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Silvia SARAVIA-MATUS,
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Acknowledgements

This report has been prepared by the authors as an in-house exercise at the EC-JRC (European Commission - Joint Research Centre) IPTS following increasing interest both within the JRC and in the literature on the issue of (international) large scales land transactions.

The authors would like to thank John Bensted Smith, director of the IPTS, for the support received in the analysis of large scale land transactions, and the role they play in local and global food security.

Contents

Executive summary

The present report provides an overview of the scale, speed, drivers, key players and main expected consequences in terms of food security of the recent wave of (international) large-scale land transactions (LSLT´s) which has taken place at world level in the past years. This task is particularly challenging because a universal definition of what constitutes a ¨large¨ land investment as well as the potential advantages and disadvantages to all involved parties at different levels are not straightforward. Moreover, large-scale land transactions usually present different traits depending on the region in which they take place. Similarly, there is a wide range of investors with what appears to be (at first glance) rather different objectives. An added difficulty is related to the availability of reliable data (IFPRI, 2009).

In order to overcome these obstacles, three basic steps were taken:

i. Assess whether and how the wave of land deals is a new phenomenon, provide a working definition in order to identify actors and motives in both global and regional scenarios,

ii. Understand why this new wave of LSLT´s emerged and establish a connection to food security challenges

iii. Reflect on the theoretical and empirical consequences of LSLT´s at productivity, environmental and social level.

The main contributions of the present research are as follows:

1. The introduction of a wide-embracing definition of the recent wave of land deals (LSLT) in order to serve two key purposes:

a) Distinguish the differences between previous forms of investment in land and the current wave of LSLT´s. Key differences relied in the larger scale, the speed (which was accentuated after the 2007-2008 food price crisis) and the active involvement of governments and other non-traditional investors in the agricultural sector. The profile of investors implied that the on-going debates on food and energy security as well as climate change and access to natural resources were major concerns behind LSLT´s. Another incentive to explore agricultural investment was the reduced availability of high return investment opportunities after the credit crunch and the favourable evolution of sovereign funds (particularly in countries that are relatively poor in terms of natural resources).

b) To analyse the different dimensions of LSLT´s in various regions. In this report the nature of LSLT´s in Africa, the Black Sea Region and Latin America are discussed in detail. They reveal that investors have different strategies to access land which depend not only on their own needs and preferences but also in the institutional framework of the host economy. While in Latin America, LSLT´s mainly take place through local partners (given restrictions to foreign land ownership), in Africa, national authorities of countries such as Democratic Republic of Congo have agreed to lease up to half of their available arable land to foreign investors. In the Post-Soviet Union countries, the presence of agro-holdings has led to two alternatives: either investors buy shares directly from farmers or they acquire agro-holding equity. There is evidence that in the Black Sea region both the number and degree of land concentration of agro-holdings have increased in the last years. Similarly, compensation schemes, labour regimes, infrastructure development plans, among other aspects, vary substantially from one region to the other.

2. In order to analyse why LSLT´s are taking place at such speed and scale and how they are connected to food security challenges, the profile of investors as well as of recipient countries was explored. This implied not only a classification of investors and a typology of host countries but also an examination of key drivers from both sides of the land deal as well as an overview of emerging investment vehicles. The fact that most LSLT´s were aimed not only at agriculture above other sectors (Figure 1) but particularly at flexible crops (that could be used for both food and fuel) reflects that food and energy security challenges are at the heart of this world phenomenon. In other words, all types of investors were looking to fulfill and profit from the increasing world demand of food and fuel; from governments seeking to secure food supply at constant prices, (small, medium or large) energy companies (usually driven by biofuel adoption-policies), financial institutions extending their investment portfolios, agri-businesses of all sizes (from domestic to transnational corporations) securing access to key inputs. From the side of host countries, LSLT´s were seen as a way to foster development in stagnant (labour-abundant) (semi)

subsistence farming sectors or as a welcomed flow of capital in land-abundant agro-export-oriented countries. In all regions, the majority of LSLT´s appear to have taken place in the last 5 years, particularly those involved in agricultural production (food, fuel, feed or fibre).

