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Effects of land tenure and property rights on agricultural productivity in Ethiopia, Namibia and Bangladesh



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SARD-Climate

D5: Effects of land tenure and property rights on agricultural productivity in Ethiopia, Namibia and Bangladesh

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Abstract

Land reform experts claim that the main obstacle to increased agricultural output is shortage of land and population pressure. However, it is not the shortage of land alone, which affects the output of agriculture; it is the structure of land tenure, the lack of proper land ownership as well as lack of improved agricultural technology and changing climatic conditions. This is predominantly the major problem particularly in most of sub-Saharan African countries including Ethiopia. A Namibian experience shows that subsistence agriculture is not necessarily a way out of poverty.

The basic purpose of this paper is to discuss issues related to land tenure system, land rights, agricultural productivity and the effects of climate change. The paper presents an overall view of the above-mentioned themes in Sub-Saharan Africa and South Asia, namely in Ethiopia, Namibia and Bangladesh. The emphasis in Ethiopia is in Amhara Regional State (ANRS) in north-west part of the country, where there are currently water related projects assisted financially by Finland.

Key Words: Agricultural productivity, land tenure, property rights, climate change, co-operatives, forestry, sub-Saharan Africa, South Asia, Ethiopia, Namibia, Bangladesh

1. Introduction

Land tenure and property rights affect the application of technologies for agricultural and natural resource management. Secured property rights give sufficient incentives to the farmers to increase their efficiencies in terms of productivity and ensure environmental sustainability. It is natural that without secured property rights farmers do not feel emotional attachment to the land they cultivate, do not invest in land development and will not use inputs efficiently.

According to the United Nations Centre for Human Settlements (UNCHS), there exists close relationship between land tenure and property rights. Main justification for secure property rights to land is it is providing the incentives for investment in land and sustainable development.

Deininger (2003) notes that property rights affect economic growth in a number of ways. *Firstly*, secure property rights will increase the incentives of households and individuals to invest, and often will provide them with better credit access, something that will not only help them make such investments, but will also provide and assurance substitute in the event of shocks. *Secondly*, it has long been known that in-unmechanized agriculture, the operational distribution of land affects output, implying that a highly unequal land distribution will reduce productivity. Even though the ability to make productive use of land will depend on policies in areas beyond land policy that may warrant separate attention, secure and well-defined land rights are key for household asset ownership, productive development, and factor market functioning.

Based on the above-mentioned argumentations, the situation of land tenure system and property rights prevalent in most of developing countries in sub-Saharan Africa is similar in many respects as long as the agricultural productivity remains low. The changing climatic conditions in many developing countries such as Bangladesh, Ethiopia and Namibia have impacts on agricultural production at local and country level. This is an important issue, which is worth paying attention to in order to prevent problems that may affect the population.

Bearing in mind the special role of development cooperation in the effort to improve the hazard situation of poverty in developing countries, undertaking such a task of investigating factors that cause issues as mentioned herein will promote better way of channelling development aid.

1.1 Land tenure

Land tenure security and market prices of agricultural commodities are determined by governmental laws and agricultural policies, which in disguise influence farmers' profit margins and land use decisions (Ehui et al., 1994; Lele and Stone, 1989). Specifically, the land tenure plays one of the vital roles in shaping farmers' land-use decisions (Li et al., 1998; Feder and Nishio, 1999; Pandit and Thapa, 2003; Rasul et al., 2004). In areas where shifting cultivation is common, farmers need much of investments in land development. However, their investment decisions may be affected if they are not sure how long they would be allowed to use the ownership right. Especially the tenant cultivators are reluctant to make investments in land management if they do not secure land tenure rights that make them vulnerable to eviction by landlords or government. If property rights are absent and if land tenancy is insecure, farmers do not care much about the land use and though concentrate on short terms profit maximizing at the cost of accelerating the degradation of land (Angeles, 1988; Feder and Nishio, 1999; Cairns, 2003).

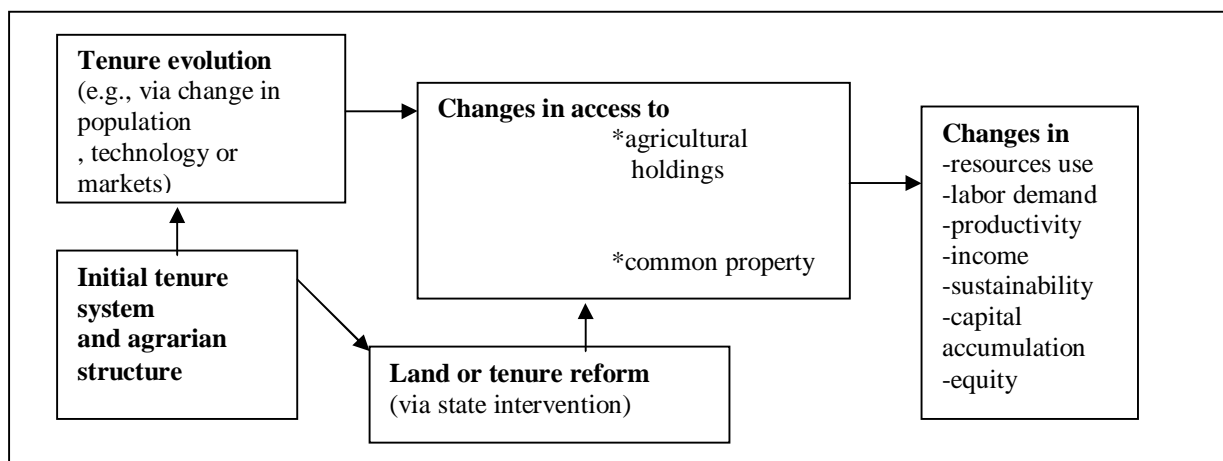
Insecure land tenure or the lack of land ownership also restricts the farmers' access to credit that are required for improved land practices (Fede et al., 1988; Rasul, 2003). This lack of access to credit forces them to go for traditional land-use practices, despite their willingness to change (Thapa, 1998b; Rasul and Thapa, 2003; Rasul, 2003). Thus, national policies influence the land-use systems by influencing institutional arrangements such as credit and marketing facilities, and infrastructure development (Bergeron and Pender, 1999; Rasul, 2003).

Land tenure institutions have long been considering the agricultural and economic development but land reform has varied widely by geographic regions (Maxwell and Wiebe, 1998). In Latin American cases, land reform implied changes in the scale of land holdings through redistribution of land resources among the rural population and breaking up of big estates. In East Asian cases, land reform meant "land to the tiller" or breaking up of landlord/tenant relations and in Africa land tenure reform typically refers to the legal changes in the form of land tenure intended to enhance security of tenure with a view to enhancing productivity and encouraging better land conservation practices.

In brief, the land reforms are concentrated to food security, greater equity, productivity, better conservation practices from changes in tenure. Thiesenhusen (1995) noted the following outcomes from land tenure reform: (i) food security, (ii) reduction in social polarity, (iii) increased investment, (iv) transparent production incentives, (v) poverty reduction, (vi) increased employment, and (vii) greater equity.

