

Colonialism and Marginalization of African Indigenous Knowledge on land and Soil Conservation in Kenya, a case of the Kikuyu Community

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ABSTRACT--- *African Indigenous knowledge covers many facets. One such area that enjoyed adequate knowledge and practices that were old age tested and applied was in conservation practice. Majority pre-colonial African society understood the importance of conserving land and soils since their livelihood depended on proper utilization of the land resource. The outcome was a diverse and a rich body of knowledge addressing land conservation within the specific of the communities' habitation. Africans and their way of life experienced a rude intrusion by the European colonialists. The process of colonization was justified on many grounds. Scientific social Darwinism was favored as it argued that the European race was superior to other races. With such an illusion, the colonial authority downplayed anything belonging to the colonized communities including the age old accumulated practical knowledge that guided conservation exercise. In Kenya, the kikuyu community underwent ruthless transformation where an identity of a culture was replaced by the perceived 'superior' western culture. The ignorance of the Europeans to understand the local knowledge did not only lead to massive land degradation but also led to resistance against the foreign western concept and eventually armed conflict which aimed at restoring the African lost identities among them aspects of indigenous knowledge.*

1. INTRODUCTION

Africa is largely an agrarian continent where poverty and hardship has dominated the daily debates. The attachment to land among majority Africans has been due to the fact that land resources constitute the direct livelihood sustenance among over 80 % of the Africa's population. The direct dependence on the land resource through crop production or animal rearing result to increased land use and thus soil control measures occupy centre stage. This is particularly due to the risk of soil erosion culminating from continuous cropping or over grazing or both. Historically, land resource formed the basis on which socio-economic, political, cultural and religion were founded and organized. This attachment led to the perception of sacredness of the resource¹.

The sacred nature of land called for responsible exploitation of the resource and various ethnic groups devised different methods of land and soil conservation measures. Such measures were tested over time and eventually constituted part of indigenous knowledge. This was an important aspect since environmental degradation was a challenge to livelihood².

In many African countries there has been attempts to counter the rapid decline of natural resources especially land degradation through soil erosion. The United Nation has been onboard in strategies to save the continent's natural resource. In 1977 the first United Nation conference on desertification was held in Nairobi, Kenya, to strategize on measures that would solve the ecological problems. It however, emerges that the plans that were devised during the conference have failed³.

In Kenya, the problem of natural resource management has resulted into a myriad of problems. Central Province, the home of the Agikuyu people, is one area where agriculture is the backbone of people's livelihood and the determinant of the country's food security. However, reports' dating back to colonial period, in particular from the 1933 Carter Commission reveals constant worsening of the land resource. The reports however date to a period when African societies underwent radical transformation in almost all sectors and spheres of life.

To properly address the threat of land degradations there is need to understand and appreciate the possible historical origins of land degradation and the dearth of African knowledge on soil conservation. This paper aims at investigating some positive African knowledge on ecological sustainability that can be harnessed to increase farm productivity.

2. THE CONCEPT OF LAND AND SOIL CONSERVATION IN PRE-COLONIAL AFRICA

Without idealizing life in pre-colonial times, it can be said that for a long time it was characterised by economic and social subsistence regulated by a more or less stable structures under customary law. In these conditions, social obligations ranked above economic interest. Though most of the community members enjoyed social prestige that went along with accumulation of cattle, one was not necessarily inclined to maximize his wealth at the risk of other members

of society. Among the Agikuyu for example, ownership of land was communal but personal effort and entrepreneurship rendered some more landed than others. However, those who did not have land were not poor for landlessness among the Agikuyu did not spell economic disaster⁴.

Pre-colonial African societies were diverse occupying different geographical setting; they also present diverse cultural heritage ranging from hunters - and - gatherers to agriculturalists. This diversity forms a rich 'fund' and diverse body of knowledge in ecological sustainability .Allan⁵ systematic studies highlights the vast ecological knowledge describing pastoralists as the 'authorities on grasses'. African pastoralists had through experience and experiment learned of the feed value and stock holding capacity of pasture at different seasons of the year. Among the agrarian societies, the same mastery of the environment was exhibited by fine knowledge of soil taxonomy. This knowledge ensured proper use of the natural resources, which in turn led to high productivity of crops and livestock alike.

