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The critical role of agriculture and rural development in contributing to a sustainable global development path

Reflections and sketch of an alternative comparative research agenda

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Abstract

To better understand how agriculture and rural development can contribute to a future global sustainable development path, it is our assessment that a broad and long-term interdisciplinary research agenda is required. This agenda must address critical and emergent issues of relevance to rural change and transitions including (i) population growth and employment, especially for the rural youth, (ii) rural-urban migration at local, national and transnational levels, (iii) rural livelihoods, (iv) the understanding of the content, scale, technologies and interconnections/competition between agricultural production regimes, (v) environment- and climate issues and (vi) gender issues. One way to address this agenda will be to conduct long-term comparative research where experiences and knowledge from different continents and production regimes can be juxtaposed. We envisage that a comparative study of Brazil, East and Southern Africa and Scandinavian countries could be fruitful for understanding the background to and the potential for agriculture, food production and rural development to contribute to economic, social development which can also reduce the negative impacts on the environment/climate. In our assessment **rural and agrarian development** have a critical role to play for a sustainable development path which is framed by: (i) reducing migration from rural to urban areas and between countries/continents and thus limiting unemployment, urban crime and forced migration, (ii) improving conditions for agricultural cultivation in a labour intensive way with the aim to increase labour productivity and yields and thus enhance food security and food sovereignty and (iii) promote agricultural and food production regimes that are environmentally sound in terms of their climate-, biological diversity-, and land use and water impacts. In this paper we will inquire into the background, trends and character of smallholder and large-scale agriculture in the Brazilian and African context. We will analyse the historic, agronomic, economic, cultural and employment trajectories of African smallholder agriculture and whether and how this model has a potential to contribute to sustainability. We will juxtapose this analysis to the experiences and outcomes of large-scale agricultural regimes in Brazil to identify critical factors for shifting the current trajectory of rural and agrarian development towards a sustainable development path. Agriculture and rural change and development in Brazil and Africa are also impacted by external forces and influences. This section of our paper will focus on

Swedish (pension funds, investors and churches) and Norwegian (state agencies, private investors and churches) interests in and involvements as sources of large-scale investments (agriculture and forests) in Brazil/Latin America and Africa. An understanding of the motives and driving forces of these external initiatives/investments is necessary for understanding the complexity of the relationship between the north and the south as regards large scale agro/forest-investments and whether such investments can be beneficial for all involved partners? We will present some results from our research on these issues.

Keywords

Agriculture, rural development, Brazil and Africa, large- vs small scale, agro-ecology and sustainability

Acronyms

AGRA - African Green Revolution

AP2 - The Second Swedish National Pension Fund (part owner of TCGA)

BRICS - Brazil, Russia, India, China and South Africa

CO₂eq - CO₂ equivalents

CPT - Comisao Pastoral da Terra, Brasil (Pastoral Land Commission)

Equinor - Norwegian part-owned state oil company, formerly STATOIL (changed its name in May 2018)

FAO - Food and Agricultural Organization, specialised agency of the United Nations, based in Rome.

GHG - Green House Gas

GNP - Gross National Product

ha - hectare

HLPE - High Level Panel of Experts (of the committee on World Food Security)

INCRA - Instituto Nacional de Colonizacao e Reforma Agraria, Brasil (National Agrarian Reform and Colonization Institute)

MATOPIBA - Maranhao, Tocantins, Piaui and Bahia (Brazilian states)

MDG - Millennium Development Goals

MST - Movimento Trabalhadores Rurais sem Terra

SDG - Sustainable Development Goals

TCGA - TIAA - CREF's Global Agricultural Company

TIAA - CREF - Teachers Insurance and Annuity Association - College Retirement Equities (leading US academic/research/medical sector retirement provider which managed USD 487 billion in March 2012).

UK - United Kingdom

USA or US - United States of America

UnB - Universidade de Brasilia

UNESCO - United Nations Educational Organization, specialized UN agency.

UNESP - Universidade Estadual Paulista (São Paulo State University)

I. Introduction

The contemporary global development model is unsustainable both in terms of social justice and economic growth that generates inequality, destruction of the environment and impacts negatively on the climate. The need to shift the global development path in a sustainable direction has been underlined both by the Paris Climate Agreement and the UN Sustainability Development Goals (SDG) both launched in 2015. In contrast to the preceding Millennium Development Goals, MDGs, which specify targets for developing countries to be attained by 2015 with reference to the base year 1990, the SDGs are global goals embracing developing- as well as developed countries to be attained by 2030.

The SDGs were fixed, however, without a thorough analysis of why some of the major Millennium Development Goals were only partly attained by 2015. For instance, the MDG goal aiming to reduce global hunger by 50 per cent - from around 800 million in the reference year 1990 - was far from being attained. In 2017 the number of people in hunger in the world remained at the level of that of 1990, although in percentage terms there was a reduction due to increase in world population over the period.

Extreme poverty, however, was reduced by half as planned, between 1990 and 2015. This, however, occurred mainly through the decline in extreme poverty in China and India, a process that was guided by the development strategies of the respective governments, rather than those of international institutions. Despite of increasing economic growth in many sub-Saharan African countries from the 1990, and from 2000 onwards, only limited improvements in poverty occurred. The link between economic growth and poverty reduction appeared to be weak. (Hårsmar, 2010) Instead increasing economic and social inequality emerged alongside the proliferation of international- or external state-supported corporations, sovereign funds, as well as states investing directly in energy, agricultural and food production, mineral exploitation and infrastructure.

The lack of fulfillment of major MDGs for sub-Saharan Africa implies a great challenge for the attainment of the new SDGs objectives linked to hunger and poverty. Here the target is raised to eradicate world hunger and poverty by 2030.

