scientists, or experts in general, who provide the knowledge basis for carbon governmentality. It can be argued that ‘politicians’ still trump ‘scientists’, in that, for example, the commitments of the Kyoto Protocol are the outcome of a political bargain, not of a scientific assessment; hence, many scientists criticize the poor performance of the international negotiations”.

More importantly, there is a concern that science is used politically to exaggerate climate change (Swyngedouw, 2013). In this way, environmental problems are generally staged as universally threatening to the survival of humankind. This is maintained by creating fear to people what Davis (1999) called ‘ecologies of fear’. That, stories which are made about climate change “generates deep fears and around which the desire for change, for a better socio-climatic world, is woven” (Zizek, 1997).

The position of Forest–dependent Communities in Climate Change Discussions

Climate change mitigation options are critical issues that affect different actors in a number of ways. Forest-dependent communities represent is a group that is critically affected by forest governance policies but highly neglected in discussions about governance options (see Griffiths, 2009; Methmann, 2011). Available literature indicates that many authors especially those defending the South

have only concentrated on defending the nations' rights to utilize their forest resources but have not addressed the role of local people in the discussion (Paterson and Grubb, 1992; Parkh, 2004; Madeira, 2008; Peet et al. 2011). On the other hand, there are countries in the South which have accepted to share the burden of carbon emissions. But the real question is whom do they represent? It seems that the governments speak on behalf of the local people whose lives depend on forest resources. In this regard, major decisions are being reached about climate change mitigation options which are to be implemented at the local level, while people who directly have to carry the burden are not aware of what is taking place at the global scene. Such trends have implications for the local people's livelihoods.

Evidence exists on local people's exclusions in discussions regarding forest management (Robbins, 2004; Griffiths, 2009, Mwaipopo, 2011; Bulengela, 2014; Mukono and Sambaiga, 2016). Additionally, even the recently introduced forest governance policy namely, REDD+ policy has paid little attention to the inclusion of local people in the process. For example, Griffiths (2009) noted that most of the REDD+ proposals are developed by governments, international agencies, carbon finance companies, and large conservation NGOs. The roles of forest-dependent communities in the process are not articulated. Griffiths adds that in most cases, consultations have so far been based in towns and involve conservation NGOs and government officials. Equally, Aggarawal (2011), observed that the existing REDD+ plans are vague about benefits to the local people. The plans are unclear on which bodies, entities or persons would receive compensation under a national REDD+ scheme. He maintains that though most governments mention the need for communities to receive benefits, they do not contain proposals on how and according to what principles local benefits would be distributed. It is also unclear how benefits would reach the local level. Again, the plans simply mention co-identity to refer to monetary and environmental benefits but it does not explain how social benefits (such as cultural, religious, identity, etc) will be secured (Aggarawal 2011:27).

What can be said from this section is that there is a long-time tendency to treat local communities such as forest users as passive recipients of powerful actors' ideas and decisions. Climate change negotiations create the idea that global problems need global solutions. Hence, global climate politics is a matter for the heads of state (Methmann, 2011) who pursue multilateral negotiations within a big 'summit theatre' (Death, 2011). By contrast, local populations and authorities are reduced to passive stakeholders, spectators, and bystanders (Methann, 2011).

Conclusion

The argument of this paper is that environmental conservation is not bad in itself, but some actors may use conservation science as a tool to control how other actors interact with the environment while at the same time triumph their own interests. A good example is that (as shown in the above discussion) developed nations shifted the discussions from setting and meeting carbon emission reduction targets to reducing deforestation and forest degradation. Thus, instead of limiting their industrial productions (and/or emissions) they want the poor forest-dependent communities to conserve forests in order to enhance carbon intake and thus balance carbon emissions with carbon intake. Such an option implies the thrive of one group of actors at the expense of the other. This is how power is exercised in the climate change schema.

While the forest-dependent communities are the key target of the policies made at the global scale, they are left out of the discussions that decide their destiny. There is a need to rethink policies that marginalize (from the level of planning) the end-users of the same policies. This paper calls researchers and scientists to further the debate. Political ecology offers avenues for critical analysis of power relations inherent in climate change knowledge and forest governance.