Nyanchoga⁶ highlights how the Turkana of Kenya, whose main economic activity was animal husbandry, had developed knowledge on handling of salty soils. Besides using animal dung as fertilizers, Turkana used saltbush to absorb excess salt on land where sorghum was to be planted. This form of knowledge reflects active and purposive use of management strategies that forms indigenous knowledge.

Indigenous knowledge was geared towards increasing and restoring soil fertility and soil moisture as well as prevention of soil erosion. Various communities, for example the Ukonde people of Tanzania, had essential features of improving soil fertility using refined knowledge on green manure, ashes and animal dung⁷. Merensky report that by using this knowledge, the Ukonde people were able to have three successive crops of maize, beans and sweet potatoes all within a year⁸.

Many scholars have appraised supremacy of ecology control among African societies. Kjekshus (1977) concerns himself with assessment on how Africans used their knowledge to conserve ecology among the East African people. He highlights a diverse body of knowledge from the various communities that he engaged his study on. In general, he shows how the knowledge was used to produce not only enough food crops for households consumption, but surplus that was used for trading and feasting. He notes the Umatango people who combined indigenous anti-erosion techniques and green manuring that was used by the Ukonde people to further increase their production as well as conserving and improving their ecology. Commenting on this technique, Sternhouse⁹ credited the method to be so superior claiming that Umatango people did not have the need to engage in shifting cultivation for soil nutrients restoration.

Shifting cultivation was highly relied upon by many pre-colonial African societies. It was almost effortless and cost - effective method of improving soil structure, retention of soil fertility and due to the fallow period observed, disease causing organism and harmful pest that attacked the crops were killed thorough breaking their cycle. Shifting method of cultivation was practised since among many pre-colonial societies, land availability and the customary land rights allowed for this measure. The method was not accidental as many colonialist sought to label it, in some communities like the Agikuyu, there was a stated duration of time that was to be observed on fallow lands as well as stated period when land was to be under production¹⁰.

While applying their knowledge on land resource control, a prominent feature that appears is the maximum use of the resource without compromising its sustainability. Dejene¹¹ notes that shifting cultivation involved leaving land fallow for a certain period of time. However, this does not mean that the fallow period observed rendered land economically dormant, fallow land continued to be used as grazing grounds and source of plant which had other importance like medicinal value. Grazing animals in the fallow land was a cost effective method of hastening the restoration of soil fertility as animal droppings added to soil nutrients. Applicability of this method concerned Msaky and Araki¹² who carried out a study that revealed that, soil under cultivation has less amount of nutrients while soils under long fallow period contains high amount of nutrient. Thus fallow period observed by the majority of pre-colonial African society was a suitable method of regaining soil fertility. Their study also revealed that virgin land contains the highest amount of soil nutrients.

African knowledge on soil conservation was derived from the objective nature of pre-colonial societies. Soils in tropical region are commonly leached and highly weathered.¹³ This condition called for precise knowledge in dealing with a rather delicate soil. The knowledge accumulated with time and tested for its applicability necessitated the Africans to use a light hoe for tilling while integrating other methods that took care of the fragile soil. Measures such as shifting cultivation that ensured enough rest periods for the soil while improving its structure, together with burning which gave an ash layer that covered the delicate topsoil were thus essential in dealing with the tropical soil. Such measures formed the African indigenous knowledge that was based on hundred years of pre-colonial experience with sustainable resource management.

Burning which was essential in opening new lands had other advantages other than bush clearing. Ash from the burning of trees and vegetation redeposit nutrients from deeper horizon to the surface as well as providing cover for the fragile top soil while gradual decomposition of the rooting system also increased the nutrients status¹⁴.