3. To assess the consequences of LSLT´s (at least for those land deals which have begun (1)) a review of the empirical and theoretical literature was undertaken in three key areas: Efficiency/Productivity (including environmental effects of different forms of production), Transparency and Compensation frameworks.

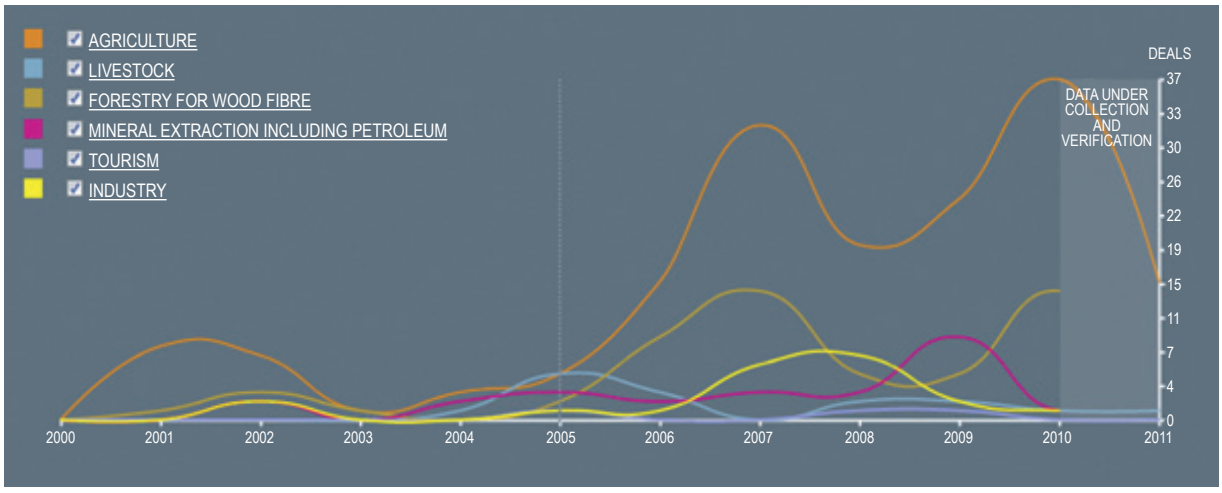
a) Efficiency/Productivity: Although the traditional agricultural economics literature has praised the efficiency of small farming units (along with their potential to reduce poverty and contribute to the development of rural economies), technological developments have also made large-farming complexes able to reduce supervision/monitoring costs as well as overall labour costs and transaction costs associated to agro-industrial processing and export of agricultural commodities. As the world is becoming more urbanized the large farming complex represents advantages particularly in land abundant and/or agricultural labour-scarce economies. The environmental costs of mono-cultivation however are highly criticized despite their higher yields.

b) Transparency: The reviewed literature suggests that most LSLT´s take place behind closed doors and with poor mechanisms to consult the local communities. The latter has resulted into several forms of conflict and displacements, particularly in African countries. This also affects the quality of available data on LSLT´s.

c) Compensation: This is another issue of LSLT´s which has been highly criticized in both the media and the academic literature. There is evidence from different land deals that fair compensation schemes have not been negotiated, particularly for female-headed farm households or individuals without well-defined property rights. The latter also includes the regulation of adequate use of other resources such as water or access to communal land.

In conclusion, the recent wave of LSLT´s serves as a reminder to reflect on how to organize agricultural sectors in order to fulfil food and energy security challenges. While in land-abundant countries the case for large farming complexes may find support in the literature, the thorniest issue is related to areas where agricultural labour is abundant and (semi)subsistence farming is widespread since it is in these areas where a large percentage of the food-poor are also located. The latter implies a conscientious decision on how smallholders will be integrated, displaced from these activities and/or re-absorbed into other sectors. At the same time, it is necessary to reflect on the adequate agricultural practices to preserve and maintain natural resources and the role of different agricultural units to improve productivity preserve biodiversity and secure environmental sustainability.