Even to get close to fulfilling these major SDGs by 2030 will, in our assessment, require a new way of thinking about agriculture, food production and extractive activities. There is a need to shift the current focus or narrative on land grabbing for large-scale agro-extractivism to an approach aiming for the improvement of the production conditions of smallholders and indigenous people including securing their land- and territorial rights. Such a shift of approach would necessarily comprise an identification of current agricultural development drivers and analyses of their power base.

In this article we will present descriptions of central features of different agricultural production regimes and ideas and reflections as to how to move in direction of these new perspectives. The concretization of these reflections and ideas will be based on a comparative analysis of agricultural and food production systems in Brazil and sub-Saharan Africa to understand why the Brazilian agrarian model is likely to obstruct a pathway for African agriculture and food production in direction of sustainability. There is further a need to examine the different scales of agricultural production and their implications for rural employment, national and global food production and their environmental and climatic impacts.

2. Smallholder farming features, spread and conflict context

Smallholder farmers are different from both large-scale agriculture and agricultural wage labour. What distinguish them is the centrality of the family unit both for production and consumption. Family labour is used, which means that there is little, if any, wage labour. Smallholders also perform multiple functions - economic, social and cultural - through their

farming and off-farm activities - often creating rural communities. In addition, the land they cultivate is small in relation even to medium-sized farms in their area or country. But what is meant by 'small' differs from one context to another (Bryceson, 2000, Vinha et al., 2014 and Ståhl, 2015).

When measured as farms cultivating less than 1 ha of land, 73 per cent of the farms in the world are small, according to a study based on statistics from 81 countries across all continents (HLPE, 2013). The largest share of smallholders is found in China (93 per cent), followed by India, 'Other Asia' and Africa (all in the 57-63 per cent range). In Europe and in the Americas, farms below 1 ha constitute 30 per cent or less of the total. The average size of farms is declining over time in China and Africa. The threat to smallholders is strong in Africa: "25 per cent of the small-scale farm households in the countries surveyed are approaching landlessness," claim Jayne, Mather and Mghenyi (2010), based on their study of Ethiopia, Malawi, Kenya, Mozambique, Rwanda and Zambia. This finding challenges the repeated claim of high availability of unused or extensively cultivated lands in Africa. The alienation of African smallholders should be seen in the context of increasing land inequalities and in relation to increased competition for land with good access to water, urban markets, infrastructure and services (Olanya, 2012, Jägerskog *et al.*, 2012; HLPE, 2013:31, Boone, 2014, Tvedt and Oestigaard, 2016, Ege forthcoming 2019, Atakilte Beyene, 2018 and Opira et al., forthcoming 2019).

Beyond size, there are wide variations among smallholders. Some could be described as rural residents since they mainly farm for subsistence. Others cultivate chiefly for the market and are commercially oriented. In practice, they may function as enterprises and may be highly productive in terms of area and labour: in several African countries around 10 per cent of smallholders belong to this category (Djurfeldt *et al.*, 2005).

Despite this labour-intensive character, smallholder farms may utilise their labour force more efficiently than large-scale farms, as their costs for supervising labour are lower. However, the most important reasons small-scale agriculture may be more efficient are agronomic (Coulson, 2013). For instance, intercropping of different plants may provide shadow and better

microclimates for plants, nitrogen fixation from the air to the benefit of other plants and less damage from pests and diseases because of lower uniformity. There are also gains to be made in terms of less weeding in some cases of intercropping. Furthermore, the use of animal and plant manure lowers input costs, and simpler forms of mechanisation may be efficient on soils of varying quality. In sum, a variety of agronomic factors taken together may make smallholder farming more efficient than larger scale farming. However, the result depends on how farming is organised, which cultivation techniques and farming systems are used and how factor and output markets work.

But, there are other important elements to consider. For example, the agribusiness hegemony that controls the development policies and much of the agricultural land of the countries analyzed in this study. To think of any change in agriculture, it is necessary to overcome these two conditions. The paradigmatic debate is a method that explains the agronomic arguments and the arguments of peasant family farming. These models vie for territories and financial resources of governments. The hegemony of agribusiness is stifling peasant agriculture and, in some countries, has been relegated to marginal participation. We reinforce the idea that any mound for the sustainability of agriculture needs to revisit this issue, considering the emancipation of peasant family agriculture.

Territorial disputes and development models take place through conflicts over land, financial resources, technologies, markets, production, etc. These conflicts express the different intentions of how to conduct food production, how to dominate markets and technologies, how to control prices. This set of conflicts generates permanent conflictual context that need to be resolved with different policies and land use planning.

3. The African context

The smallholder agricultural regime

Sub-Saharan Africa agricultural productivity both in terms of area and labour are low and declining thus obstructing the generation of an economic surplus that can support investments in agriculture itself and in other sectors of the economy. It is important to note that the agricultural surplus is important not only for food production and food sovereignty, but also for providing food to the urban population and for exports, to supply raw materials to small- and large industries and for increase of the demand from agriculture and the rural sector to the industrial and manufacturing sector. The increase in domestic employment and incomes are critical to the creation and growth of an auto-centered domestic market that can enhance technical progress and competitiveness in relation to external markets.

The decline in African agriculture since the late 1970s has led to a strong rural-urban migration in a context of deindustrialization. The share of value added by manufacturing in sub-Saharan Africa has declined continuously from the 1970s onwards, dropping to 14.7 per cent in 2000 and further to about 11 per cent in 2017 (ECA, the United Nations Economic Commission on Africa 2018). From 2000 to 2010 the value added in agriculture in Africa also declined from 29 per cent to 22 per cent while the sector's share of employment dropped from 66 per cent to about 50 per cent. The decline of agriculture and rapid rural-urban migration led to the growth of informal activities and an urban service sector with very low productivity levels.