The relationship between land tenure (either through legal changes or through institutional reforms) and agricultural productivity is depicted below:

Fig 01: Conventional characterizations of tenure's impact on production and income



Source: Maxwell and Wiebe, 1998

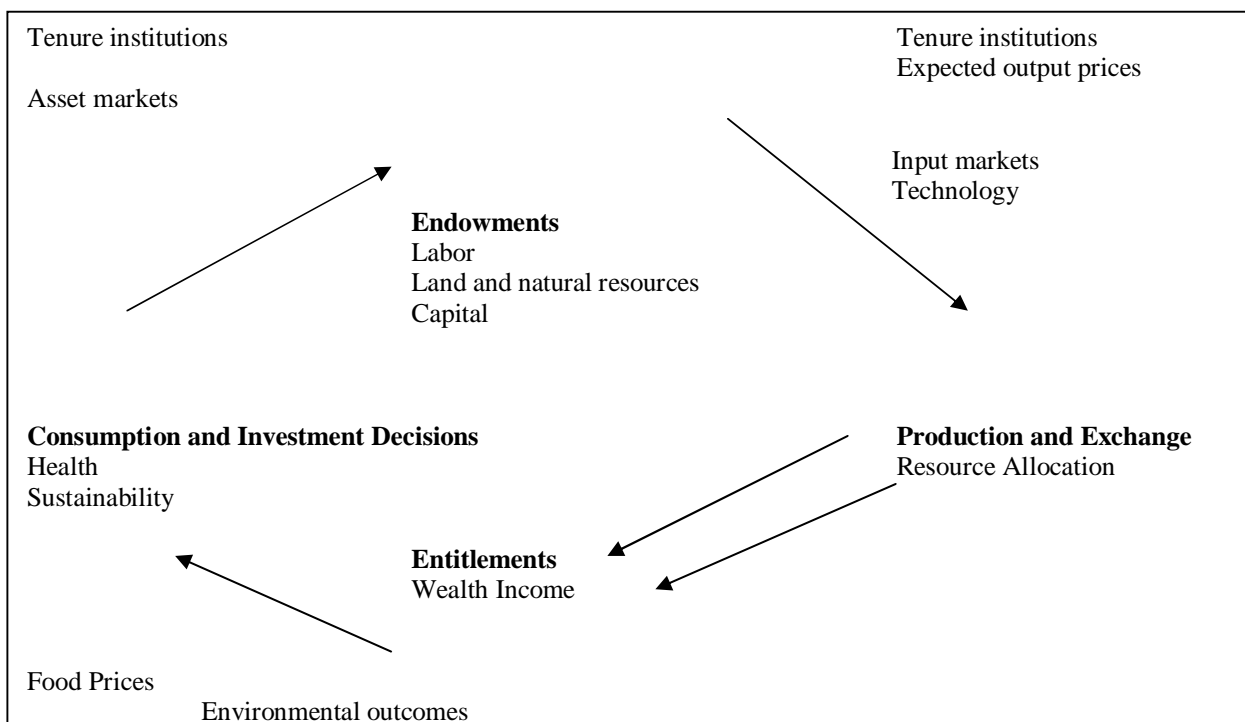
According to FAO, Land tenure is the relationship, whether legally or customarily defined, among people, as individuals or groups, with respect to land. (For convenience, "land" is used here to include other natural resources such as water and trees.) Land tenure is an institution, i.e., rules invented by societies to regulate behaviour. Rules of tenure define how property rights to land are to be allocated within societies. They define how access is granted to rights to use, control, and transfer land, as well as associated responsibilities and restraints. In simple terms, land tenure systems determine who can use what resources for how long, and under what conditions.

Land tenure is often categorized as:

- **Private:** the assignment of rights to a private party who may be an individual, a married couple, a group of people, or a corporate body such as a commercial entity or non-profit organization. For example, within a community, individual families may have exclusive rights to residential parcels, agricultural parcels and certain trees. Other members of the community can be excluded from using these resources without the consent of those who hold the rights.
- **Communal:** a right of commons may exist within a community where each member has a right to use independently the holdings of the community. For example, members of a community may have the right to graze cattle on a common pasture.
- **Open access:** specific rights are not assigned to anyone and no-one can be excluded. This typically includes marine tenure where access to the high seas is generally open to anyone; it may include rangelands, forests, etc, where there may be free access to the resources for all. (An important difference between open access and communal systems is that under communal system non-members of the community are excluded from using the common areas.)
- **State:** property rights are assigned to some authority in the public sector. For example, in some countries, forestlands may fall under the mandate of the state, whether at a central or decentralized level of government.

In agrarian society land tenure institutions directly affect food access at the household by controlling access of resource endowments and indirectly affects the food security at the regional or national level through food availability (and hence, food prices). Access to resources is an important catalyst of access to food. It can be viewed as a function of food availability, access, and utilization and access to food has three important dimensions like sufficiency, sustainability, and vulnerability (Maxwell and Wiebe, 1998). Land tenure and food security are linked in a dynamic way in which decisions about production, marketing, consumption, and investment generate structural changes in the distribution of resources among the households. The dynamic interlinkages are depicted in the following figure:

Fig: 03 Land Tenure and food Security: Reformulating the links Source: Maxwell and Wiebe, 1998



1.2 Property Rights

Property rights theory does not emphasize who "owns" land, but rather analyzes the formal and informal provisions that determine who has a right to enjoy benefit streams that emerge from the use of assets and who has no such rights (Bromley 1991, Eggertsson 1990, Libecap 1989). These rights need to be sanctioned by a collective in order to constitute effective claims. Thus, property rights involve a relationship between the right holder, others, and a governance structure to back up the claim. Property rights consist of two components: the rule and its enforcement mechanism. The rules may derive from state law, customary law, user group rules, and other frameworks. Enforcement of statutory law is usually the responsibility of the state, which means that the rights ground on formal laws. Property rights based on other types of rules may be enforced by customary authorities or by a user group, which manages the distribution of rights or members of that group "define or enforce rights among themselves" (Schlager and Ostrom 1992, 254).

The recent literature on property rights over land and other natural resources commonly uses a broad classification along open access (no rights defined), public (held by the state), common (held by a community or group of users), and private (held by individuals or "legal individuals" such as companies) property regimes. Such classification can only be a rough guide to the effective entitlements that a right holder in one of the stylized property regimes holds in reality (cf. Benda-Beckmann and Benda-Beckmann 1999).

1.3 The concept of "bundles of rights"

For the purpose of analyzing the distribution of rights among different user groups and between individuals under various tenure regimes in Ethiopia it is useful to take into consideration the concept of bundles of rights which is developed by Schlager and Ostrom (1992) whose interest was primarily in analyzing common property regimes used by collectivities of resource users. However, it is assumed that their differentiation of bundles of rights is equally applicable for the analysis of other forms of land tenure regimes, in particular on finding some hybrid types of regimes that are not completely state ownership, nor common property, nor private ownership. It is therefore considered that an analysis of changing levels of rights bestowed upon rural peasants in Ethiopia at different times, places, and under changing political regimes a telling example for such analysis.

1.4 Property rights and Agricultural Productivity

The link between access to land and agricultural productivity can be established in different ways: *Firstly*, the presence of property rights eliminates the anxiety and uncertainty of expropriation that encourage the farmers to make long term investment decision on land and to adopt the best cropping system. *Secondly*, the title of land makes it easy for farmers to use the land as collateral for credit. It is hypothesised that for farmers who have collateral can easily get access to financial market and increase the supply of credit available to them (Feder and Noronha, 1987, The Economists, 2001).

As a result, agricultural investment and adaptation of modern technology will follow. Thus, access to credit enables the farmers to make durable investment in one hand and intensify the production systems in inputs in other hand and thereby boosting the agricultural productivity (Platteau, 1993). The effect of property rights in agricultural productivity is basic consideration in the application of technology. However, simplistic analysis of efficiency may lead to distorted results. For instance, in

the Njoro District of Kenya, the positive relationship between agricultural productivity and titling does not stem from improved tenure security rather than large-scale farmers having access to factors like imperfect labour market, capital, and insurance markets that small farmers do not have (Carter, et al., 1991). In Ethiopia, land with less secure tenure had lower total factor productivity, but this was due to low input quality rather than applying less input (Gavian and Ehui, 1999).