Figure 1: Number of LSLT´s (deals) per investment sectors per year



Source: Land Matrix (Accessed March 2013)

Introduction

The debate around the recent wave of (International) Large-Scale Land Transactions (LSLT) worldwide is connected to food security challenges. While in low income countries, hunger and poverty constrain access to sufficient and nutritious food for over 1 billion people in our planet (2); in high income countries the discussion is focused on aspects of long-term food availability and avoidance of price volatility in international markets (Saravia-Matus et al, 2012a). Similarly, the question of land access and land use is different for low and high income societies or between types of land investors and recipient economies.

For the case of (foreign or national) investors the objectives may be diverse but among them the following may be cited:

i) secure food supply and reduce interactions in highly volatile food commodity markets,
ii) engage in the bio-fuel producing sector
iii) invest/speculate with agricultural commodities in a global financial context of crisis where investment options have become less attractive.

For the host countries that are receiving but in most cases are also actively offering land deals, the situation is somewhat contradictory on theoretical and practical grounds. It is argued that the entrance of large-agro-complexes into their rural economies mostly characterized by medium or small (semi)subsistence producers will provide great spill over effects as well as long-term employment opportunities. However, the latter has rarely been reported in the avalanche of newspaper clips on this topic where in fact an opposite situation is usually portrayed: rural displacement, lack of consent for land acquisition & leasing in communal properties, reduction of rural livelihood alternatives, etc.

There is abundant (policy and academic) literature indicating that if adequate and binding codes of conduct and governance structures are established, large scale land investment projects can yield positive results for all involved stakeholders. Clearly, not enough time has elapsed (since the wave of LSLT´s has started in the mid 2000's and has really become more intense in the past three to five years) to prove this statement as right or wrong. But something that is made implicit throughout the entire discussion of LSLT´s is that a large farm structure will constitute a more efficient form of production particularly in areas which report a low density of population (Deininger and Byerlee, 2011). The problem from an analytical viewpoint is that few empirical studies on efficiency measurement of large-scale farms (in different crop systems and agricultural technologies) with respect to other farm sizes are available. When this type of assumption remains unchallenged, the position of smallholders from a socio-economic perspective is weakened. In the present report, both empirical and theoretical issues concerning the differences in terms of efficiency/productivity between large and small farms will be considered.

From an environmental outlook, however, the academic and policy literature is less ambiguous and evidence is widespread on the risks associated to extensive mono-cultivation, loss of biodiversity or abusive use of natural resources which tend to occur in highly mechanized mono-cultivated areas (UNEP GEAS, 2011). In this respect, the increasing competition for resources such as land and water which is resulting from the current wave of farmland acquisition and leasing is leaving small-scale farmers not only in a less competitive position but also in an even more vulnerable situation regarding food security. This takes us back to the starting point of this introduction: food security and the management of key resources such as land and water imply different challenges in low and high income countries. While in the latter, farmland investment connects to the long term availability of food at affordable prices, in the former, where rural population is dependent on farming for survival, land is a life strategic asset. Access to natural resources (such as land, water and forests) is essential to the 2.5 billion people who depend on small-scale farming to produce food (at very low yields) for their own consumption and income (FAO, 2012). The question which remains to be asked is what type of resource allocation and sustainability plan (for efficient food & fuel production) should be supported in order to secure food access and availability to the planet's increasing population and consumption needs. After all, it should be reminded that the expected 2 billion increase of the world population towards 2050 is to take place in low income areas.