Despite the problems, Africa has showed an increase in average annual per capita growth of around 3 per cent since 2000. This represented a break with the declining levels of per capita growth since the mid-1970s. Some studies relate this development to improvement of the macro-economic environment and the business climate in several African countries. Others emphasize the increasing global prices of natural resources as the decisive factor. There is, however, limited linkages between the drastic growth of the mining sector that has grown drastically over the last decades and poverty reduction. The sector is extremely capital intensive with low employment levels alongside a high level of

external ownership that has led to pressures for tax exemptions and large financial diversions, of which considerable parts are illegal, out of Africa.

To enhance agricultural production in sub-Saharan Africa the response of African governments in cooperation with international actors, including philanthropic foundations, was to initiate an African Green Revolution, AGRA. In 2006 African governments also agreed to allocate 10 per cent of their budgets to the agricultural sector. The aim was to increase agricultural productivity thus enabling increased food production to address both African food security and the creation of export incomes.

However, AGRA did not put enough emphasis or reflection on how to increase agricultural productivity. The focus was on increases in agricultural yields, i.e. production per unit of area which cannot guarantee the generation of an economic surplus. Such a surplus emerges primarily from an increase in labour productivity which depends both on crop yields as well as technical aspects (represented by the quotient - the area of cultivation divided by the labour utilized in this cultivation). Thus, the way yields are improved plays a critical role for an economic surplus to be generated in agriculture (Bhaduri and Skarstein, ed., 1997). The identification and mobilization of labour intensive agricultural techniques which at the same time enhance crop yields and are neutral or at least not destructive to the environment/climate stand out as the major challenge for the future.

This labour intensive development approach is important because the magnitude of the demographic challenge in sub-Saharan Africa is tremendous. In 2012 the McKinsey Global Institute found that the current potential workforce was 380 million people and expected to grow to 500 million by 2020 - surpassing that of China's workforce. McKinsey estimated that 180 million Africans will be employed (36 per cent) in 2020. This implies that 320 million Africans will lack formal wage employment in 2020. Some observers suggest that Africa's possibility to capture this demographic dividend will be related to the global context. In 2012 the commodity sector, including oil, gas and minerals accounted for around 40

per cent of Africa's GNP but it absorbed less than one per cent of the total work force.

The dominance of natural resources and agriculture during the last decades implies that the growth performance of the continent has not led to economic diversification, increases in jobs and rapid social development, although positive trends have been recorded in the health sector. Rising global prices of natural resources also had the impact to retard the process towards such transformation. These features also help explain why African growth has not led to any substantial increases in formal employment and reduction of poverty levels. In addition, as pointed out above, the value added in manufacturing has been steadily decreasing since the 1970s, accounting for only 11 per cent of the total in 2017.

The primary option available for African development in direction of sustainability in its current context is to invest in the improvements of the production conditions of smallholder agriculture in terms of secure land rights, provision of improved infrastructure and credit to smallholders, as well as investments in rural health and educational facilities. To improve market access by smallholders, the state and local authorities should assist in establishing institutional market channels for smallholder production such as deliveries to schools, hospitals and other public agencies. There is no other significant option for sub-Saharan Africa countries to increase employment at a scale that meets the demographic challenges in soon and at the same time increase the agricultural surplus. During the last decade, however, African governments in alliance with domestic investors/companies, international financial institutions, international donors, various investment funds as well as foreign states, have increasingly opted for promotion of investment in large-scale agricultural production.

Findings from studies on large scale investments in land/agriculture

In an FAO study (2013) with a broad empirical basis, it was found that for investments involving large-scale land acquisitions in countries where land rights are unclear and insecure, the disadvantages often outweigh the few

benefits to the local community. This characterises the situation regarding land ownership, management and use in the African context. The FAO study continues, “This outcome is even more likely when the acquired land was previously utilised by local people, either formally or informally. Consequently, acquisition of already-utilized land to establish new large farms should be avoided and other forms of investment should be considered. Even from the investor’s perspective, business models that do not involve the transfer of land control are likely to be more profitable.” Other publications focusing on large-scale agricultural investments, in biofuels, also support the findings of the FAO study (Matondi *et al.*, 2011, Cotula, 2013, Abdallah *et al.*, 2014 and Engstrom, 2018).

An analysis of three large-scale investments in African agriculture and forest plantations where Swedish interests have been or continue to be involved revealed that the investors, including a Swedish Protestant Church parish, had been unable to fully comprehend aspects of socioeconomic, cultural and environmental context that later worked to obstruct their investments. In at least two major areas, the large-scale investments ran into problems in their early phases due to deficiencies in (i) knowledge about and respect for the land rights and land use systems of the local and indigenous population and (ii) in establishing proper processes of consultation, whereby all legitimate stakeholders’ views and interests are considered (Havnevik, 2014).

Particularly in sub-Saharan Africa, there are problems in identifying stakeholders and in determining whether they can be considered legitimate landowners and land users. The problem is compounded by lack of understanding of the history and workings of customary land ownership systems and the multiple values that rural people attach to their land. This problem is also related to unclear and/or competing institutional and administrative structures in rural Africa (Lund, 2007).

An important feature of most large scale agricultural/land investments is that they cross economic, social, cultural and spatial boundaries. To turn ownership or the locational advantages of foreign investors into benefits that can be shared with local stakeholders, a better understanding of local

contexts seems to be necessary on which improved interactions with local societies and communities can be established.

Experiences show that failures to achieve win-win outcomes in large scale agricultural/land investments are strongly connected to faulty approaches in the early phases of the investments which often lead to unrealistic expectations at both ends of the investments. Therefore, a deeper understanding of the character and implications of the broader structural frame and type of relationships within which such investments occur are needed. On the one hand, there is the large-scale investor, most often a Western/emerging economy company, church institution, pension fund, etc. seeking economic returns on investments in the territory of 'others.' At the same time, investors, by trying to adhere to various principles and guidelines, hope that the 'others,' be they the rural population or agricultural workers and the states in Africa, will also benefit. The win-win notion of large-scale agricultural land investments is promoted without sufficient empirical investigations to support its legitimacy.