One study in Bangladesh reveals that net per acre output is highest in owner-cultivated farms and lowest in sharecropping farms (Hossain, 1977). For farmers cultivating their own land as well the land others, per acre output is the highest compared to the farmers of sharecropping or cash annual rental basis (Jabbar, 1977). Another study concluded that the differences in output per acre were due to the differences in the amounts of output used by different groups of farmers (Zaman, 1973). The net per acre output varies not only across different groups but also within the sharecropper or cash rental contract. Per acre output in farms rented on cash basis is higher than that in sharecropping farms [the difference between these two sub-groups is in the form of rent; in the former case, lands are leased out for a fixed amount of cash money generally for one year and, in the later case, the owner gets a share of output, generally 50%] (SESB 1986).

Thus, the empirical evidence of the relationship between tenure security and agricultural productivity remains scattered. There is a compelling case of the linkage between the two as is observed in the case of Thailand (Feder et al., 1988). They found that secured property rights increase the demand for improvements of land and the supply of credit through the possession of land as collateral. The ultimate result leads to greater-long term investments in productive and land-conserving technology and short-term investments in inputs leading to sustainable production. Thus, greater security leads to higher productivity through increased incentives of the landowner to make both long-term and short-term investments (Feeder and Noronha, 1987). In Sub-Saharan countries the results have been inclusive. In Ghana, Kenya, and Rwanda it was noted that “regression analysis indicates no relationship between cross-sectional variations in land rights and productivity” (Migot-Adholla et al., 1991, p.172).

However, the theoretical benefits of property rights still have profound influence on land policy among donor and African governments (World Bank, 1993; Uganda, 1993; Platteau, 1992)

1.5 On land issues, land tenure reform and property rights in sub-Saharan Africa

Land issues and land tenure reform in sub-Saharan Africa is characterised by a range of farming systems all with varied rights under multiple forms of tenure. This includes private landholding with freehold title deeds, communal public lands under customary tenure, and state-held land where either the state retains legal ownership upon which various forms of tenure based on leaseholds or permit systems were devised by the state, underpinned by complex legal and administrative systems. Usually the state bureaucracy plays a significant role in rural land administration, with traditional leaders being provided with limited responsibilities over land management and people in areas where usufruct rights to the land are still practised.

The household and individual plots and commons found on customary lands provide subsistence to millions of people. Nonetheless, the implementation of market liberalization and democratization policies has had an indirect if not direct impact on customary management arrangements. The introduction of modern forms of governance based on elections and statutory arrangements has, in some cases, been the beginning of dysfunctional combinations of old and new institutions and practices (Adams et. Al., 1999).

As far as rural land ownership in sub-Saharan Africa is concerned, this situation has made it a key issue constituting a problem that has largely remained unresolved in many countries since colonial times (Rukuni et. al., 2006). Historical conflicts and inequities over access and ownership of land rooted in colonial land dispossession are intense in countries such as South Africa, Namibia, Malawi, Kenya and Zimbabwe. Inequitable land distribution in Africa relates also to rural poverty and political instability. Increasing tensions over land are found in the ethnic violence in northern Ghana (1994-95), the land violence in the Tana River district of Kenya (2001), the civil war in Rwanda, civil eruption in the Ivory Coast and Zimbabwe's land occupations and violence.

Participatory land policies that empower local communities should be promoted in Africa. Research and rural extension are important tools in this (UN 2009).

1.5.1 Land insecurity as a cause of Africa's agricultural crisis

Agriculture is one of the most important sectors in sub-Saharan Africa, which has two major components; food production and export commodities; food production including meat is the livelihood for most Africans. Export crops provide many African countries with their main source of foreign exchange and thus the capacity to import, invest and develop.

Particularly in sub-Saharan Africa, the situation of food production is giving a very gloomy picture and the general panorama is not improving since securing food production remains the greatest challenge. The key reasons for the creation of the problem derive largely from the way the cause of agricultural crisis is generally characterised in most of the sub-Saharan African countries. These are a bias against agriculture in government policy, high population growth rates in the rural areas, a decline in the rate of which arable land and harvested areas are being developed, a lack of technological change, which is leading to wide spread stagnation or even decline in crop yields, accelerated degradation of the environment that is making it more and more difficult for most sub-Saharan African countries (Tenaw, 2008). Besides problems of land insecurity and conflicting claims on landform important reasons for Africa's low agricultural productivity.

A high-level meeting, Sustainable Development in African Agriculture in 21st Century, on African agriculture recommended in February 2009 that food production should be increased. Now African countries spend an average of 4 to 5 percent of their total budgets on agriculture (UN 2009).

Despite all these constraints, the sub-Saharan agriculture is facing, taking into account the overall food production system in the continent it is evident that the agriculture and especially small-scale farming to this day represents the economic foundation of most sub-Saharan African countries. Where land tenure reforms have been introduced, local farmers are often uncertain about the nature of their rights and confused about the extent to which institutions and laws affect them. Matters are further clouded by local and national political conflicts over land management roles in areas where traditional customary land law prevails. The development and implementation of effective land policies, including clarifications on land tenure systems, are crucial aspects of economic governance within the smallholder sector. Local institutions are usually disempowered and weakened with little role in the regulations and enforcement of sanctions (Harnevik et.al., 2007).

Common to the vast majority of sub-Saharan African countries is scarcity-induced conflicts due to the inability of land tenure systems to respond to challenges and faulty state policies. The grave situation is characterised by very high rural poverty rates and an extreme share of poverty in rural

areas, as for example the respective figures for Zimbabwe are 48.0 and 90 per cent, Tanzania 49.7 and 82.3 percent and for Ethiopia 45.0 and 86.3 per cent.

National policies in Africa should promote equitable access to land for women farmers, for women farmers' form 80 percent of food processors in Africa. However, many of them lack secure land use rights and equitable access to finance, insurance, education and land (UN 2009).

1.6 Climate change

1.6.1 Effects of climate change on agriculture in sub-Saharan Africa

Climate change is having a pronounced impact in Africa's semi-arid areas and the vast zone around the equator. Whereas the exact effects are still unknown, it is quite clear that sub-Saharan Africa will need to make far-reaching adaptations in its farming systems to accommodate changed rainfall patterns and cropping seasons, by planting new crops and crop varieties and adopting new farming practices. Africa's vulnerability is exacerbated by its heavy dependency on the narrow range of agricultural products to support its economies, which often fail due to pest outbreaks, climate variation and price fluctuations. Climatic variability and change, inappropriate land use or land tenure policies, add to the environmental pressures that result in further food insecurity for rural people (Harnevik et.al, 2007).

It is worth mentioning at this junction that in particular the Horn of Africa, which includes Ethiopia, Eritrea, Somalia, Sudan and Djibouti, is a region of great geographical diversity, rich in natural resources and inhabited by different ethnic groups who are engaged in different economic activities. It is assumed that the abundance of rainfall, water and arable land would provide food self-sufficiency and surplus production. However, the Horn is one of the poorest regions in the continent, which is often affected by droughts, hunger and war. Additionally environmental degradation disturbs the traditional and institutional balance between people, their habitat and political, cultural as well as the socio-economic systems in which people live (Woube, 2007).

Climate change impacts are already noticeable also in Southern Africa. The climate system is moving beyond the patterns of natural variability (Brundrit, 2009). Extreme events are increasing; more floods and droughts, high temperatures, heavy rains within a very short period of time, or low rainfalls. The rainfall is the major challenge in Southern Africa (Johnston, 2009).

Furthermore, impacts of the climate change in Africa can be categorically specified as follows:

- By 2020, between 75 and 250 million of people are projected to be exposed to increased water stress due to climate change.
- By 2020, in some countries, yields from rain-fed agriculture could be reduced by up to 50%. Agricultural production, including access to food, in many African countries is projected to be severely compromised. This would further adversely affect food security and exacerbate malnutrition.
- Towards the end of the 21st century, projected sea level rise will affect low-lying coastal areas with large populations. The cost of adaptation could amount to at least 5 to 10% of Gross Domestic Product (GDP).

