

Title

Agricultural changes and the state of food sovereignty among the Macha Oromo of Wallagga, 1975-2015

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Abstract

Since the mid-1970s, modern farming has endangered the indigenous production and food system among the Macha Oromo of western Ethiopia. Modern cultivation sought to secure food to the growing population and market that negatively affected the food sovereignty of the Macha farmers. The effects of agricultural changes on food sovereignty in this intensively cultivated region have received astonishingly little attention from either historians or other social scientists. This study attempts to examine how the modern farming practices endangered the farming and food system in Wallagga from 1975 to 2015. It illustrates the effects of land use changes and modern farm inputs on indigenous cultivation and subsequently food system. The study has employed a historical research method in which evidences on land use, farming practices, trade, investment since the mid-1970s. The study argues that the change in land use and excessive and continuous use of inorganic fertilizers since 1970s has seriously affected both the environment and food system. It reveals that these changes usurped the right of the Macha Oromo to healthy and culturally appropriate food produced through ecologically sound and sustainable methods. Thus, the return to ecologically and culturally sound agricultural system would realize food sovereignty and ease this historical injustice.

Key words

agricultural change; food sovereignty; seeds; sustainable

Key dates

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Introduction

This manuscript relates agricultural change to food system among the Macha Oromo of Wallagga, western Ethiopia from 1975 to 2015. The purpose is to show how modern farming for food security usurped the indigenous production system and eventually the right to cultural and healthy food in the region. It first describes the environment of the region, the production and food system and finally explains how modern farming diminished indigenous farming and food system. It describes how extensive farming and high technological investment have endangered sustainable agriculture and food sovereignty in the study area. The study expounds that the rush application of technology and total marginalization of indigenous land use and production system resulted in the decline of the availability of cultural and healthy food. This case study depicts the effects of the top-down development approaches of most states that is against the ideas of the African Green Revolution.

Background

Food sovereignty has gained steady attention after the reassessment of the effects of modern farming on food system and public health beginning from the last decades of the 20th century. The notion of food sovereignty refers to “the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems” (Campesina, 2009). Food sovereignty is different from food security. The latter does not have concern with where food comes from, or the conditions under which it is produced and distributed and usually met through environmentally destructive and exploitative conditions, and supported policies that devastates local food producers. Food sovereignty emphasizes ecologically suitable production, distribution and consumption, social-economic justice and local food systems and aims to tackle hunger and poverty and guarantee sustainable food security for all peoples. It promotes trade and investment that serve the collective aspirations of society, their control over productive resources; agrarian reform and tenure security for small-scale producers; agro-ecology; biodiversity; local knowledge; the rights of farmers and climate justice (Pimbert, 2009). Recently, public health agenda has greatly included studying the human nutrition as a necessity to improved human health (Smith, 2003). Although there are many studies on the agenda of securing food security in Ethiopia, the empirical study linking modern agriculture, food system and the right to health and culturally appropriate food is scant.

The study area, the Macha land is categorized as the wettest and agriculturally viable part of the country. The presence of diverse agro-ecologies and humid climate enabled farmers to produce different types of crops and animals as well as the presence of moist soil and much vegetation (Central Statistics Agency, 2011; International Food Policy Research Institute

(IFPRI), 2010/11). The soils of the region are classified as ‘red tropical soil known as Nitisols’, red-brown, dark-grey, and dark brown clay soils with the dominance of alluvial and colluvial material near the rivers (Hineu, 2018). The region was endowed with a well-watered variety of forest ecosystems that used to support diverse wildlife population. Forest resources were source of food, medicinal plants and agricultural implements (Ta’a, 2009).

Indigenous land use, mode of production and food system

Ecology greatly dictated land use systems and the cultural patterns of agriculture. In the indigenous land use system four major categories of land use can be identified: *masi* (land for habitation and cultivation), *lafa dhedisa* (land for grazing), *daggala* (land for thatch), and *bosona* (forestland). Farmers had developed an ecology based land use that considered the carrying capacity of the environment (Tesema, 2009). Grazing land varies seasonally and was categorized as *hura* (bush land), *baji* (fallow land), *dagala* (grassland) and *chafe* (wet lands) (Assefa Tolera, 2003).