About two thirds of global large-scale foreign investments in agriculture are currently targeting Africa. What will be the implications for Africa? A scenario of large scale highly mechanised agriculture may point towards i) limited employment opportunities, ii) environmental and climatic challenges and iii) potential conflicts connected with land and water access and use.

4. The Brazilian context

Looking to Brazil, history has shown the focus to be on promotion of large scale, mechanized agricultural at the expense of environmental destruction and alienation of smallholders, indigenous people and Quilombolas. Many of these investments, in the central north part of the country, have pushed livestock rearing into the Amazon thus being indirectly responsible for parts of the deforestation of the forest. A growing number of conflicts over territories, land and water between large-scale- and smallholder agriculture

has emerged both in Brazil and Africa (Matondi et al., 2011, Amanor, 2011, Fernandes, 2018, Fernandes et al., 2012, Hermele, 2013, FAO, 2013, Havnevik, 2014 and Carter, 2015). In Brazil, where the large- scale commercial expansion has developed over decades, the 2006 Agricultural Census showed that large landowners and agro-businesses are dominant and cultivated 76 per cent of agricultural land, whereas they contributed only 62 per cent of the annual gross agricultural value of Brazil. Smallholders across Brazil, who cultivated 24 per cent of the land, contributed as much as 38 per cent of gross annual value of agricultural production, including the major share of food production. In addition, smallholder farms were more labour intensive than large-scale holdings, employing 15 persons per 100 ha cultivated, while large-scale agriculture only employed 2 persons (Fernandes *et al.*, 2012).

As to the climate change findings from 2005 - 2010 show that greenhouse gas emissions (GHG) in Brazil was reduced from 2.03 billion ton of CO₂eq to 1.25 billion ton, i.e. by 38 per cent. However, this took place mainly because of the decline in deforestation in Brazilian Amazon during this period. On the other hand, from 2005 to 2010 GHG emissions from Brazilian agriculture as a share of total GHS emissions, increased from 20 to 35 per cent. This made agriculture the major sector of Brazilian GHG emissions in 2010 (Nobre, 2013). Since large scale agricultural expansion into new areas has been a characteristic feature of Brazilian agriculture during the period in question, it is likely that large scale agriculture also accounts for the major share of the negative climate change connected with the sector (Hermele, 2012). From around 2010, however, deforestation rates of the Amazon started to increase again.

More recently land grabbing in areas traditionally under smallholder, indigenous people and Quilombola control has intensified as the case of MATOPIBA clearly shows (Fernandes 2018). The Agricultural Development Plan of MATOPIBA region, an acronym for the intersection area of the states of Maranhao, Tocantins, Piaui and Bahia, comprising an area of 73 million ha across 337 municipalities was established by *Presidential Decree No. 8447 of 2015*. This decree opened for Brazilian

large-scale landowners and companies in cooperation with international companies and financial capital, pension- and sovereign funds from Argentina, France, Germany, Japan, the Netherlands, Qatar, Switzerland, UK and the USA to venture into large scale agro-investments of soy-, corn- and cotton cultivation at the expense of the rights and territories of smallholders, indigenous people and Quilombolas. Of the near 6 million people living in the region, 35 per cent are in the countryside. The latter groups had, before the establishment of the MATOPIBA control over 11500 ha, about 16 per cent of the territory cultivating primarily food crops and raising animals such as beans, potatoes, papaya, rice, lettuce, tomato, mango, pequi and beef, pigs and chickens.

What emerges in the MATOPIBA case is a close alliance between transnational corporations, sovereign funds (often controlled by governments such as in China), private funds, pension funds (such as TIAA-CREF, one of the largest pension funds in the world that manages the retirement resources of millions of educational professionals in the USA), landowners, Brazilian companies and the Brazilian state. Such alliances have support from the rural dominated part of the Brazilian Congress (*a bancada rural* which encompasses several political parties) and which has a huge political influence both in the Brazilian Congress and Senate. What we see in the MATOPIBA plan is a more systematic agro-extractivism, i.e. where the external investors and agents of the large-scale agricultural investment alliance by the help of the Brazilian government and domestic interests capture huge territories. What occurs is the financialization of agriculture where international capital from pension- and sovereign funds search profits globally without having any competence whatsoever in the agricultural field - the primary objective is to bring back profits and incomes to the retirement or pension funds in Europe and the USA.

An investigation of a Swedish public pension fund shows how the process of foreign intervention and investment in Brazilian agriculture unfolds. The Second Swedish National Pension Fund (AP2) is under instruction from the Swedish Parliament and decided some years back to invest in Brazilian

large-scale agriculture. AP2, however, only invests in agriculture in countries with strong land rights. This implies that investments in Africa are excluded, the priorities being the USA, Australia and Brazil. AP2 buys the land and contracts a Brazilian company to manage the agricultural activities on the land. The investment, however, goes through the large US pension fund TIAA-CREF's Global Agricultural Company (TCGA) (Havnevik 2014). By 2013 TCGA had purchased three agricultural properties in the state of Sao Paulo for sugar cane cultivation and four properties for grain production in the states of Maranhao (2), Piaui and Mato Grosso. All cultivation is large-scale and highly mechanised by companies that lease the land from TCGA. It is the company that leases the land that decides on the crops to plant and for the methods of cultivation and marketing of the crops. Radar Propriedades Agricola SA (Radar), a subsidiary of Cosan, is one company that leases land from TCGA, but in addition Radar identifies and purchases the land. By 2013 Radar has purchased 392 agricultural properties and had plans for extensive expansions. Later, Cosan entered a joint venture with the Royal Dutch Shell to establish the Raizen Corporation which soon became one of the five major economic corporations in Brazil. The Raizen Corporation has since expanded its "control" over new sugar cane producing regions in the states of Sao Paulo, Goias and Mato Grosso do Sul. TCGA and AP2 in principle take responsibility for the financialisation of the purchases and as well the role of overseers - visiting the properties at certain intervals to investigate whether they follow the responsible investment principles (Havnevik, 2014). Various sources show that agribusiness investments in large scale agriculture may take both a legal, i.e. the investors buy the land of smallholders or settlements (assentamentos) or an illegal path by appropriating the territorial land of smallholder, indigenous people and Quilombolas by force. Between 2005 and 2009 thirty people were killed each year in connection with access and ownership conflicts regarding land (Comissao Pastoral da Terra, CPT, 2010). Since the installation of the government of President Temer in 2016, expansion of large-scale investments in agriculture (including MATOPIBA) has led to an increase in