Integration of different methods that aimed at land resource control was highly employed. Such measures went beyond sustainability to include high production that also catered for diverse nutrients that people could attain from their land. Multi-cropping was one method that served a number of applications. Kjekshus notes various advantages that multi-cropping had. He observes that when legumes were multi-cropped with other crops, they helped in nitrogen

fixation and the ‘clustering’ of crops in one field ensured adequate soil cover against agents of erosion. He further notes that, intercropping gave the people security in that; if one crop failed they could always get to harvest the other. Such practices guaranteed food security while at the same time offering a diverse supply of important nutrients in people’s diet.

Agricultural science developed by the pre-colonial Africans was important in resource sustainability much as it offered surplus that was used for trade, offerings and even celebrations. Among the Agikuyu, there was always a beer party that followed the harvesting period¹⁵. This is indicative of the satisfactory and productive measures that were set aside to regulate land use and thus land productivity.

It is apparent that the certain conditions prevailing in pre-colonial societies do not exist anymore. Abundant land, communal ownership and even the sacred approach to the land resource are some of the lost aspects in relation to land. The changes that occurred, largely because of colonialism altered the age old perspectives on land resource. Unfortunately, such changes have not recognized the applicability of pre-colonial agricultural indigenous knowledge.

3. COLONIALISM AND THE CHALLENGE OF RESOURCE SUSTAINABILITY

Colonialism as a process brought massive transformation of African societies. These transformations were destructive and exploitative as noted by Rodney that, “the only positive thing about colonialism was its end”¹⁶. Colonial intrusion inhibited the progressive development taking place in Africa. Ecological sustainability is one of the many fields where Africans had developed a highly diverse and sophisticated science of knowledge which colonialists ignored and dubbed it ‘childish’, ‘static’ and ‘prior art’¹⁷. This ignorance went alongside with massive land alienation where the ownership and control of the land resource changed hands from Africans to the Europeans.

Colonialism ushered in negative transformation especially in land use and management. Alienation of land and the evolution of individualized tenure based on the British property law marked the onset of land degradation. This was partly due to the fact that, majority of the white settler who took up land were men of no economic means¹⁸ and thus could not afford labor to ensure land degradation was averted.

Maloba¹⁹ notes that land problems had manifested itself right from the pre-colonial period. Colonial intrusion found the Agikuyu in a significant southward expansion, which they successfully interrupted following land alienation.

Land alienation stands out as an important colonial event particularly when considering ecological sustainability. In Kenya, as in many African countries, land alienation was facilitated and justified by land ordinances which became a common practice. A number of laws were enacted beginning with the 1901 East Africa (Lands) Order in Council culminating with the 1902 Crown Land Ordinance which put all land under the control of her majesty²⁰.

Crown Land Ordinance of 1902 is arguably the beginning of the destruction of adaptive strategies and sustainable livelihoods of African societies, particularly those occupying the fertile lands adjacent to the Uganda Railway. The colonialists argued that there was vast ‘empty’ land which settlers would transform into productive lands.

With the notion that the settlers would take up agriculture in the Kenyan highland, the result was official neglect of African agriculture and thus African indigenous knowledge on land and soil conservation was marginalized. This neglect was not limited to crops and animal production; there was also a design to sideline Africans organizations such as political, social, and economic among others. The government policies focused upon issues of European settlement.

Economic centrality of colonial government oversaw the pre-capitalist production, which had thrived for thousands of years. The colonial concern on African agriculture came only when the European wanted to introduce Africans to their capitalistic production mode²¹. Various aspects of African production inhibited the transformation from pre-capitalist to capitalist or at least slowed the momentum of such transformations. The colonial government, aiming to maximize export commodity production, saw the need to bring African agriculture into their style of production as well. Successful transformation of pre-capitalist mode of production called for new measure which would coerce Africans into a new or articulated mode of production. This was realized through commercialization and monetization of agriculture.

Among the Agikuyu pre-colonial agricultural production crops such as sorghum and millet, sweet potatoes, bananas and yams²² were the crops of choice and went to mitigate against famines in the event of drought. Importantly, they were the crops which the Agikuyu had mastered their every aspect of production. However, these crops were not easily marketable in the colonial export trade²³ and thus presented a challenge to the colonialist as they tried to integrate the Agikuyu into the capitalist system.