Farmers used to maintain soil fertility through indigenous strategies like manuring of plots, using composite, residual ash, fallowing, crop rotation, intercropping and contour plowing. Multiple cropping also enabled farmers to control weeds and pest control and ensure a harvest. Their land use, cultivation and grazing systems centered on balanced relation with the environment. The Macha largely practiced mixed farming agriculture that included livestock raising and crop cultivation. While cattle, sheep, goat and equine occupied the larger part of animal husbandry, grain, pulses, oil seeds root crops and tuber were largely cultivated for consumption. Livestock were the primary source of draught animals, manure, diet and wealth (Ta’a, 2009). Livestock were raised to continuously maintain the productivity of the land and labor in farming and for symbolic and ideological values. Stocks were praised by their owners, reflecting the fortune of those who possessed such treasure in comparison with the misery of those who were poor. Among the crops, barley, wheat, maize, and *teff* were staple food crops. Pulses, tubers, oilseeds and root crops supplemented the subsistence food. A number of farmers were also engaged in honey production for food and income generation (Informants).

The ecological basis of the Macha Oromo food system and livelihoods were farmlands, with their domesticated and “wild” plants and animals. Forests and their many plant and animal foods and products were supplementary foods. The agro-ecosystem of the food system was mixed systems, including crop-livestock systems where forest products played significant role. This entails crop cultivation, livestock production, and forest products obtained from a wide range of ecosystems and landscapes. Agriculture provided occupation, employment, and socio-cultural meaning to the entire small-scale producers. They include smallholder cultivators/family crop and livestock farmers, herders, artisans, gardeners, hunters, beekeepers and gatherers, and any other small-scale users of natural

resources for food production. They produce and harvest field and tree crops as well as livestock, and collect wild foods. Forests play extremely important roles in the family-based farming. Thus, the livelihoods and incomes of a large number of rural inhabitants were dependent on the farm produces and inputs. These include processing, distribution, sale and preparation of food. This food system used to generate many jobs to active working population (Informants).

The dominant food system of the Macha Oromo comprises the products of what they produced. Livestock products and grain, cereals, root crops, tuber, fruits were the major food items. This can be categorized as staple, complementary, supplementary seasonal foods. Among others, some main food types include milk and milk products, meat, *cororsa*, *cacabsa*, *cukko*, *buna-qala*, *ancote*, *qori*, *marqa* and *others*. These food types were produced from local agricultural products. The staple food crops include cereals of different kinds, pulses, tubers, and root crops. Livestock products such as meat and milk were the major diet that could be also served as complementary foods. Milk and milk products were the main components that were consumed to make food delicious and more nutritional. Hence, the integration of livestock-crop farming was also visible in their diet, as the products of livestock complements food prepared from cereals, tubers and root crops (Informants).

Specific crops such barely (sixteen types), *Orome* (lit: Oromo maize), root crops and tubers such as *ancootee* (*Coccinia abyssinica*) and *qoccoo* (*Dioscoreaalata* L.) and varieties of root crops were cultural food crops unique to the area whose origin can be linked to the ecology of Wallagga region. For instance, *ancootee*, *godarree*, *qoccoo*, and Oromo potato were considered as native to the region. Sweet potato called *camcammee* (*Ipomoea batatas*) and yams (*Dioscorea abyssinica*) were largely cultivated. *Ancote* is an Oromo name for a vine with an edible, potato-like tuber mainly cultivated women. This vitamins, minerals, and protein-rich crop were a cultural food and recommended for persons suffering from bone fracture, gonorrhoea, tuberculosis, and cancer. Ethnographic studies maintained that tubers such as *qoccoo* and *ancote* were culturally favored food among the western Oromo. The environment of the regions was eminent for the production of tubers and root crops including potatoes. Tubers and root crops were main food items during drought and starvation times (Hineu, 2018).

In addition, the livelihoods of the area depended on the utilization of wild food (bush meat, fruits, roots, honey etc). Edibles such as *badesa*, *gosu*, *gora*, *agamsa*, *qoladii*, *warake*, *mexii* and tubers such as *buri* were the most common wild food consumed as supplementary foods. The roots, tubers, seeds, flowers, fruits, berries, and leaves were consumed as staples, and during hunger times. People consumed these wild foods during the rainy season at the times of insufficiency of crops for consumption (Informants).