the number of land conflicts and killings in rural areas, in the north (need references here)

To make their large-scale agricultural activities in Brazil be conducted according to laws and regulations, eleven international investor companies including TIA-CREF, AP2 and Dutch, Danish and British pension funds agreed on five principles for responsible investments in farmland in September 2011. These principles emphasise environmental sustainability, respect for labour and human rights, respecting existing rights to land and resources, adhering to proper business ethics and a system monitoring the fulfilment of the principles in the investments that the funds are involved in. In spite that the AP2 pension fund is public and under instruction by the Swedish parliament that promotes the principle of transparency in the public domain, AP2 refused to disclose the location of its co-investment sites with TCGA on request by Swedish civil society organisations and the Swedish FAO committee that wished to conduct an independent evaluation of their investments. Only inspectors from the Public Labour Ministry are allowed access to sites of the investments (Havnevik 2014). Another example is the UMOE Bioenergy (Norwegian company) in Pontal do Paranapanema Region - west of São Paulo state, that produces ethanol and use pesticides that contaminate many areas of peasant family production near the sugarcane area.

One impact of the long-term expansion of large-scale agro-extractivism character in Brazil has been a rapid migration of people from rural to urban areas creating one of the highest levels of global urbanisation (around 80 % of the population). From 2010 onward, this was coupled by rapid increases of unemployment due to stagnation in the international economic conjuncture, industrial decline and rapid expansion of large-scale agricultural investments. In a context of poor urban governance and growing corruption urban crime has accelerated - the number of homicides in Brazil reaching beyond 60 000 in 2017.

In response to the historical extreme concentration of land ownership in Brazil the popular movement, MST (Movimento dos Trabalhadores Rurais Sem Terra) was created in the early 1980s. But in spite that the Labour

Party (PT; Partido Trabalhadores) came to power in 2002 and remained in power until 2016, no major state-initiated land reform was planned. Land redistribution through MST occupation of unviable latifundias and with support from the government agency INCRA was only partly successful in some Brazilian states and declined over time. The government led by President Temer of PMDB strongly promoted MATOPIBA, initiated by the previous government led by PT and President Dilma Rousseff in 2015.

The intensive use of pesticides with the contamination of land, water, and people has produced limits for agribusiness that seeks out via organic production. In Brazil, an example of these limits is the Syntropy project, in which great entrepreneurs invest in a less contaminating view of the agricultural production.

5. Some comparative reflections

The Brazilian agricultural model of agro-extractivism organised around external investors, various pension- and sovereign funds and nation states in alliance with Brazilian landowners, companies and state will, in our judgement, if implemented in sub-Saharan Africa, lead to dramatic negative consequences both socially, environmentally and obstruct the creation of a longer-term sustainable development path.

For sub-Saharan Africa an agricultural model based on the capacities and rights of smallholders and indigenous people will be the only viable way to avoid many of the problems that emerged and continue to occur in the Brazilian agricultural model - destruction of the environment and alienation of rural smallholders which eventually are forced into migration to cities where many are exposed to unemployment. To some extent, however, the rural migrants could be absorbed in wage labour when the national economic conjuncture was on the rise, but the vulnerability of the economic model based on deep economic and social inequality would be exposed in

periods of economic downturns and depressions which also affect negatively the urban industrial sector.

In order to establish the frame of an African agrarian development model, we suggest a broad and long-term interdisciplinary research agenda addressing critical and emergent issues of relevance to rural and agrarian change, including studies of (i) the sustainability of smallholder agricultural production, (ii) how best rural smallholders can organize to protect their land and territorial rights, (iii) population growth and employment, especially for the rural youth, (iv) rural-urban migration at local, national and transnational levels, (v) rural livelihoods, (vi) gender issues.

One way to address these issues will be to conduct long-term comparative research where experiences and lessons between different continents and different production regimes can be exchanged. We envisage that a comparative study of Brazil, East Africa and Nordic countries could be fruitful for understanding the background to and the potential for agriculture, food production and rural development to contribute to sustainable development in a broad sense.

The analysis of the Nordic countries, Sweden and Norway having different resource profiles as well as state policies towards agriculture could help reveal the role of agriculture and rural areas for society, both in terms of production, settlement patterns and recreation. Understanding the features and challenges of agriculture and rural areas in northern countries, may throw light on patterns of protection and support, attitudes to food security and the level of reliance on agricultural products produced in other countries and/or continents. Sweden, a major industrialised country, is also facing employment problems, although not of the scale of Brazil and African countries. However, in 2015 nearly 25 per cent of the Swedish youth in the age cohort 18-24 were unemployed. Norway with its economic reliance on the oil sector has lower levels of unemployment than Sweden that vary strongly with the conjunctures in the oil sector. However, the future uncertainty of the oil sector connected with climate challenges implies that Norway and its government must reflect and make decision about how the longer-term future development path is going to be. How

can Sweden and Norway steer their societal development in direction of sustainability economically, socially and environmentally?