Maize, introduced in Africa by Portuguese, was not widely produced in most of African societies but colonial government realized the potential that maize had if Africans were to be integrated into commercialized agriculture which would be a step towards integrating them into capitalist mode of production. The colonial government therefore encouraged maize production among Africans and sometimes Africans were coerced into maize production. Coercion was used among the Pokot community of Kenya who were not willingly taking up maize production²⁴.

In Central Kenya, production was not favored as compared to other grass plants. Although the crop is more productive than sorghum and millet, it has low nutritive value. Importantly, maize is more likely to cause or facilitate soil erosion due to a number of reasons. First, large vegetative growth takes a large amount of fertility out of soil than other cereals²⁵. Secondly, its shallow root growth means that while in the soil it gives no protection against water erosion and heavy tilling of soil required during the dry season before planting increases the likelihood of wind erosion. Further, multiple ploughing required during crop growth destroys the soil structure and leaves little other than sub soil for the

plant to grow in²⁶. Despite these characteristics, the colonial authorities ignored the knowledge which dictated people to favor other crops and went ahead to coerce the Africans into maize production. The neglect of African agriculture clearly demonstrates not only the ignorance against indigenous knowledge among the European settlers but the failure of western knowledge to understand the suitability of various crops on the African tropical soils.

The degrading use of exotic genetic resources introduced during colonialism and devastating eradication of African wildlife, forests and crops to pave way for European intensive type of mono cropping, and commercial livestock husbandry has had a lasting effect on resource sustainability in Africa. To uphold the notion of “white man’s superiority” African indigenous knowledge was put in the periphery without any test to its suitability and applicability on the African soils conditions.

Land alienation and conquest of African political structure were part and parcel of upholding the notion of ‘white man’s superiority’. Alienation of land inhibited continuity of the ecological preservation and sustainability. The conquest also rendered elder’s power inapplicable in a system where land ownership had changed from African communal ownership to European’s individualized tenure. The change in ownership threatened, among others, the already threatened class of landless. Among the Agikuyu, the landless were known as the *ahoi*²⁷.

Pre-colonial landlessness among the Agikuyu did not spell economic disaster since the Agikuyu social fabric ensured that every able bodied member of the society had the right to access the land resource and thus participate in the resource management. However, with the colonial intrusion the *ahoi* class was threatened in all aspects; landless came to spell out economic marginalization and impoverishment. The landless class was denied the traditional access to land. For the first time in the history of the Kikuyu community, there came to inception a class that had no role to play in land resource management. This meant creation of a class that did not see much sense in preservation of the land resource. The *ahoi* became a destitute class who were transformed into an ecological unconscious group with no real need to approach land in any responsible manner²⁸.

Land ordinances, by then the backbone of colonial land alienations created conditions that were not conducive to soil erosion control and rendered application of indigenous knowledge futile. The creation of African reserve lands, for example, limited the size of land available to Africans²⁹. This move had far reaching impacts in relation to application of African indigenous knowledge. The practice of shifting cultivation could no longer be take place since this farming system relied on extensive farming as opposed to intensive farming which was introduced by the colonialist. Over the ages, shifting cultivation had helped Africans restore the lost soil nutrients and regain soil structure through leaving the land fallow³⁰.

In Central Kenya, population pressure had already started to create land shortage even before colonialism. Thus alienation of land in central Kenya resulted to far reaching effects almost immediately when the alienations occurred. The conditions on the reserves created instant tension among the Kikuyu and the colonialists. With these conditions prevailing, the colonial government did not concern to tackle African land problems and in 1915, the government ironically repealed the 1902 Crown Land Ordinance and increased the powers of the governor over land. Further, settler lease period was revised from 99 to 999 years. The result was gradual alienation which saw African reserves becoming smaller and smaller³¹.

The 1915 land ordinance did not take into any account the interest Africans and conservation of Africa’s ecology. The ordinance only managed to put fear among Africans who understood that their reserve land security was no more. This ordinance therefore was responsible for the dearth of African active and purposive environmental sustainability. It threatened the security of tenure and thus Africans could not engage in active long term soil conservation strategies. The impact of this ordinance, as expected, was little effort on the side of the African to conserve the land resource.