References

- [1]. Adger, W. Benjaminsen, T.A, and Brown K. (2001). "Advocating a political Ecology of Global Environmental Discourse" Journal of Development and Change, Vol.32, No 4.
- [2]. Aggarwal, A. (2011). *Implementation of Forest Rights Act, Changing Forest Landscape and politics of REDD+ in India*. Resources, Energy and Development, (8) 2, 131-148.
- [3]. Angelsen, A (2009) Realizing REDD+ National Strategy and Policy Options: Indonesia, The Center for International Forestry Research.
- [4]. Bachram, H. (2012). Climate fraud and carbon colonialism: the new trade-in greenhouse gases, *Capitalism Nature Socialism*, 15,5-20.<http://dx.doi.org/10.1080/1045575042000287299>
- [5]. Bernauer, T (2013) Climate Change Politics. *The Annual Review of Political Science*. 16:28, 1-13, Doi 10.1146/annurev-polisci-062011-154926
- [6]. Benjaminsen, T.A., & Bryceson.I. (2012). Conservation, green-blue grabbing, and Accumulation by dispossession in Tanzania, *The Journal of Peasant Studies*,39(2), 335-55.<http://dx.doi.org/10.1080/03066150.2012.667405>
- [7]. Bulengela, G. (2014). The Socio-economic implications of adopting the Reduced Emission from Deforestation and forest Degradation (REDD) Policy in Tanzania: A case of Dodoma-Isanga village, Kilosa District: Unpublished MA Dissertation. University of Dar es Salaam
- [8]. Bulkeley, H, and Newell, P (2015) *Governing Climate Change*. Routledge, Taylor and Francis Group, NewYork.