In the shorter-term industrialised countries with high levels of youth unemployment could inquire into the potential for shifting their agriculture in direction of more labour-intensive technology, such as agro-ecological production and mixed farming. A more labour-intensive agriculture in the north would also help to lessen the work isolation of single farmers conducting highly mechanised farming of large areas on their own - making agriculture more socially connected and attractive both for existing farmers and new entrants. These agricultural systems are both more knowledge and observation intensive than conventional large-scale agriculture? Could consumers be a driving force in such a redirection of farming methods and scales? Would subsidies be required so that consumers can afford the ecological products? Could such subsidies be supported by arguments that the new production regimes are environmentally sound? On the other hand, sustainable management of natural resources, agriculture and forests that address climate challenges and energy needs will both demand the settlement of people in the rural areas and help the societies onto a sustainable development path. High income countries such as Sweden and Norway, are also facing the need to reduce consumption levels so that greenhouse gas emissions can be lowered over time.

Including Sweden and Norway in a comparative study alongside Brazil and East Africa would also provide knowledge and insights into the scales and driving forces behind large-scale agricultural and natural resource investments by Norway and Sweden in Brazil. Knowledge about these issues may give indications on the one side about the economic surplus or profits that are transferred from Brazil to Norway and Sweden and on the other the employment and technical benefits that may accrue to Brazilian companies and workers from these investments. Are these economic relationships of equal character or are they biased in favour of one part that can obstruct the development of the other part? What could be done to make these relationships more equal and sustainable to the benefit of all participants?

Some examples of Norway's economic links to Brazil comprise a global fertilizer company, Yara, that is a major provider to Brazilian large-scale agriculture. The major Norwegian company investing in Brazil is Equinor (the former Statoil, partly Norwegian state-owned oil company that changed its name in May 2018) which was one of the major external investors in the Brazilian oil sector in 2017. It has, however, a long history of oil exploration and production in Brazil since Norway and Brazil have similar features of their deep-water oil fields.

In addition, there is the Norwegian alumina company Hydro where the Norwegian state is a minority owner of 35 per cent of the company. Hydro operates and owns 91 per cent of the largest alumina plant in the world, Alunorte, located south of Belem in the state of Para and employing around 8000 workers. The bauxite for the alumina is sourced in the Paragominas mine in the Amazon. The company was charged at its alumina factory Para by the Para state authorities (February 2018) for water and environmental contamination associated with contaminating releases from the alumina production. The Hydro's denial of the contamination led Brazilian authorities to take the case to Brazilian courts and to instruct a forced reduction of Alunorte's production by 50 per cent on March 1 2018. Hydro later stated that production could be pursued well into 2019 (May) at this level without need for additional storage capacity. In spite of an agreement with Brazilian authorities in early September (Tac), Hydro on October 3 2018 surprisingly threatened to close down all production in the Alunorte factory. Hydro's claim was that it was hindered from using its newly constructed drying and storage facility for contaminated by-products from the alumina production. The reason was stated to be faulty drying technology but what authority or expertise that obstructed Hydro and Alunorte was unclear (Dagens Næringsliv, October 5 2018). Anyway, the threat of full closure led to new negotiations between Hydro and Brazilian authorities in early October which seems to lead to permission for Alunorte to use its new drying and storage facility which would allow the company to resume production to 100 per cent capacity (Dagens Næringsliv, October 9 2018).

The case shows that Hydro and Alunorte (and the Norwegian state) in its massive exploitation of Brazilian resources and their further development

need to plan better to avoid negative impacts from its production activities, both for people (water contamination) and the environment. In its relation to Brazilian authorities it seems wise for Hydro to shift from an approach of denial and threats and instead opt for genuine communication and negotiations from the outset.

Swedish investments in Brazil are important in the forest sector, in plantations in the south of Bahia. Major Swedish companies have been established in Brazil over decades and contributed important products such as cars, lorries, refrigerators etc. to Brazilian consumer (SCANIA and Electrolux etc). About 400 Swedish companies exist in Brazil today.

As well development assistance relationships have developed between Norway and Brazil. Brazil is the largest recipient of Norwegian development assistance, of about one billion US dollar over the last decade and targeting the monitoring and reduction of deforestation of the Amazon through the Amazon Fund. Norway and Sweden also have long term development assistance relationships with all East African countries and in with Tanzania. Brazil, under President Lula initiated major initiatives to expand trade and investments in Africa, including East-Africa. This initiative has, however, lost momentum after Lula's departure and the unfolding of the economic recession in Brazil from 2012 onwards. Trade between Brazil and the Nordic countries is substantial including Brazilian soya to food and feed for animals and fish to the Nordic countries, export of Bacalao from Norway to Brazil etc. Brazil is also in the process of buying the Swedish fighter jet plane JAS which is connected to an agreement of technology transfer of technology from Sweden to Brazil.

6. Sketch of a research programme and knowledge themes for an alternative sustainable development path for agricultural and rural development

The world population is estimated to increase to between 9 to 10 billion by 2050. A global development path that is sustainable in economic, social and environmental terms cannot in 2015 handle the level of the current consumption of northern countries for all. How can expectations and attitudes in the north, and among the elites in the south, change in direction of livelihood paths that contain lower consumption levels? Can changes in educational curricula at all levels on a global scale help? Who should formulate such curricula? Can promotion of interdisciplinary research that addressing the transition to a sustainable development path be of value? Could enhancing the understanding of how consumption levels in the north affect resource exploitation and poverty in the south help create a new consciousness of global solidarity? Could cross-cultural educational programmes at higher levels help reveal why the dominant cultures categorise as natural and universal what in fact is cultural (Havnevik et al. 2015). Or is the primary challenge for change in direction of a global sustainable development path a question of power? Who takes the responsibility and has the knowledge and the strategy to shift global power in direction of economic and social equality within countries and between countries? Can the United Nations be a machinery for the negotiation of binding and enforceable international agreements relating to the environment, the climate and economic and social equality? Can the establishment of a basic salary for every global citizen be a first step? How could it be organised and financed? Through global taxation of trade, consumption and exploitation and use of natural resources? These are some of the question that emerge in the discussion and reflection as to how a future global sustainable development path can be established.