- By 2080, an increase of 5 to 8% of arid land in Africa is projected under a range of climate scenarios (Currents 44/45, 2008).

2. Ethiopia

2.1 Some Basic Facts

Ethiopia is located in the Horn of Africa and is bordered on the north and northeast by Eritrea, on the east by Djibouti and Somalia, on the south by Kenya, and on the west and southwest by Sudan (Bureau of African Affairs 2009). The country lies within the tropics and its topography is mountainous covering land area of about 1.12 million square kilometres. The population that is highly diverse is estimated at about 83.5 million. Ethiopia is administratively divided into nine regional states and two city administrations. The Oromo in the south, Amhara and Tigreans in the north and northwest make up more than three-fourths of the population. The rural population is estimated at about 62 million or 84%, and about 12 million or 16% of the population is urban. At the national level, the average annual population growth rate is 2.7% (Central Statistical Agency 2007).

2.2 Agriculture in Ethiopia

Ethiopia's principal natural resource is its rich endowment of agricultural land. Agriculture which constitutes 46 percent of GDP directly supports about 85% of the population in terms of employment and livelihood; contributes about 50% of the country's gross domestic product (GDP); generates about 88% of the export earnings; and supplies around 73% of the raw material requirement of agro-based domestic industries. It is also the major source of food for the population and hence the prime contributing sector to food security. In addition, agriculture is expected to play a key role in generating surplus capital to speed up the country's overall socio-economic development.

Small-scale farmers who are dependent on low input and low output rain fed mixed farming with traditional technologies dominate the agricultural sector. This sector is given a top priority by the present government, which has taken steps to increase its productivity. However, various problems are holding this back. One major cause of underproduction is drought, which often causes famine, and floods. This climate related disasters make Ethiopia dependent on food aid.

The trends in the contribution of agriculture to the country's total GDP clearly explain the relationship between the performance of agriculture, climate and the total economy. Years of drought and famine (1984/1985, 1994/1995, 2000/2001) are associated with very low contributions, whereas years of good climate (1982/83, 1990/91) are associated with better contributions (Hassan 2006a).

2.3 Land Tenure Policy in Ethiopia

Historically, in Ethiopia the north-south regional distinction was reflected in land tenure differences. The pattern of land tenure policy and property rights farmers have held are basically dependent mainly on policy exercised by three different political regimes since the beginning of the 20th

century namely; the imperial, the Derg and the current regimes. The social structure of the land tenure policy in Ethiopia was traditional during the imperial regimes (Crewett et.al. 2008).

During the imperial regime the land tenure types refer mainly to the imperial administrative classification which is commonly distinguished between communal (rist), grant land (gult), freehold, or sometimes referred to as private (gebbar tenures), Church (Samon), and state (maderia, mengist) tenure regimes. This type of land tenure system accommodated by the Ethiopian empire is described as one of the most complex compilations of different land use systems in Africa (Brietzke 1976). It was a time when more than 70% of the fertile land was owned only by 1% of the property owner of the entire population in Ethiopia.

During the socialist Derg regime that had overthrown the imperial regime, profoundly altered the agrarian structure and the mechanisms of access to land. The "Public Ownership of Rural Land Proclamation" nationalized all rural land and set out to redistribute it to its tillers and to organize farmers in *cooperatives*, thereby abolishing exploitative landlord-tenant relations so pertinent under the imperial regime. The major changes brought about during the Derg regime were "agrarian socialism" including the quest for collectivization of small-scale farms and the establishment of state farms. Overall, the Derg regime failed to increase agricultural productivity with its agrarian reforms. Broadly speaking, landless, wage labourers, tenant cultivators, and poor, powerless 'rist' rights holders are often considered as the winners of the Derg reforms.

As regards land tenure system during the present regime, Crewett et. al 2008 have discussed the issue of the repercussion of the Derg regime based on literatures of Hussen 2001, Kassa and Manig 2004 and Yigremew 2001. Even though, with the defeat of the military socialist Derg regime in 1991, the dissolution of farm collectives took place rapidly, there was limited change with regard to property rights to land.

In principle, the regime announced the continuation of the land policy of the Derg regime and the new constitution of 1995 approved and confirmed the state ownership of land in Ethiopia. The present Ethiopian government continues to advocate state ownership of land whereby only usufruct rights are bestowed upon landholders. The usufruct rights exclude the right to sell or mortgage the land. This, the government asserted, was to protect the rural peasants from selling off their land to wealthy individuals leaving them landless and without source of livelihoods. The government builds its argument on the premises of social and historical justice that is based on two principles: (1) justice understood as egalitarianism - guaranteeing every farmer in need of agricultural land equal rights of access to such land, and (2) historical justice - granting tenure security to the Ethiopian farmers who had experienced land deprivation and land expropriation through different mechanisms during the imperial era.

The Derg regime's proclamation in 1975 prohibited the lease of land and the hiring of labour and concealed the maximum land size per individual 10 ha; such provisions are absent in the present regime's document (Yigremew adal 2001, 56). According to the present regime's constitution of 1995 regional land policies need to be in accordance with federal law; all regional policies therefore, validate state ownership of land and farmers only receive usufruct rights to plots of land without transfer rights, such as sale or mortgage.

In the northern regions of Amhara and Tigray, the right to use land depends on the residence in the kebele, a restriction already in place under the Derg regime. At the same time, some regions formulate the aim to introduce *certificates* designed to increase tenure security and to reduce border conflicts (Deininger et al 2006). According to theory, tenure security is expected to enhance investment and vice versa (Besley 1995; Sjaastad and Bromley 1997). Therefore, if land

certification can enhance tenure security it may enhance investment. Inheritance rights have also been specified and in some case been extended beyond the core family. In the Amhara region, it is allowed for land to be bequeathed to people outside of the family if those assisted the rights holders in times of need.

Because land remains state owned with strong restrictions on transfers, certificates document only inheritable use rights. It has been proved that certification has helped in the reduction of conflicts, increasing investments, soil conservation, renting out land as well as improving women's situations. Although the positive impact of certificates is likely reduced by current policies that restrict land rental and prohibits sales or mortgaging of land, certification can be a step toward a broader process of land policy reform

There seems to be a pattern in Ethiopia that ruling regimes are reluctant to hand over the power resource of land distribution. Ruling regimes have legitimized this with the historical legacy of the imperial oppression of the rural peasantry although the degree and scale of oppression differed significantly between the North and south of Ethiopia. A number of land tenure systems from the south as well as the *rist* tenure system show some resemblance to the current land tenure system and, with some reservations, that of the Derg, with the exception that the communal *rist* system is replaced by the state's organs - the Peasant associations. It is evident that the quest for state control over rural land exhibits a long continuity in Ethiopian history (Crummey 2000).

As mentioned above, the land reform policy unDergone in Ethiopia has helped in destroying the feudal order; changed the landowning patterns, particularly in favour of peasants and small landowners; and provided the opportunity for peasants to participate in local matters by permitting them to form associations. However, problems associated with declining agricultural productivity and poor farming techniques still were prevalent.

2.4 Effects of climate change in Ethiopia

Ethiopia has a rich diversity in climate, biological resources, ethnicity and culture. The climate of the coastal area is influenced by the hot air that blows from the Red Sea. In general, the climate shows great variations from one region to another. The average annual temperature ranges from 16° C in the *dega* (highland) to 26° C in the areas known as *quolla* (hot or tropical lowland) climatic zones. The *waynadega* (temperate) climatic zone is an intermediate frost-free climatic zone. Annual precipitation also varies from 1,000 mm per annum in the highlands to 500 mm in the lowland areas making the lowland area into an arid or semi-arid climatic zone (Woube 1986). The country is also endowed with rich water resources compared to most African countries (Tadege 2007).