- [9]. Bryant, R, and Bailey, S (1997). *Third World Political Ecology*. London, RoutledgeDean M (2010) *Governmentality: Power and Rule in Modern Society* (2nd ed.). London, Thousand Oaks, CA and New Delhi: Sage.
- [10]. Davis M. (1999). *Ecology of Fear—Los Angeles and the Imagination of Disaster*. New York: Vintage Books.
- [11]. Death C (2011) Summit theatre: Exemplary governmentality and environmental diplomacy in Johannesburg and Copenhagen. *Environmental Politics* 20(1): 1–19.
- [12]. Dickson, B. and Kapos, V (2012). Biodiversity monitoring for REDD+. *Current Opinion in Environmental Sustainability*, (4),717-725. <http://dx.doi.org/10.1016/j.cosust.2012.09.017>
- [13]. Fairhead, J., Leach, M., & Scoones, I. (2012). Green Grabbing: a new appropriation of nature? *Journal of Peasant Studies*,39(2), 237-261.<http://dx.doi.org/10.1080/03066150.2012.671770>
- [14]. Ferrari, C.A (2010) Communicating Climate Change, REDD and Political Ecology: A Global Land Question and Prospects for Agroecology. 9th European IFSA Symposium, 4-7 July 2010, Vienna, Australia.
- [15]. Figieres, C. and John, E (2009). *The REDD+ Scheme to Curb Deforestation: The Baseline Negotiations at Stake*: 3emes Journees de Resechesen Sciences Socials.
- [16]. Foucault, M. (1991). 'Governmentality' in G. Burchell, C. Gordon and P. Miller (eds) *The Foucault effect. Studies in Governmentality*, Chicago: University of Chicago Press
- [17]. Forsyth, T. (2003). *Critical Political Ecology: The politics of environment science*, London and New York, Routledge Taylor and Francis Groups
- [18]. Ganga, V. and Armitage, S: (2005). *The Kyoto Protocol, Carbon Credit Trading and their Impact on Energy Projects in Europe and the World*: I.E.I.T.R, Vol 73.
- [19]. Griffiths, T. (2009). *Seeing REDD+?, Forest, Climate Change and the Rights of Indigenous People and Local Communities*. Forest People Programme. Wales.
- [20]. Gordon, C, (1980). *Power/Knowledge: Selected Interviews and other writings, 1972-1977*, by Michel Foucault, New York, Patheon books,
- [21]. Hindess, (1996) *The Discourse of Power: From Horbes to Foucault*, Blackwell publishers.
- [22]. Intergovernmental Panel on Climate Change, (2012). *Managing the risks of extreme events and disasters to advance climate change adaptation. A special report of working groups I and II of the Intergovernmental Panel on Climate Change*. Cambridge, UK: Cambridge University Press.
- [23]. Jasanoff, S. & Wynne, B. (1998) 'Science and decision making', in S. Rayner & E. Malone (eds) *Human Choice and Climate Change* Vol. 1: 1-88: The Societal Framework, Columbus, OH, Battelle Press.
- [24]. Jasanoff, S (1990) *The Fifth Branch: Science Advisers as Policymakers*, Cambridge, MA: Harvard University Press.
- [25]. Leach, M. (2012), *Green Grabbing: The dark side of the green economy*, IDS-July 2012
- [26]. Levin, K, McDelmott, C and Cashore, B (2008) *The climate Regime as Global Forest governance: Can reduced Emission From Deforestation and Forest Degradation (REDD+) initiatives pass a Dual Test? The International Forestry Review, Vol 10*
- [27]. Latour, B. (1987) *Science in Action: How to Follow Scientists and Engineers through Society* (Cambridge, MA: Harvard University Press). (3).
- [28]. Madeira, M.C (2008) *Policies to Reduce Emissions from Deforestation and Degradation (REDD+) in Developing Countries: An examination of the issues facing the incorporation of REDD+ into the market-based climate policies*. Resources for Future, Washington DC.
- [29]. Methmann, C.P. (2011). The Sky is the Limit: Global Warming as Global Governmentality, *European Journal of International Relations*,19(1), 69-91. <http://dx.doi.org/10.1177/1354066111415300>
- [30]. Maradan, D. (2010). *The Copenhagen global climate change negotiations: Did they fail?* Universitas Friburgennisis.
- [31]. Mukono, D. and Sambaiga, F (2016) A Critical Review on the Major Conceptual Strands/Debates on the Reduced Emissions from Deforestation and forest Degradation (REDD+) And Improved Social Livelihoods. *Environmental Management and Sustainable Development, Vol 5, No 1. Doi:10.5296/emsd.v5i1.8239*
- [32]. Mwaipopo, R.N.G (2001) *The Power of Meaning: People and the Utilization and Management of Coastal Resources in Saadani Village Tanzania* (Ph.D. Thesis).
- [33]. Parikh, J. (2004) "North-South Issues for Climate Change" *Economic and Political Weekly*, Vol 29, No. 45, .pp 2940-2943.
- [34]. Paterson, M, and Grubb, M. (1992). "International Politics of Climate Change" *Royal Institute of International Affairs*, Vol 68 No. 2.
- [35]. Peet R., Robbins, P. and Watts, J.M. (2011). *Global Political Ecology*. New York, Taylor, and Francis,
- [36]. Robbins, P. (2004) *Political Ecology: A Critical Introduction*. Oxford, Blackwell Publishing.
- [37]. Samir, A. (2010). *Long Road to Socialism*. Dar es Salaam, Mkuki Na Nyota Publishers Ltd
- [38]. Scott, A. (1990). *Ideology and the New Social Movement*, London, Unwin Hyman,
- [39]. Stern, N., (2006). *Stern Review: The Economics of Climate Change*. Cambridge, Cambridge University Press.
- [40]. Springate- Baginski, O. and Wollenberg, E. (2010). *REDD+, Forest Governance, and Rural Livelihoods: The Emerging Agenda*, Bogor, CIFOR,
- [41]. Swyngedouw, E (2013) *The Non-political Politics of Climate Change. An International E-Journal for Critical Geographies* 12 (1) 1-8.
- [42]. WCED (1987) *Presentation of the Report of the World Commission on Environment and Development to UNEP's 14th Governing Council Session*, Nairobi, Kenya.
- [43]. Walker, P.A. (2007). *Political Ecology: Where is Politics*. *Progress in Human Geography*, Vol 33.



- [44]. Verchot, L.V., and Petkova, E. (2009). The State of REDD+ Negotiations: Consensus Points, Options for Moving forward and Research Needs to Support the Process. A background document for UN-REDD+Programme-Sponsored support to regional groups. Bogor, Centre for International Forest Research,
- [45]. Visseren-Hamahers, I.J., Gupta, A., Herold, M, Pena-Claros, M. (2012). Will REDD+ work? The need for interdisciplinary research to address key challenges. *Current Opinion in Environmental Sustainability*, (4),590-596. <http://dx.doi.org/10.1016/j.cosust.2012.10.006>
- [46]. Westholm, L. R., Bidduly, R.and Ekbon, A. (2011). REDD+ and Tenure: A review of the Latest Developments in Research, Implementation, and Debate, Focali Report 2011:02, Gothenburg.
- [47]. Žižek, S. (1997). *Plague of Fantasies*. New York: Verso.