In order to make the economic sense of colonialism, the authorities introduced from 1923 a dual policy³². The policy attempted to appease both the British government and settlers’ community in Kenya at the expense of the Africans. Though the policy aimed at active integration of Africans into capitalist production, there was creation of a special class in relation to soil erosion. Young able-bodied people went out in search of wages. This detached them with the old and the conservative class of Africans who were the custodian of indigenous knowledge and whom responsibility of teaching the young ones rested upon.

The young migrant labourers went to European plantation farms where they learnt a different kind of education including land and soil conservation measures and practices. The western knowledge on land and soil conservation measure became the widely known method among many young Africans thus alienating the indigenous education from the young Africans. This costly mistake came to be realized in the 1920’s when the reserves, having detached from the indigenous conservation measures experienced upscale land degradation. The young men, having been equipped and integrated in the western practices could only address local challenges with alien approaches.

Formal western-style education had by the 1920’s started to produce a number of Africans with access to money, taste of European culture and influence. The agricultural personnel in particular were no doubt equipped with western method of soil erosion control and environmental sustainability. These graduates became the agents who eroded Africans indigenous knowledge as they taught a new set of knowledge thus suffocating the age old knowledge and practices³³.

Further, this class of African elites, together with colonial appointed chiefs and tribunal elders started the process of individual land aggrandizement in Kikuyu land. Individual land ownership in a formally communally owned land pushed a section of the population with the skill and knowledge on which paid little heed to traditional rights and obligations³⁴. This became important avenues through which indigenous knowledge especially the body concerned with soil taxonomies was degraded.

The conditions prevailing in the African reserve became intolerable especially in the period towards the end of 1920's. There were diseases, malnutrition, Africans granaries were empty as condition of land was characterised by massive erosion due to continuous farming, loss of soil nutrient and farming on sloppy grounds due to land scarcity³⁵. These conditions pressured the colonial government to look into matters of African land reserve which the authorities had always ignored. To this effect, the colonial government appointed in 1932, Morris Carter to head the Commission which was to compile a report on reserve land and advise the government on the way forward³⁶.

The Carter commission ironically stated that access to land was not a problem in African reserve and thus denied the issue of population pressure on the reserve land. The Commission blamed African farming practices which it noted that, 'the shifting cultivation was extremely destructive method'. The denial by the Commission that there was real land shortage in Central Kenya stamped the continuity of the same condition which was worsening by the day. The Commission's only 'positive' report to the Africans was its acceptance to have the reserve boundary extended to include parts of what became Ndeiya/ Karai settlement scheme³⁷. Nevertheless, this land was located in the drier part of Central Kenya and not suited for crop production.

The 1930's was a period marked by many changes that combined to put pressure on the African reserves. During the decade, there was the economic slump which the colonialist approached by intensifying African agriculture as one of the response to the economic challenges. For the first time, African product found a ready market within the European market³⁸. This was followed by the outbreak of the Second World War where colonies were designated the role of producing food and other war related materials. Thus, the war had created new markets and the colonial government increased their production to maximize their income. This came with the realization on the side of the colonialist that African reserve land needed reconditioning from the period of degradation. The government reacting to this initiated the African Land Development Programme (ALDEV), which would help rehabilitate African land³⁹.

Despite the move, the ALDEV program became yet another avenue that consciously and deliberately suffocated African indigenous knowledge on soil and land conservation. The measures that were taken to recondition African land did not at any point consider the worth of African indigenous agricultural knowledge. ALDEV programme introduced measures so alien to locals that many opted to protest against them. In Murang'a, a Kikuyu inhabited county witnessed the revolt of women who protested the harsh measures and forced labour that was directed towards soil conservation measure⁴⁰. The protest was a clear indication of how local population had become attached to conservation of resources. In the end, the ALDEV programme was no doubt a total failure whose only success was in effective erosion of African indigenous knowledge.