The foundation of the sketch of a research programme and knowledge themes is that the dominant current perspective or narrative on agrarian and rural development must shift towards a development path that is founded on the capacities, potentials and rights of smallholders and indigenous people themselves. They are, with proper assistance, capable to promote agro-ecological and small-scale production regimes with a potential to increase rural employment and increase food production in a way so that food sovereignty can be secured for Africa and Africans.

Such a production regime as well has a critical role to play for an alternative pathway that moves global development in direction of sustainability framed by: (i) reducing migration from rural to urban areas and between countries/continents and thus limiting unemployment, urban crime and forced migration, (ii) improving conditions for agricultural cultivation in a labour intensive way with the aim to increase labour productivity and enhance food security and food sovereignty and (iii) promote agricultural and food production regimes that are environmentally sound in terms of their climate-, biological diversity-, and land and water impacts.

The research themes that could help generate ideas, understanding and knowledge toward a sustainable global development path may include the following three broad knowledge themes:

Theme I:

- (1) An overview of the paradigmatic debate: history, visions of peasant movements and farmer organisations, domestic and international corporations, governments and international institutions as a basis for a paradigmatic debate on agrarian change and rural development - the agrarian question, the features of large-scale and smallholder production regimes and their impacts and potential for contributing to sustainable development in terms of employment, social and economic equality, environmental and climatic impacts . Perspectives from three continents. Theoretical approaches and discussions.
- (2) Develop modes, processes and principles for creating long term sustainable research and educational networks related to agricultural and rural development.
- (3) What should be studied and discusses in relation to different countries?
 - a. Politics of rural and agricultural development
 - b. Policies or rural and agricultural development
 - c. Policies of education for rural and agricultural development
 - d. Employment policies will be cross-cutting over a, b and c.

- e. Environmental and climate policies
- f. Food security policies

The outcome will be to arrive at a frame for the situation in each country.

Theme II:

- (4) Principles for responsible agricultural investments in agriculture and rural development. How can they be concretized and developed to attain global social justice, food sovereignty and environmental sustainability (linking global dialogue with an alternative sustainable development model). What can be the role of smallholders and large-scale investments in agriculture and rural development in this context?
- (5) What type of education for rural development is required to promote social justice and environmental sustainability in rural and agricultural development? Sketching the frame of educational programmes and their organization and the recruitment and exchange of students.
- (6) Culture, gender, identities and the “other.” A deeper understanding of cultural issues with focus on gender and ‘the other’ and how they play out within and between different knowledge frames.

Theme III

- (7) The role of the state and new state alliances in promoting a pathway to sustainable development.
- (8) Discussion and refinement of objectives and content of an alternative development model in the areas of education, research and rural and agricultural development with an aim to select: (i) cases which can be the basis for empirical investigation in the area of rural and agricultural development, (ii) cases in the area of education for rural and agricultural development, (iii) cases in the development of agribusiness and large scale development (iv) cases in the area of

smallholder or community rural and agricultural development and (iv) to develop research frames, approaches and tools for comparative research.

Long run outputs: The longer term output of the development of these knowledge themes, both in relation to research and education, will be to suggest empirical and analytical research linked to educational activities which will aim to respond to the critical question, “What choices and changes are required in agricultural and rural development in order to contribute to shifting the global development path towards in a sustainable direction? How can investments in agriculture and rural areas at the same time address the creation of social justice, food sovereignty and functioning ecological systems over time?”

Agro-ecological transition: which governments will have the courage to face the contaminant model of agribusiness and start an agro-ecological transition to extirpate the use of poison in food production? Or has the agro-ecological transition already been initiated in several areas in different countries and is growing every day and will over time emerge as a consolidated model? Or will agribusiness implode because it is an unsustainable model that cannot progress? These are questions we cannot escape from.

Modes of cooperation; The overarching idea is to develop long-term comparative perspective in research and educational activities across continents, with a focus on Brazil, East Africa and Sweden and Norway. In addition to Brazil, Bolivia and Colombia could be included as Latin American countries while Tanzania, Kenya and Mozambique could be included in Africa. Such a triangular cooperation and mutual understanding and learning process would be supportive of identifying ideas and perspectives of important elements of sustainable global development model. Research and education must go hand in hand. Understanding and insights have to lead to changes in attitudes to shift both the north and the south in direction of sustainable livelihoods.

References

- Abdallah, J., Engstrom, L., Havnevik, K. and Salomonsson, L. (2014). "Large-scale land acquisitions in Tanzania: A critical analysis of practices and dynamics." In Kaag, M. and A. Zoomers (eds), *The Global Land Grab - Beyond the Hype*. London: ZED.
- Amanor, K. (2011). *Land Governance in Africa. How historical context has shaped key contemporary issues relating to policy on land*. Framing the Debate Series No. 1. Rome: International Land Coalition.
- Atakilte Beyene, ed. (2018). *Agricultural Transformation in Ethiopia - State Policy and Smallholder Farming*. London: ZED.
- Bhaduri, A. and Skarstein, R. eds. (1997). *Economic Development and Agricultural Productivity*. Cheltenham, UK and Lyme, USA: Edward Elgar.
- Boone, C., (2014). *Property and Political Order in Africa - Land Rights and the Structure of Politics*. Cambridge, UK: Cambridge University Press.
- Bryceson, D., Kay, C. and Mooij, J., eds. (2000). *Disappearing Peasantries - Rural Labour in Africa, Asia and Latin America*. London: Intermediate Technology Publications.
- Carter, M., ed., (2015). *Challenging Social Inequality. The Landless rural Workers Movement and Agrarian Reform in Brazil*. Durham, USA: Duke University Press.
- CFS, Committee on World Food Security (2013). "Rai Zero Draft." 1 August. Rome: Committee on World Food Security; Rome.
- Coulson, A. (2013). "The end of the peasantry? Reflections based on Henry Bernstein's Class Dynamics of Agrarian Change." Kumarian Press and Fernwood Publishing.
- Comissao Pastoral da Terra, CPT (2010). "Conflitos no Campo Brasil 2009".
- Cotula, L. (2013): "The Great African Land Grab? Agricultural Investments and the Global Food System", ZED Books, London.
- Dagens Næringsliv (2018), October 5 and 9. (Norwegian Daily Newspaper), Oslo.