Climate change could be particularly damaging in Ethiopia, being dependent on rain fed agriculture and under heavy pressure from food insecurity and often famine caused by natural disasters such as drought, is even more likely to be affected. Studies to address the economic impact of climate change on Ethiopian agriculture and the farm level adaptations that farmers make to mitigate the potential impacts of climate change are lacking. Accordingly, little is known about how climate change may affect the country's agriculture. This seriously limits policy formulation and decision making in terms of adaptation and mitigation strategies.

Climate change has impact on Ethiopian agriculture and especially increasing temperature is damaging. Many regions have been severely affected by climate changes in northern Ethiopia. This has a policy implication worth thinking about and planning before damage occurs. The Ethiopian government must consider designing and implementing adaptation policies to counteract the

harmful impacts of climate change. Adaptation options include investment in technologies such as irrigation, planning drought tolerant and early maturing crop varieties, strengthening institutional set-ups working in research, and educating farmers and encouraging ownership of livestock, as owning livestock may buffer them against the effects of crop failure or low yields during harsh climatic conditions (Hassan, 2006b).

2.5 Amhara National Regional State (ANRS)

2.5.1 Background

The Amhara Region is located in the northern, northern east and central areas of Ethiopia covering an area of 170,752km (11% of Ethiopia's total area). It is the second largest state in the country. Cultivation and grazing land make up 30% each. Forest, shrub, bush and woodland, bodies of water, and wasteland make up 17.4 and 16% of the total area, respectively, and the remaining 3% is taken up by settlement. Ethiopia's chief reservoir - Lake Tana - lies in Amhara Region. The Region is divided into ten administrative zones, 106 rural, 9 urban Weredas, and 2,902 rural Kebeles. Bahir Dar is the capital town of the Amhara Region. The population of the Region accounts for 25% of the total population of the country with estimated 18.65 million people. The Region is notable for its young population. 47% are under 18 and only 3.9% of the population are aged 65 and above. Over 90% of the population live in rural areas and live off subsistence farming and raising livestock (the second largest number of cattle in the country). The average landholding per household is 1.10 ha and the average per capita holding is 0.24 ha.

Amhara Region has three major agricultural climatic zones. This varied ecology is also a source of diversified agriculture in the Region. A large part of the population lives in highland areas with topography of steep slope. The central and western zones of the Region are among the country's highly productive agricultural areas. In its north eastern and central highland zones, the Amhara Region suffers from serious land degradation and recurrent drought. The nature of soils and the landscape combined with factors such as a long history of settlement, traditional agricultural practices, and increasing population pressure that force people to cultivate even steeper slopes, all exacerbate land degradation (Tiruneh et al 2000a).

Table 1. Land use/cover estimate (AFAP, 1999)

No.	Description	Area (ha)	% of total
1	Cultivated land	9,425,571	52.2
2	Bush land	1,986,870	11.6
3	Shrub land	3,396,285	19.9
4	Woodland	716,915	4.2
5	Grassland	881,835	5.2
6	High forest	81,047	0.5

7	Afro-alpine vegetation	93,626	0.5
8	Highland bamboo	52,298	0.3
9	Wetland	23,958	0.1
10	Water body	340,960	2.0
11	Bare land (rock out crop)	78,835	0.5
	Total	17,075,200	100

Source: Abera 2007

The major form of land ownership found in the Amhara National Regional State was a type of communal system known as rist. This is one of the land tenure systems that existed in pre-reform agrarian Ethiopia. According to this system, all descendants (both male and female) of an individual founder were entitled to a share, and individuals had the right to use (a usufruct right) a plot of family land. No user of any piece of land could sell his or her share outside the family or mortgage or bequeath his or her share as a gift, as the land belonged not to the individual but to the descendent group. Most peasants in the northern highlands held at least some rist land, but there were some members belonging to minority ethnic groups who were tenant farmers. In general, absentee landlordism in the north was rare, and landless tenants were few. Lack of tenure security in the Amhara Regional States (ANRS) is thought to have aggravated land degradation as it discourages farmers to invest in prevention of soil erosion.

In order to enhance security of user rights primarily for the farmers, therefore Land Administration System was established in the region. Individuals with land rights and society as a whole derive a number of benefits from the registration. A registration greatly facilitates all transactions concerning land and makes such transaction easier, cheaper and more secure. It also provides security and protection for the possessor as well as for others with land rights. It greatly reduces disputes and litigation over land, resulting in a better social and human relationship, less work for the court and less expensive for the individual. Registration of parcels is important as a means of increasing public revenue by fair land taxation, permits better land use and management, and better land use can be encouraged through planning and development regulations. It will close the open-ended tenure arrangement that has caused uncertainty with respect to length of land possession and ability of farmers to capture benefits that accrue from long-term investment. It will also support agricultural production for food security (Tiruneh et al 2000b).

2.6 Development Cooperation between Finland and Ethiopia

In the following, a brief background statement is given about Finland's relation with Ethiopia from the viewpoint of development cooperation that has been existence for four decades.

Ethiopia is one of the main partners in Finnish development cooperation and establishment of cooperation dates back to the late 1960s. Finland supports Ethiopian development through bilateral cooperation between governments, UN agencies, international development financing institutions, the EU as well as through grants given to Finnish and local civil society organizations for their work in Ethiopia.

Since 2004, the annual Finnish development aid to Ethiopia has been around EURO 6 million. In 2007, a total amount of EURO 6.5 million of Finnish development funds was channelled to Ethiopia. Out of this sum, EURO 3.2 million were channelled through bilateral cooperation and EURO 2.5 million through civil society organizations. In addition, EURO 200 000 were granted as humanitarian aid. In 2008, the total Finnish development support for Ethiopia was EURO 10 million.

Nowadays, **Education** and **Water** sectors are the main sectors of development cooperation between Finland and Ethiopia. The main areas of cooperation in the water sector are programmes, which contribute directly to the Ethiopian National Development strategy Plan, Plan for Accelerated and Sustainable Development to End Poverty (PASDEP) and Water, Sanitation and Hygiene Universal Access Plan (WASH UAP). These programmes are implemented in Amhara National Regional state (ANRS) in north-west Ethiopia. Also under implementation plan is designing and preparing eventual participation in Sustainable Land Management (SLM). The Rural water Supply and environment Programme (RWSEP) is in its fourth and final stage. The main challenges include the phasing out of the project by 2011 and ensuring continuation of the Community Development Fund (CDF) mechanism, the Tana Beles Integrated Water resources Development Project. Furthermore, the Finnish Development Cooperation aid to Ethiopia during 2009 - 2012 will focus on education, water service and sanitation, water and natural resources as well as planning Institutional Development Cooperation Instrument (Solomon, 2009).

As mentioned above currently water, projects dominate the Finnish development cooperation activity in north-west Ethiopia. Certainly, some views presented herein are not to suggest what the Finnish development cooperation authorities could do or ought to do. However, the purpose is that it may be useful to contribute ideas relevant to the basic Finnish strategic goals for Finnish development cooperation in taking the initiation to assist development projects in the field of water currently under implementation in Amhara Region in north-west Ethiopia.

Indeed, the point of departure for the Finnish development cooperation assistance to Ethiopia is based on the resolution made by the Government of Finland (GOF) on Finnish development policies in February 2004. Development cooperation is a key instrument of development policy whose main principles include commitment to the values and goals of the United Nations (UN) Millennium Declaration, principle of sustainable development, partnerships for development, respect of the integrity and responsibility for the developing countries and their people, as well as long-term commitments and transparency. In the UN Millennium Declaration, Finland among other nations has committed to the following themes:

- development and the eradication of poverty;
- protection of the environment;
- human rights, democracy and good governance;
- protection of the vulnerable; and
- meeting the special needs of Africa.

The MDGs and targets form the basis of the Finnish development policies.