The failure of the ALDEV program to address land degradation in Central Kenya meant that the land question remained an important question as the land holding capacity declined due to degradation and the increasing population. As such, the post Second World period witnessed increased agitation among the Africans, a move that was shaping the development of African nationalism. By the close of the 1940's, the nationalist spirit had started to take a dangerous bloody dimension revolving around an anti colonialist movement dubbed Mau Mau⁴¹.

As usual, the colonial government denied the fact that Africans were taking up arms in quest to have more land availed to them and that their cultural identity especially governance be recognized. Up to 1952, the authority was in a state of denial⁴². It would take the killing of the loyalist Africans and sabotage of Europeans economic ventures for the authorities to accept the prevailing problem.

To respond to the challenge of the armed resistance, the authorities decided to act punitively against the resistors. This was done through land distribution exercise that alienated the African concept of ownership and replaced it with the British individualized property law. The Swynnerton plan as it came to be referred radically changed the tenure system among the Kenyan communities especially those actively involved in the resistance⁴³. The plan argued that individual title would guarantee access to loans among Africans who would then have sound financial base to engage in 'scientific' agriculture and solve the land degradation problem. The move only served to intensify commercialization of agriculture as Africans title holders applied for loans to engage in cash crop production⁴⁴.

In the end, colonialism did not only manage to marginalize, subordinate and destroy aspects of African indigenous knowledge but had also managed to overhaul the production pattern where Africans found themselves commercially producing for the western market at the negligence of local market demands. Food production was neglected as cash crop economy took charge. In turn, food prices were on all time high as scarcity set in⁴⁵. Importantly, the Kenyan economy got entangled within the capitalist system taking a more dependent production role.

The establishment of cash crop growing among Africans introduced the practice of mono-cropping which adversely affected soil and land conservation. A crop such as coffee does not offer adequate soil cover⁴⁶. The exposed soils are prone to agents of erosion. This becomes even more serious when land topography in central Kenya is factored as the land is characterized by steep ridges that increase the threat of erosion.

Imposition of cash crop and exotic livestock among Africans did not only force Africans to abandon their traditional methods of resource management, but also made African dependent on the Western countries. McCall⁴⁷ recognizes that in Kenya,

“Over the 1964-1985 period, the country imported nearly 64% of all genetic resource accessions used for breeding...the country is largely dependent on foreign source for most of the major crops. Nearly 88% of the cereal accessions stored in the country are imported. This is not a surprise because the agricultural sector is based on exotic genetic resources. None of the major crops are indigenous and therefore imports have to be done to maintain breeding programmes.”

4. CONCLUSION

A reconstruction of African pre-colonial social and ecological sustainability brings to the appreciation of the active and purposive strategies that were employed in effective natural resources sustainability.

The African understanding of resource sustainability was changed by the advent of colonialism. The colonial process challenged indigenous methods and dictated upon measures that were to be employed in replacing the otherwise conceived ‘static’ and backward methods. The colonial resource sustainability measures were not geared to a long-term sustainability but to the immediate and ad hoc measures. Indeed, capitalist production does not seem as a compatible component in proper and long-term sustainability of the environment.

The departing colonialist ensured the post colonial government headed by indigenous Africans would embrace the capitalist philosophies where economies of former colonies were to be an economic satellite of the motherland supplying. Continuity of colonially introduced kind of agriculture in postcolonial agriculture thwarted applicability of African indigenous knowledge on natural resource management especially the land resource.

Colonialism as a process led to fundamental changes in the organization of African societies. Crop production shifted from food crop to emphasis on cash crop and thus orienting Africa to serve the western economies while her economy got dependent and even underdeveloped. African indigenous knowledge which was applicable in soil and land conservation was relegated as useless and backward while the western concepts were promoted. This resulted to failure of the western concept to address the local issues and at times, such concepts were outrightly rejected.

Despite the inherent differences between indigenous knowledge and the western scientific knowledge system, the colonial authorities failed to promote some kind of interaction between the two knowledge systems. Thus western concept were perceived alien to the locals. An integrated approach where the two knowledge system should share in ecological management and not compete should be the future of addressing issues facing the societies today.

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