Djurfeldt, G., Holmén, H. et al. (2005). *The African Food Crisis - Lessons from the Asian Green Revolution*. Wallingford, Oxon.: CABl.

ECA (UN Economic Commission for Africa) (2018). *Economic Report on Africa 2017*. Addis Ababa: ECA.

Ege, S., ed. (forthcoming 2019). *The Amhara Highlands - Issues in Peasant Land Tenure*. London: James Currey.

Engstrom, L. (2018). *Development Delayed. The case of the failure of a large-scale investment in sugar cane in Tanzania to deliver promised outcomes*. Doctoral Thesis No. 2018:40 Faculty of Natural Resources and Agricultural Sciences. Uppsala, Sweden: Swedish University of Agricultural Sciences..

FAO (2012). *The Voluntary Guidelines on Responsible Governance of Tenure of Land, Forests and Fisheries in the Context of National Food Security*, VGGT. Rome: FAO.

FAO (2013). *Trends and Impacts of Foreign Investment in Developing Country Agriculture. Evidence from case studies*. Rome, FAO.

Fernandes, B. M., Welch, C. A. and Goncalves, E. C. (2012). *Land Governance in Brazil. A geo-historical review of land governance in Brazil*. Framing the Debate Series No. 2, Rome: International Land Coalition.

Fernandes, B.M. (2018). "Land Grabbing for Agro-extractivism in Brazil: the case of MATOPIBA". Presentation at Cardiff University, School of Geography and Planning, 30-31 May. UNESP and Territorial Development in Latin America.

Havnevik, K. (2014). *Responsible agricultural investments in developing countries - how to make principles and guidelines effective*. Swedish FAO Committee Publication Series 9. Stockholm: Swedish FAO Committee and Swedish Ministry of Rural Affairs.

Havnevik, K., Oestigaard, T., Tobisson, E. and Virtanen, T. (2016). *Framing African Development - Challenging Concepts*. Leiden and Boston: Brill Publisher.

Hermele, K. (2012). *Land Matters - Agrofuels, Unequal Exchange, and Appropriation of Ecological Space*. PhD dissertation. Lund Studies in Human Ecology 13. Lund, Sweden: Lund University.

Hlalele, D. (2013). "Sustainable rural learning ecologies - a prolegomenon traversing transcendence of discursive notions of sustainability, social justice, development and food security." In TD, 9(3) Spec. ed., Dec. 2013, pp. 561 - 580.

HLPE (2013). "Investing in smallholder agriculture for food security", Report No. 6, High Level Panel of Experts on Food Security and Nutrition. Rome: FAO.

Hårsmar, M. (2010). "Why is agriculture so important to reducing poverty?" Policy Notes No. 7. Uppsala, Sweden: Nordic Africa Institute.

Jayne, T. S., Mather, D. and Mghenyi, E. (2010). "Principal Challenges Confronting Smallholder Agriculture in Sub-Saharan Africa." *World Development*, Vol 36:10, pp 1384 - 1398.

Jägerskog, A., Cascão, A., Hårsmar, M. and Kim, K. (2012). "Land Acquisitions: How will they Impact Transboundary Waters?" Report No 30. Stockholm, Sweden: Stockholm International Water Institute.

Lund, C. (2007). *Twilight institutions: Public Authority and Local Politics in Africa*. Blackwell Publishers.

Matondi, P., Havnevik, K. and Atakilte Beyene, eds. (2011). *Biofuels, Land Grabbing and Food Security in Africa*. London and New York: ZED.

McKinsey Global Institute (2012). *Africa at Work: Job Creation and Inclusive Growth*. Seoul/San Francisco/London/Washington DC.; McKinsey Global Institute.

Nobre, C. (2013). "GHG emissions from Brazilian Amazon deforestation: an historical overview of emissions and policies." Presentation at conference, *Deforestation and REDD+ in Brazil. What is going on?* Oslo, 28 October. Brazilian Ministry of Science, Technology and Innovation (MCTI).

Olanya, D. (2012). "From Global Land Grabbing for Biofuels to Acquisitions of African Water for Commercial Agriculture." *Current African Issues*, No. 50. Uppsala, Sweden: Nordic Africa Institute.

Opira, O., Isinika, A. and Musahara, H. eds, (forthcoming 2019). *Land Dynamics in East Africa - the changing practices and rights to land*. Uppsala, Sweden: Nordic Africa Institute.

Ståhl, M. (2015). *Looking back, looking ahead - land, agriculture and society in East Africa*. Uppsala, Sweden: The Nordic Africa Institute.

Tvedt, T. and Oestigaard, T. eds. (2016). *A History of Water Series III, Volume 3: Water and Food. From Hunter-Gatherers to Global Production in Africa*. London and New York: I. B. Tauris.

Vinha, J.F. de S. C., Coca, E. L. de F. and Fernandes. B. M. (2014). *DATALUTA: questão agraria e coletivo de pensamento*. Sao Paulo: Outras Expressões.

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