The crosscutting themes in the implementation of the Finnish development policy are:

- promotion of the rights and the status of women and girls, and promotion of gender and social equality
- promotion of the rights of groups that are easily marginalised, particularly those of children, the disabled, indigenous peoples and ethnic minorities, and promotion of equal participation opportunities for them
- consideration of environmental issues

2.7 Suggestions/Recommendations for Development Cooperation of the Finnish Foreign Affairs

This paper has covered much ground on issues related to land tenure system, property rights, agricultural productivity and effects of climate changes on wider dimension encompassing situations in sub-Saharan Africa, Ethiopia and particularly north-west Ethiopia.

In view of the foregoing therefore, by way of recommendation the following issues need due consideration that need the utmost priority particularly in north-west Ethiopia.

(a) Improving land policy

The general problem related to land policy in Ethiopia is that land belongs to the government. The farmer can farm only as long as he/she stays on the farm and neither can sell nor lease land legally. Tenure security is vital for a successful agricultural development in Ethiopia, where about 85% of the population lives in rural areas.

Due to lack of security of tenure and land ownership, the incentives to invest or make improvement in land and natural resources are missing. As a result, today there is abundant land and soil degradation in rural areas since farmers do not care to plant trees or other greeneries around their huts. Nor does he/she build terraces to protect the soil and conserve moisture because of the feeling of land insecurity of land from the state or government monopoly of land ownership. A study by the Ethiopian Economic Association in 2002 indicated that the majority of smallholders (76%) were not sure whether their land would belong to them in the future. Especially in the central highlands, unprecedented population pressure has contributed to decreasing plot size.

Decline of the average land holding has made an increasing number of households dependent on inadequately small and unproductive plots. Due to this worsening situation, the government of Ethiopia was obliged to apportion land, not in hectares but in square metres. This has resulted in loss of fertility, degradation and ecological imbalances with long reaching consequences especially in the northern and central highlands.

If agricultural development is ever to bring betterment for the lives of farmers and improve the national economy in Ethiopia land should be privatized. Privatization of land creates optimal patterns of land of different sizes through market transactions and increases productivity.

b) Developing land administration and registration in the Amhara Region

The Amhara Regional State has developed a systematic compulsory registration of title. All land units/private, common, state land were brought into the register and properly identified. Attention should be given to all the process to ensure a clear understanding of land registration and updating of land records. Public information and education will encourage participation and clear communication between and among the local community and the government and political organs at various levels for better efficiency and success. Particular efforts should be made to ensure women's participation (Tiruneh et al., 2000c). In addition:

- In order to strengthen land registration the authorities should continue to get local and international experience through seminars, workshops and field visits.
- The lesson from the pilot cadastral surveying should be implemented throughout the region step-by-step.
- Assessment of costs and impacts of land registration and certification should be studied well in the future. Reviewing way of working and guidelines should be developed and refined in the future.
- Documentation and archiving of the data should be well organized at all levels of registration

c) Developing Agricultural Co-operatives

Smallholders in Ethiopia represent the vast majority of the farmers. The country's recent rural development strategy has been the active promotion of marketing cooperatives as a means of commercializing smallholder agriculture. Certainly, without cooperatives smallholders in Ethiopia would be out of the market. It is to be considered that liberalization of the agricultural marketing and the breaking up of the monopolies as a positive measure, which offers the cooperatives new challenges and potential. Cooperatives should play the role in increasing agricultural production and at the same time fully participate in marketing and agro-processing alongside other types of enterprises (Bernard et al., 2008).

In particular in north-west Ethiopia there are plenty community rooted informal types of cooperative societies, which have the potential to play an important role in socio-economic development and poverty eradication at the local level.

d) Improving small-scale farmers' income

In Ethiopia, the population group that would suffer most from agricultural crisis and undernourishment is the poor segment of the rural population, which in the Ethiopian context means the small-scale farmers. One of the most significant reasons for this is the unequal share of food crop and cash crop products by the small-scale farmers.

For example in Ethiopia, food crops are produced by the small-scale farmers on little land in remote areas for home consumption and marketing purposes. On the other hand, cash crops are export commodities, which through trading fetch earnings more than the food crops. Thus, income distribution of the cash crops among the small-scale farmers is minimal, even if they are engaged in producing them as portfolio entrepreneurs. This is one of the determinant factors of the future of the small-scale farmers in Ethiopia. Therefore, in order for agriculture to become sustainable and

income distribution among the small-scale farmers economically viable, incomes should be distributed evenly.

e) Conducting studies on the economic impact of climate change in Amhara National Regional State (ANRS) north-west Ethiopia

So far, little is known about how climate change may affect agriculture at the local level in Ethiopia. Studies to address the economic impact of climate change on agriculture in the Amhara National State and the farm level adaptations that farmers make to mitigate the potential impacts of climate change are lacking. This seriously limits policy formulation and decision making in terms of adaptation and mitigation strategies. Due to this, there is a dire need to carry out research studies on partnership basis between the local and foreign experts to predict the extent to which projected climate changes will affect net revenue from crop farming in Amhara land. A research study on climate change in Ethiopia launched by Dr. Reimund Rötter and Dr. Helena Kahiluoto is recognized in this context.

f) Preserving traditional institutions

In Ethiopia, traditional institutions (informal and indigenous institutions) have played important roles in conserving the natural resources, preserving culture and settled resource-use and *land disputes*. Due to policy changes, these traditional institutions have lost their roles and have consequently caused little or no food production in many parts of the country. As a result, the country has become dependent on either by direct or supplemented food aid. In order to avoid these problems, thus there is a dire need to preserve the traditional institutions.

A number of key-issues are outlined in this paper as policy recommendations involving the Amhara Region in north-west Ethiopia mainly from the viewpoint of land tenure systems practiced in the region. Evidently, the biggest problem in the Amhara Region is the growing poverty.

In addition to the above recommendations in order to translate ideas of the Finnish development cooperation into concrete operation in terms of banishing poverty and hunger, the following programme of action are required to be taken into consideration by the Finnish Development Cooperation Authorities along with the project implementation programme in the Amhara Region:

a) Eradicating poverty and hunger: Initiating and supporting financially the idea of forming a co-ordinating body or New Agency which is recognised as an autonomous and apolitical co-ordinating body which only concentrates on seeking solutions to the problem of poverty and hunger through the conservation of the natural resources, effective management of the economy, mobilisation of the human resources and the introduction of the physical and social infrastructure in the Amhara Region. The New agency would implement the new development plans and strategies with the cooperation with aid donors, traditional and government institutions, business and NGOs in the region and restoration of previous constructive local institutions.

b) Climate change: Initiating a proposal for formation of a working group to assess all questions related to climate changes in order to find solutions to the following issues:

- What is conducive for climate change? Property right or land use?
- If it is land use, what is the effect of the difference between the three-land tenure systems practised in Ethiopia, the Imperial, Derg and the present regime on land use system in north-west Ethiopia?

- What is the effect of climate change on land use and land tenure system in north-west Ethiopia?
- What is the knowledge about climate change at grassroots level?
- Who knows about climate changes at village and communal levels?

3. Namibia

3.1 Some basic facts

Namibia is located in the Southern Africa; western border is the Atlantic Ocean, in the north Angola and Zambia, in the east Botswana, and Zimbabwe and in the east and south South Africa. The size of the country is 825,418 km². Namibia has 13 regions. The official language is English, Oshiwambo, Afrikaans and German are other commonly used languages. The population size is 1,830,330 (GRN 2003 p. 4) and the rural population covers of it 67 percent. The annual population growth is 2.6 percent.

3.2 Agriculture in Namibia

Agriculture in Namibia occupies 64 million hectares, 78 percent of land area, including 206,000 households and 1.17 million people. However, less than 2 percent of the total land area is arable because rainfall is limited (NPC 2002 p. 7). Only 40,000 hectares are suitable for intensive agriculture, and the country suffers six out of every ten years drought (Mendelsohn et al. 2006). However, the subsistence farming is a source of income for 28.9 percent of households (UNAM 2008 p. 30). Over 60 percent of population practice some form of agriculture for livelihood (UNAM 2008 p. 23).