Methodology

The rationale for the study arises from the recent declining quality and variety of agricultural products. This entails expected food properties such as organoleptic and nutritional characteristics or resulting benefits. These demanding problems urged me to assume that the sources of the diminishing quality and taste of food have to do with forms of production. My assumption is that examining the agricultural system and food system in the region can help to explain the problem. The article looks into how food system related to the change in agricultural system and the environment. The study also attempted to link agricultural changes of the region to the local and global market economy.

This study employed the approach that that tackles issues of power and justice embedded within global political and economic structures (Shilomboleni, 2017). To examine agriculture as a political and ecological process, this study linked farmers' experience to the wider contexts of the social, economic, or technological environment farmers' practices to the environment and food system.

With regard to data, the study benefited from travelers account, oral evidences, archives and secondary literature. Travelers' account provides data on the earlier environmental settings, about the people and their livelihoods. Oral tradition offers a broad picture of the Macha Oromo's history including their landholding, land use and livelihoods. Oral traditions are also helpful in narrating changes in mode and types of production as well as food system. During the interviews, I recognized that informants had much to say about their cultural food, access to land and diminishing environmental resources. Hence, I considered questions concerning their food system and indigenous system of production with care. My field assistants introduced me to informants as someone who sought data on chronic problems of agricultural production. Accordingly, most informants were willing to respond to my questions and oral evidences were collected from different parts of the study areas. Likewise, archives of various periods on agriculture in various government sections and in the hands of individuals were significant sources of insights on the topic. Putting these sources together gives the full picture on the dynamics in land use, system of production and food system since the mid-20th century.

Literature review

Studies on agriculture often analyze agrarian change focusing on processes of production including the distribution of the means of production and farm inputs. The analysis of change in rural transformation and the socio-cultural dimensions of the agrarian changes are often overlooked. Dessalegn has remarked that despite the expansion of mechanized agriculture, the country does not have reliable data on the agro-ecological profile (Dessalegn, 2009). Nevertheless, there is a general conclusion that the rapid population growth

and ill environmental utilization in development effort are the major factors behind the natural resource depletion (Zewde, 2008). In this regard, Crummey's study is helpful to examine the role of national policy in altering human-land relationship and access to resources and the patterns of agriculture since the 1970s (Crummey, 2009). Getnet's study on Rift Valley analyzed how commercial agriculture has transformed farmers' production systems and the environment. Although the study expounds how the valley environment underwent dramatic change from a strong livestock-based agriculture to cereal production, it does not analyze the outrageous pressures of modern agriculture on the Awash Valley (Getnet, 2005).

Agricultural studies on western Ethiopia emphasis agrarian reforms and their consequences on local economy. Pioneer in this aspect was the study by Tesema on the farming system of the Macha Oromo. The study assessed the indigenous agricultural skills and practices of farmers that enabled farmers to obtain sufficient harvests and maintain balanced relationships between agriculture and their environment. It depicts the customary land use and mechanism of promoting soil fertility for sustainable agricultural production, which could serve as the background for a study concerned with the agricultural past of the region. Yet, the analysis of historical events and processes through which arable farming culture deteriorated and factors that forced farmers to retreat to forest land as well as farmers' struggle with lowland ecology have been missed (Tesema, 2009). An attempt to study the impact of agriculture in the lowlands of western Ethiopia in the last five decades was made by Hinew and Tefera. While the former emphasizes the effects of modern farming on environment and local livelihood in the region (Hinew, 2018), the latter shows the environmental impacts of both state-sponsored and self-initiated resettlement in the Angar-Guttin area of the northern part of the valley. The studies also indicated the cultural dissimilarity among the natives and new-settlers in the area and its implication for the resources of the valley (Tefera, 2009). However, these works fail to provide data on the changes in the modes of subsistence and links between ecology and economic activities to understand the wider complexity of the agricultural practices of this people. Critical issues in agriculture such as environmental and technological factors, and farmers' methods of production changed and how such changes affected their food system have been given little attention. Hence, this study intends to study a history of agrarian change and its effects on the food sovereignty of the region. The unit of analysis of this is the changing relations between society, the state, and nature for production.