In the present report the objective is to present a structured overview of what the recent wave of (international) large-scale land transactions entail and what are the potential consequences for food security worldwide (making special notes for both investor and host country populations which in some cases it may be different agents within the same country supported or not by a foreign player). With this purpose in mind, the report is structured into two main

sections. In the first part, the reasons behind the scale and speed of the number of (international) large-scale land transactions will be addressed, followed by the differences with previous forms of land transactions along with the identification of new players and their specific aims. In addition, the dimensions of LSLT´s are assessed by looking how they differ between three main regions: Africa, Black Sea region and Latin America. In the second part, three main issues will be discussed in order to assess how efficient/ productive, transparent and socially beneficial are the large-scale land investment projects both locally and globally. This will be made on a theoretical basis (discussing main differences between large and small farming) and also by relying on selected empirical findings since many of the LSLT projects are still in an early stage of execution. Finally, conclusions are presented with an overview of potential advantages and disadvantages of large-scale farming in terms of food security. The focus is placed on the assessment of a future agricultural sector which is dominated by large-complexes versus other investment models which attempt to explicitly integrate or at least consider the prospects of the 500 million small farm-households worldwide who are among the food insecure in low income countries (FAO, 2012).

1 (International) Large-Scale Land Transactions (LSLT´s): A new phenomenon

1.1 Background

While there has been a long history of consolidation of large farms during pre-and post-colonial ruling, the latter were followed by some attempts towards land redistribution (in the form of agrarian reforms) in several low income areas; a trend which now appears to be in reversal given the current wave of LSLT´s and the decline of public investment to support smallholders.

Official Development Assistance for the agricultural sector has lost share of overall aid over time from around 15% in 1970's to 5% in 2007 (GTZ, 2009). According to FAO (2012) this decline in agricultural investment has contributed to reduce the positive evolution of yields and performance in marginalized areas where governments' public agricultural spending is also limited. Moreover, Da Silva and Mhlanga (2009) highlight that in many African countries commercial bank lending to agriculture is small (around or less than 10% of portfolio) and interest rates are relatively high. Despite the positive effects of microfinance loans, more resources are needed to support long term capital formation in agriculture in low income countries. According to FAO (2010) around 83 billion annually would be required in order to assist developing country agricultural sectors in feeding their growing populations towards 2050.

In this context of declining growth rate of agricultural yields and increasing demand, the recent large-scale land deals are considered strategic deals from a business perspective given the worldwide challenges on food security. At the same time, these deals could also serve as relevant tools to strengthen agricultural sectors in under-invested areas. In other words, there is a new potential to make a significant contribution to bridging the investment gap in low income country agriculture (Hallam, 2011). The question therefore is not whether these land transactions should contribute to meeting investment needs but how to maximize the benefits and minimize the inherent risks for all stakeholders involved. In this sense, stakeholders are not only the investors or the local rural communities but also world population in general (World Bank, 2010). Other aspects to consider include any externality effects in other sectors within the recipient country, impact on international trade relations and the environmental sustainability.

1.2 Definition of the recent wave of LSLT´s

The increase of land transactions worldwide has been denominated in various fashions: "outsourcing's third wave(3)", "global race for farmland", "commercial agriculture", "land grab", "land rush" (The Economist, The Guardian, BBC News, Wikipedia, UNEP-Global Environmental Alert Service (4)), "agro-imperialism" or "neo-colonialism" (Via Campesina (5)). For the World Bank (2010) a key publication on this issue is entitled: "Rising Global Interest in Farmland". Terms are thus as varied as the many publications and authors belonging to activist groups, NGO's, think tanks, academics, international organizations or the media. In many cases, particularly for NGO´s or the media groups, definitions attempt to portray the existing power imbalance between transacting parties.

However, in an attempt to gain some distance from the debate on whether the phenomenon refers to pure land grabs or land investments, the term "(Foreign) Direct Investment" (FDI) is reviewed. According to OECD (1999), Foreign Direct Investment reflects the objective of obtaining a lasting interest in an economy other than that of the investor. The lasting interest implies the existence of a long-term relationship between the direct investor and the targeted enterprise and a significant degree of influence on the management of said enterprise. Direct investment involves both the initial transaction between the two entities and all subsequent capital transactions between them and among affiliated enterprises, both incorporated and unincorporated. Conventionally, FDI was conceived as a form of international inter-firm cooperation that involves a significant equity stake in or effective management control of foreign enterprises (De Mello Jr., 2007). Another similar but more recent definition of FDI which introduces a land focus is given by the German Federal Ministry for Economic Cooperation and Development

(GTZ, 2009): FDI in land by a foreign company or state is based on a lasting interest in taking control over land use rights. The transaction includes either rights of land-use or land-ownership. The land-use rights are generally valid for a limited period and can possibly be extended.