Five major farming systems exist in Namibia, namely small-scale cereals and livestock production, small stock production, mixed cattle ranching, intensive agriculture and natural resource production.

Agriculture is dominated by livestock production and dry-land crop production. Beef and small stock (sheep and goats) production is the most common land use, although game farming and mixed wildlife/livestock production is a fast-growing industry (NPC 2002 p. 7). Agriculture contributed 5.6 percent of the GDP in 2000, of which almost 90 percent was from the cattle and small stock production (NPC 2002 p. x). During the implementation of the Second National Development Plan (NDP2) in 2001-2006, the growth in agricultural and forestry sector was 2.2 percent per annum (NPC 2008, p. 21). The overall economic growth in that period was on average 4.7 percent per annum. In Namibia, the reductive effect of HIV/AIDS has to be taken into account on the economy (NPC 2008 p. 33)

Some 4,500 commercial farmers (less than 1 percent of population) with freehold title (NPC 2002 p. 38) occupy more than half of agricultural land. These farms employ about 35,000 workers, nearly half of the total workforce. The economic unit for farm is sized between 3,000-20,000 hectares and characterised by extensive livestock ranching (NPC 2002 p. 25).

The communal sub-sector with an area of almost 6 million hectares consists of 150,000 small-scale subsistence farmers with customary land tenure regimes (NPC 2003). In 2004, the communal sector

formed about 24 percent of the total agricultural production (Mendelsohn et al 2006 p. 10). Before the Independence, 1990, the communal area people were forced to live in communal areas, and their farms were too small for a decent living, or improving their living conditions. Everyone used common areas outside fields. Non-farming incomes were the ways to earn money, and nowadays non-farming activities; wages, pensions and remittances from family members are important in communal areas (Mendelsohn et al 2006 p. 39).

The size of communal area fields is often limited due to the availability of labour, since most work is done manually (NPC 2008 p. 35). Bigger areas are planted only in good seasons when the rains start early (Mendelsohn et al 2006 p. 35). Wealthy households' fields can extend over 5 to 10 hectares, whereas the poorest farmers have often less than 1 hectare. Goats, cattle, some poultry, few pigs and donkeys, and very few sheep dominate the communal area livestock production. The grazing area is not fenced and young men or boys herd cattle. Water is supplied from boreholes; each water point serves an average of 535 hectares (Mendelsohn et al 2006 p. 42).

Agricultural output in Namibia is extremely sensitive to climatic conditions. Periodic droughts cause considerable stock losses and reduce grain production (NPC 2002 p. 39). Droughts have become common in recent years (MET 2006 p. 47). The mean annual rainfall in Namibia is about 270 mm (UNAM 2008 p. 6).

Pearl millet and maize are the most common crops but the production does not satisfy the consumption. Millet is vital to the food security for it is relatively drought resistant.

Markets in Namibia are small due to a low population (NPC 2008 p. 17). Most farms are located far from markets or export destinations, and transport costs are high. The only lucrative but small markets are in urban areas (Mendelsohn et al 2006 p. 17). Marketing and processing of farm products is also provided through parastatals. The Meat Corporation of Namibia (Meatco) is processing meat products, and the Meat Board promotes trade in livestock and meat products. The Agronomic Board focuses on horticultural crops, white maize, millet and wheat. The Namibia National Farmers' Union (NNFU) and Namibia Agriculture Union (NAU) represent the interests of communal and freehold farmers.

3.3 Forestry in Namibia

Namibia's natural broad-leafed forests and woodlands are located in the northern and northeastern parts of the country. Woodlands cover about 20 percent of land, while savannahs 64 percent (Erkkilä and Siiskonen 1992 p. 23). About 25 percent of forest can be classified as open forest according to the IPCC definition (IPCC 1997, NPC 2002 p. 30). No significant areas of plantation occur in Namibia, due to the climatic and biophysical conditions. Three different categories of forests are; state forest reserves, regional forest reserves and community forest or forest management areas (NPC 2006 p. F30).

The completion of the national forest inventory in Namibia enabled the preliminary forest resource accounts to be developed in 2004. According to the summary of forest inventory, Namibia has at least 16 million hectares of forests, mostly natural forests. In 2004, the total woody standing stock in Namibia was 256.8 million m³ (NPC 2008 p. 114). According to the First National Accounts on Forestry, forests contributed about 3 percent of GNP in 2004 (Barnes et al 2005 p. 11).

3.3.1 Community Forestry

Namibia's Vision 2030 emphasises sustainable development and acknowledges secure tenure over natural resources (MAWF 2005). With sustainable forest management, poverty can be reduced and livelihoods improved. Globally the poverty is associated with lower compliance with Natural Resource Management (NRM). At the community level, the need for addressing NRM collectively is critical (Nkonya et al. 2008, p. 70). Land tenure has a significant impact on the probability to enact NRM bylaws (Nkonya et al 2008 p. 93).

Communal forests cover 7.5 million hectares in Namibia (MAWF 2005 p. 8). The Government is promoting the community forestry, where forest resources; timber, fuel wood, building material, fruits, seeds, roots, traditional medicines and livestock grazing are managed by communities themselves. In 2006, the Government of Namibia finalised the gazettelement of 13 community forests, which cover some 341,523 hectares.

These Community Forests received a right to use their forests' income for their own benefit, and the land tenure improved (MAWF 2005). Earlier the communities could use their forests only for home consumption; the other forest income belonged to the Government. A Forest Management Plan and Community Forest Guidelines (MAWF 2005 p. 10, NPC 2008 p. 115) guide the management of the community forest. The Forest Management Committee represents the community in the management of the community forest. Directorate of Forestry (DOF) is in the process of declaring and developing 16 more community forests (NPC 2008 p. 115).

3.4 Land tenure and property rights in Namibia

Namibia has a dual agricultural land system and has a commercial and communal part. The origin of this is the former colonial system. The communal area covers 41 percent of the country.

A land reform programme was initiated in Namibia in 1990 to have more equitable access to land. However, the land reform is going slowly and it has not yet fulfilled its tasks; neither alleviated poverty nor increased the agricultural productivity. Consequently different groups; commercial farms, communal farms and the poorest group, san people, can now belong to the resettlement scheme - and all of them can have problems. Some earlier profitable commercial farms have even fallen into the emerging farm group because resettled farmers lack funds, experience and training, and the size of land is not adequate.

The Ministry of Lands and Resettlement is responsible for planning and implementation of land reform and resettlement programmes. In 12 regions Communal Area Land Boards, which meet every two months, control over the allocation and cancellation of customary land rights by Chiefs or Traditional Authorities (GRN 2002 p. 3).

Different land right forms in Namibia are; customary grants, leaseholds, freeholds, licences, certificates or permits and state ownership (GRN 1998 p. 3). Land rights can be given to individuals, families of shared land rights, legally constituted bodies and institutions, cooperatives and the State (GRN 1998 p. 3).

The land allocated by the customary right is owned by the State. However, a certificate of right is inheritable by immediate family (husband, wife or natural children) and not limited in time but not mortgage able or transferable outside (GRN 1998 p. 11). The only payment is the administrative cost to the authorised local land authority.

Freehold, commercial farm, is the only form of land property right covered by Article 16 of the Constitution, which allows all citizens to acquire, own or dispose of property anywhere in Namibia (GRN 1998 p. 13). Freehold and leasehold titles can be bought, sold or granted.

3.5.1 Women and property rights

According to the Article 10 of the Namibian Constitution, all persons shall be equal before the law, having equal rights, opportunities and security across a range of tenure and management systems (GRN 1998 p. 1). The Article 95 states that women have the same status as men on land rights, either as individuals or as members of family. Every widow/widower will be entitled to maintain the land rights she/he enjoyed during the spouse's lifetime (GRN 1998 p. 1). However, often women do not have rights to land, due to colonial legacy and some archaic traditional norms and culture. Widows and their children can be evicted from the land after the death of husband or father, and male relatives of the deceased occupy the land.