Results

The result of the study shows changes in land use, farming system and inputs and finally food system of the region. The description of these changes helps to explain the effects of changes of agricultural system on food system of the region. In so doing, the study demonstrates how the Macha farmers were deprived of their right to control their own food

systems, including markets, ecological resources, food cultures, and production modes.

Agricultural changes and food sovereignty

In the study area, access to sufficient land and natural resource for cultivation, and livestock-crop integration were sources of ecologically sound and sustainable production. This enabled the people to maintain sufficient produce and sustain the production of healthy and culturally acceptable foods. Nevertheless, dramatic change occurred following the introduction of land use plan and agrarian reforms in 1960s and 1970s. In view of the great economic prospects, the Imperial Government supported by the United States Co-operative Program conducted a feasibility study on the Blue Nile River Basin from 1958-64 (Hinew, 2018). This was as a part of the river valley development plans when the government gave priorities to irrigation agriculture and hydroelectric power development in major river valleys in the country. The report on the Angar, Dhidhessa, Wama, Dabana, Finca'a and Dabus River Valleys revealed great economic potential of the valleys for hydroelectric power, irrigation and rain-fed agriculture (Imperial Ethiopian, 1964). These were identified as potential sites of dams, places for settlement and with horticulture, perennial cultivation areas mixed with forest areas and exclusive cropland, and pastureland use categories (Ibid). This development plan and other feasibility studies in the region guided the Darg and EPRDF governments to undertake agrarian reforms and launch development projects.

For the last five decades, western Ethiopia in general and Wallagga in particular has been the center of large and small-scale agricultural practices for surplus production. To meet their fundamental goals, development agencies introduced differing land use strategies and mode of cultivation. From 1975 to 2015, the land use change, intensive and extensive cultivation, change in system of cultivation, and over taxation of the soil by big and small farmers negatively affected the environment and subsequently the food system of the region. Here agricultural changes and food sovereignty nexus is discussed by taking into account the major changing factors such land use change and change in access to land, the high consumption of farm inputs and market oriented production system.

Discussions

The effects of socialist agricultural practices (1975-98)

Guided by "high modernist ideology", the *Darg* government sought to transform the environment, the economy and society. Towards agricultural socialization, it made state controlled agriculture, grain requisitioning, resettlement, collectivization and villegization its rural policy (Dessalegn, 2009). State involved in agriculture with the belief that scientific and technical progress could transform every field of human life. But the criticism comes from the failure of the

"high modernists" to use local culture and understand interaction of multiple factors (Ibid).

During the 1970s and the 1980s, agricultural changes threatened the indigenous production and food system in three major ways: changing land use and mode of production, and market control. First, land occupation for large-scale farms, settlements, villegization and protected areas Wallagga narrowed space and restricted farmers from the environment. Despite land re-distribution to farmers, the *Darg* allocated extensive areas in this wet region for state farms, settlements, villegization and cooperative farms and protected areas (Dina, 2016). Among others, extensive areas in the region were occupied for state farms and settling drought affected population from the Northern Part of Ethiopia. Taking the establishment of state farms as a cardinal in the agricultural development of a socialist state, the *Darg* opened state farms in Angar, Dhidhessa, Gibe, Wama, and Finca'a Valleys. The government occupied vast acres of land across ecologies for large-scale development projects. For instance, by 1982, Wallagga Agricultural Development Enterprise (WADE) reported that nearly 40,000 hectares of land were being cultivated by the enterprise between 1975 and 1982 (Ibid). The figure does not include the areas allocated for campsites, stores, and other social services that accounted for a quarter of the size of the cropland. The area of land WADE was cultivating accounted for 21% of the country's state farms. Land was claimed from forest land obtained through clearance of forest land (Hinew, 2018). Large-scale deforestation was also associated with the establishment of residence, storage, construction of all-weather roads and vegetation clearing to chase away wild animals from the environs of the farms (Tefera, 2009).

Owing to its humid climate and productive potential, the region was also selected for settlement farms. In the 1970s and 1980s, the *Darg* launched massive resettlement projects to resettle unemployed, 'lumpens', landless farmers and famine victims. Of particular importance was the large-scale utilization of "underutilized" land in the lowlands for resettlement and cultivation. The major large-scale settlements launched for the program were the Angar and Dhidhessa, Qexo, Jarso, Asossa, Gambella, and Metekel (Dessalegn, 2009). Besides, Horro-Guduru, Arjo and Naqamtee *awurajas* in one way or another resettled the quotas assigned to them (RRC, 1985). By 1986, the government had resettled 587,785 people from the drought prone areas. By the time, size of land allocated for resettlement and cultivation in the region was over a million hectares (Dina, 2016). Land occupation by the state farms, settlements, villegization and under the pretext of protected areas adversely affected the production system and food system of the Macha Oromo. The projects occupied space for cultivation and grazing areas, and usurped the rights of ecologically sound agricultural system as well as food system. The areas occupied were formerly extensive grazing area, saltlick (*hora*) and areas they used to keep sufficient livestock population for food, soil fertility. Such regions were also alternative cultivation areas (Hinew, 2018). The occupation of such space also restricted the local society from

access to natural resources, plant products, wildlife and other bases of livelihoods.

The other agricultural changes of the *Darg* regime were forced use of the farm inputs and guided mode of production that expanded at the expense of local economic systems. The government introduced forced mode of production, and distributed farm inputs such as crop varieties and chemicals for farmers. Farmers were also forced farm inputs that were not environment friendly such as sprays, fuel and others. Large-scale farms employed intensive utilization of pesticides and fertilizers to improve the quality and the quantity of yield, and were the primary recipient of chemical fertilizers and selected seeds. State farms and cooperatives also served as agricultural demonstration centers for smallholder producers. The *Darg* also promoted the cultivation of marketable crops at the expense of the subsistence crops (Dina, 2016). While the production *teff*, wheat, pulses, oil seeds was promoted, several types of crops were endangered and the Macha farmers missed them in their food system.

One of the agrarian changes during this period was the introduction different insecticide and herbicides to protect crop disease, pests and weeds. The prevalence of new weeds such as striga, rotobollia and rottandas made weed control one of the agronomic plans and practices (Ibid). Although the amount of chemicals utilized every years is not exactly recorded, some of the chemicals utilized were Primagram, Primextra, Bellater, Attatranex, Thionex, DDT, Lenden, Aetelic, Zinc Phoihd, Thioden, Malthion, Aldrex, Aeleic, Aldrin, Ratrin, Thionex, Basudw, Deis, Quowphose, Octldsin and Ocodox Thioral. The most dominant chemicals employed from the beginning were Quowphose, Primagram and DDT (Hinew, 2018). Agriculture changes including the use of chemicals and change in types of crops affected indigenous ecologically sound cultivation system and food system of the people. The continuous cultivation of land without the use of manure, and mulching the weeds as well as fallow system increased the practice of bribing the land for production. The *Darg* also decided what types of crops farmers had to produce for market, taxation and food (Ibid). This practices and mode of production directly caused abrupt change in food system and usurped the right to health and culturally acceptable food.

The intrusion of commercial farming (1998-2015)

This period witnessed the expansion of agrarian capitalism at the expense of small farmers and local food system. This happened through leasing land to big farmers from 1998 to 2015. Since the 1998, the food system of the region was further threatened by the land occupation for large-scale agricultural investment. The state leased out large acres of land to private commercial farmers. By the late 2000s, hundreds of private commercial farmers leased hundred thousand hectares of land. In addition, several illegal settlers and self-organized farmers occupied uncultivated land through grabbing. Soil was contaminated due to repeated utilization of chemicals. Other farmers were engaged in

obtaining fertile land as a substitute to the declining productivity of their holdings. The occupation of land further narrowed space for indigenous farming, grazing and obtaining food, which served as grazing land, alternative farming land or source of food for the local people.