(See: Recommendations for Namibia in Task 3; Investigation of the Effect of Increase in Agricultural Productivity with Regard to Food Security, Employment and Rural Development.)

4. Bangladesh

4.1 Some basic facts about Bangladesh

At the time of emergence of Bangladesh as an independent country, two-thirds of the land areas (approximately 14.4 million hectare) were under cultivation. With the increasing population pressure, cultivable land area has been reduced and now it stands as 8.44 million hectare (BBS, 2006).

Land distribution in different sectors is presented below.

Total family	: 17,600,804
Total farm holding	: 15,089,000
Total area	: 14.845million hectare
Forest	: 2.599 million hectare
Cultivable land	: 8.44 million hectare
Cultivable waste	: 0.268 million hectare
Current fellow	: 0.469 million hectare
Cropping intensity	: 175.97%
Single cropped area	: 2.851 million hectare
Double cropped area	: 3.984 million hectare
Triple cropped area	: 0.974 million hectare
Net cropped area	: 7.809 million hectare
Total cropped area	: 13.742 million hectare
Contribution of agriculture sector to GDP	: 23.50%
Contribution of crop sector to GDP	: 13.44%

Source: BBS, 2006.

4.2 Land Tenure System in Bangladesh

The pattern of land ownership affects net per acre output by affecting the efficient use of inputs. In Bangladesh, farmers can be classified into following four groups according to tenurial system:

- (1) Farmers cultivating their own lands by themselves only. They do not rent in or rent out any land as well as any labour.
- (2) Farmers cultivating their own lands as well as hired labour and rent out part of their lands.
- (3) Farmers cultivating their own lands and also rented lands
- (4) Farmers cultivating lands of others only either based on sharecropping or cash annual rental contract.

Considering the tenancy status of farmlands, 58% of the land is operated by owners (i.e., who do not rent out any land), 40% by owner-tenants, and just 2% by pure tenants (APO, 2000). About one-fifth of total operated area is under some kind of tenancy arrangements with sharecropping covering about one-half of the land. In Bangladesh, sharecropping is the dominant form of tenancy arrangement but gradually other forms are becoming frequent. In the case of large farms, sharecropping was lowest in 1997 and other forms of tenancy accounted for nearly as much area as sharecropping. According to recent agricultural census

Comparison of census findings of selected agriculture indicators

(in million)

Key Indicators	Year			
	1983-84	1996	2005	% change in 2005 over 1996 (+/-)
All holdings (number)	13.82	17.83	24.56	37.75
% of farm holdings	72.70	66.18	59.18	
% of non farm holdings	27.30	33.82	40.82	
Operated area of total holdings(acres)	23.02	20.48	23.43	14.40
Owned area of total holdings (acres)	22.60	20.33	21.99	8.67
Net Cultivated area (acres)	20.16	17.77	18.26	2.76
Agriculture labour holdings (number)	5.50	6.40	7.03	9.84
Agriculture labour (% to total holdings)	39.77	35.91	28.64	
% of holdings owning no land (absolute	8.67	10.18	10.65	
Total farm holdings(number)	10.05	11.80	14.54	23.22
Owner (% of total)	62.78	61.66	69.76	
Owner- cum – tenant (% of total)	35.83	34.86	23.73	
Tenants (% of total)	1.39	3..48	6.51	
Total operated area of farm holdings	22.67	19.96	23.62	18.34
Owner (% of total area)	58.76	58.51	73.32	
Owner cum tenant (% of total area)	40.69	39.59	24.08	
Tenants (% of total area)	0.55	1.90	2.60	

Source: BBS Agricultural Census, 2005.

4.3 Constraints in land tenure and property rights in Bangladesh:

Bangladesh has an underdeveloped system of land tenure and property rights, rendering many of its poorest landless; these families end up living on sandbars or swamplands that disappear during even minor floods. The result of Bangladeshis' frequent experiences with natural hazards is an ever growing number of people incapable of fully recovering from multiple economic shocks. It is also a costly matter to handover or transfer or to execute any sale deed against any land property. The registration fee is fixed at 21% of the total value of the land and other miscellaneous charges are 2%. Thereafter, another problem is the "procedure of Sale Deed or Transfer of Property". In most cities, there is a continuum of tenure categories ranging from pavement dwellers to freehold owners and policies, which involve dramatic transformations from one category to another, may distort land markets and expose vulnerable social groups, such as tenants, to eviction. It calls for improvement in land management to apply more formal methods for increasing tenure security. Another problem is that nearly one quarter of Bangladesh farms are owned by landlords who rent out their land to sharecroppers. Sharecropping is a very insecure arrangement for those who work the land; it is also a very inefficient approach to agriculture.

4.4 Policy Recommendations:

(a) Improving rural tenure security:

A key factor behind growing poverty is the increasingly insecure relationship between people and the land. Land is the most important resource in rural and agricultural country like Bangladesh. Without owning or having access to land, people cannot sustain themselves. Over the past 30 years, the dispossession of small peasant producers from their land has increased dramatically. Today at least 60 per cent of rural families are landless. These people are turned into seasonal laborers, working or sharecropping on land belonging to others. So, the government should formulate and implement economically viable land reforms policy to ensure that the farmers feel emotional attachment to the land they cultivate.

(b) Enforcing land reform and agricultural development polices:

Bangladesh's future lies in its enormous agricultural potential. But without ensuring the land ownership and tenure structure, there is a little hope for development; moreover, there will be a continuing migration of rural people urban. If an appropriate mix of land reform and agricultural development policies were adopted, Bangladesh could meet its food needs as well as ensure rural employment in agriculture since this sector still accounts for 52% of the overall employment. In addition to agricultural development, there is a need to create many more sources of non-farm incomes for rural people. This will also require substantial policy change aimed to encourage the production of goods for local consumption.

(c) Restrict informal settlements of agricultural land:

To ensure tenure security informal settlements be integrated into formal land market and thereby prevent changes in land values which could produce distortions in land markets and displace large number of poorest social groups who rent in informal settlements.

(d) Austerity in acquisition of land:

Without proper land security and property rights, a large amount of alluvial lands are acquired in the name of development projects that in many instances turnout to be useless. The unplanned use and misuse of acquired land is also common in Bangladesh. Proper land title would ensure in protecting the farmers' fertile land from being acquired. Moreover, minimum requirement of land should determine with austerity before implementing any development project.

(e) Ensuring good governance in tenure system and property rights:

Property rights reforms particularly those aiming to strengthening the marketability of land rights may not attain the goals given the imperfect nature of rural credit markets. The traditional land system in Bangladesh offers much security and certainty provided that the traditional landholders have legal authority over their land. The policy implication is that the government should strengthen the traditional landholding institutions by supporting and empowering them rather replacing them. This is an issue of good governance and much depends upon the political will of the government.

5. Concluding remarks

The research study done on effect of land tenure and property rights on agricultural productivity in Ethiopia, Namibia and Bangladesh indicates the fact that proper land ownership policy is vital in order for vast majority of population living in rural areas whose income is dependent on farming. The problem faced commonly by the farming population, who are in large extent small-scale farmers, is the increasing rate of poverty caused by maladministration of land ownership. Due to this insecure property rights the farm households do not feel emotional attachment to the land that inhibit the land productivity and environmental sustainability as well.

Despite the fact mentioned above the three countries differ from each other due to history, state administration policy and land ownership system followed in each country respectively. It is imperative that land administration departments of these countries should ensure good governance and transparency in ensuring proper land tenure and property rights.

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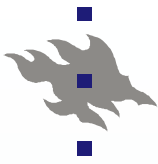
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