On the other hand, the institutionalization of commercial oriented agricultural system adversely affected food sovereignty during the period. To increase productivity and rural households' participation in emerging markets, the government promoted commercialization and market liberalization. As a result, producers were directly or indirectly forced to utilize new inputs and produce for markets. In cultivation system there was a shift from multi-cropping to mono-cropping, from indigenous crop varieties to selected seeds, from indigenous practices of soil fertility maintaining to use of chemicals. There was also a shift from fallowing system to intensive land use. Surprisingly, chat production has been replacing either coffee, root crops, grain and others. In some areas, farmers planted Eucalyptus tree instead of regenerating the fertility of the soil for crops or keeping it for grazing. Little space was left for grazing. The market also forced farmers to produce to abandon root and tubers and other stable foods. These farm practices using local knowledge, technologies and locally available resources have threatened the local sustainable production and foods system (informants).

To realize the planned objective, the state promoted agricultural intensification as a primary strategy. This included use fertilizers, selected seeds and pesticides. It is obvious that an application of fertilizer enhances production, but simultaneously brought adverse impact on soil quality. The return to indigenous systems of maintaining soil fertility became impossible as the number of livestock for manuring decreased and crop residues were utilized for forage. The opportunity of using animal manures, human waste, food wastes, backyard wastes, and composts is declining as compared to the use of chemical fertilizers. The use of chemicals in crop production not only contaminated the soil and disturbed production process but also infected the formerly organic food that the people were consuming. The process expanded the most deleterious system of agriculture through land grabbing, bad cultivation systems and unbalanced resource utilization (Hinew, 2018).

On the other hand, farmers were engaged in fattening and dairy production system through reducing the number of livestock, which in one way or another affected the process of maintaining soil fertility and obtaining culturally acceptable and health food. In other words, the change on the quality and taste of food meant the rights of people to healthy and cultural food is usurped.

In sum, modern farming with its technology and land occupation eroded indigenous knowledge and ecologically sustainable cultivation systems. The system limited local peoples' access to land, forests, water, plants, animals and other resources. Local farmers were harmed by competition to access resources (Dina, 2016). The negative impacts of

agricultural investment in terms of environment and socio-economic aspects outweighed its benefits (informants). Self-centered and more exploitative farming system caused indiscriminate removal of the vegetation that was the resource bases of the local society. The change in land tenure, high influx of peoples from different regions into this wet zone narrowed space for sustainable agriculture and access to resource in general. Commercial farming also promoted mono cropping, which resulted in the deterioration of cultural food crops. Some endangered crops, tubers and root crops are *Abaltefo* (famine food), *teff (dabi)*, *Orome Maize*, Oromo potato, *godarre*, sunflower, barley (the one useful for *qori*), wheat (*molgo*) etc. and several wild foods (plants and animals) including *badesa*, *gosu*, *gora*, as well as food from wild animals. The price of food items increased. The available food are contaminated (not healthy) and not tasty (Informants). To the worse, the decline of productivity and deterioration of resource base undermined the capacity of the region to meet its food.

Conclusions

The sufficient land and suitable climate enabled the Macha Oromo to produce surplus food and enjoy cultural food. Nevertheless, the introduction and expansion of modern farming that introduce differing land use strategies and supported by chemicals negatively affected the indigenous food production system and their food sovereignty. As explained in the policy of the successive Ethiopian governments, the application of new land use system, high investment of technology including farming tools, selected seeds, chemicals was to feed the growing population and generate income. Modern farming since the mid 1975, introduced differing land use and farming practices that affected the food sovereignty of the Macha Oromo through narrowing the space for the indigenous farming system, decline in soil fertility, and change of cropping system. Furthermore, deforestation, depletion of wildlife resources, soil acidity, termite infestation, and drying up of streams owing to incompatible agricultural systems has threatened food security. On the other hand, by its second GTP (2015) the government has planned further agricultural development without considering the indigenous livelihood systems.

Recommendations

From the result of the study, we can deduce that one of the major causes of change in food system and declining food sovereignty was the expansion of modern farming. Thus, besides guarantying food security, stake holders should prioritize producers' right to cultural and health food; access to natural resources and consider local knowledge of production system. For instance, small-scale farming system promotes biodiversity, connects farmers to the land and provides a link between farmers and the crops they produce and consume. In so doing, it is possible to realize balanced

land use system, livelihoods and at least maintain food sovereignty the existing status.

Declaration

This is my original work and confirm that it shall not be submitted to another publication unless rejected or withdrawn. I would also want to explain that there is no conflict of interest on the work from other bodies.

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