Considering the definitions of FDI and the socio-economic particularities of the asset transacted, the term LSLT or (International) Large-Scale Land Transactions is introduced and used throughout this document. The term international is presented in parenthesis because some of the recorded land deals have taken place between agents of the same country or continent. In other words, it is not always the case that a foreign investor is involved. An emphasis is placed on the matter of ¨transactions¨ because these may include acquisitions, leasing agreements, or other forms of business models ultimately seeking to secure the control and use of a strategic asset for food security: land (which implicitly includes another increasingly scarce resource: water). Lastly, the idea that the land deals take place largely between private enterprises or actors is not incorporated into the term LSLT.

In the following sub-sections the aim is to understand how the current wave of LSLT´s can no longer be strictly considered under the traditional meaning of Foreign or National Direct Investment. This is because these recent land deals possess new characteristics (in scale, speed and focus) and more importantly they take place in a new social and environmental scenario. Consequently, the main objective is to unravel the connections to local and global food security situation today and in the near future as a result of the on-going transformations in the agricultural sectors of countries involved in these types of large land transactions.

1.3 Differences with previous forms of (Foreign) Direct Investments (FDI) in land

Three main differences between the current LSLT´s and previous FDI in land can be highlighted: (Scoones, 2010a 2010b; Hall, 2011, The Economist, 2012):

1.3.1. Scale & Speed

According to the Land Matrix Project (6) since the year 2000 to 2012 around 50 million hectares of land have been negotiated under about one thousand deals. Currently, the Land Matrix dataset includes only deals above 1000 ha that have been verified by different contributors in situ.

There are however, other sources indicating rather larger figures at regional level. For example, Friis & Rosenberg (2010) indicate that in Africa alone 51 to 63 million hectares were negotiated between 2008 and 2010. Another estimate for Africa between 2008 and 2009 is that of 39.7 million hectares (Arezki et al, 2012), roughly the size of a country like Ukraine over a period of one year (Cotula, 2012). The Land Matrix on the other hand allocates around 18 million hectares negotiated under LSLT´s in Africa.

In all cases, available databases are dependent on news or local reports and it is acknowledged that the secretive nature of deals is the main obstacle to having definite calculations, along with the definition of what constitutes an approved deal (whether production has started or only land has been enclosed or upon signature). See Table 1 for an overview of different sources for aggregate land areas acquired, based on media reports (based on Cotula, 2012 with extended method description).

For the present report, the most conservative estimations of the Land Matrix Database will be used as the reported data is said to be subject to in-situ cross-checking measures and only verified deals are kept (7). Each record in the database is assigned a reliability code. Information is sought for over 30 fields for each deal, but for legal reasons only 8 fields are published. Where possible, data is distributed to partners in host countries for cross-checking. This may be achieved through personal interviews, direct personal knowledge of the transaction, or access to research that has not yet been published.

Figures 2, 3 and 4 that contain data emerging from Land Matrix project for LSLT´s between 2000 and 2011. For the years 2010 and 2011, however, land deals are considered to be still under a process of on-going collection and verification of related data. This delay in data collection/verification can lead to potential gaps in the Land Matrix database, particularly for regions which have received less media attention such as the Black Sea Region and Latin America.

For instance, in the Black Sea region it is difficult to account for specific transactions between investors and agro-holding shareholders which can be substantial (of around 300 ha) but below the Land Matrix threshold of 1000 ha deals. In the case of Latin America, LSLT´s appear to frequently take place through partnerships or associations which may include several deals of less than 1000 ha, thus escaping the radar of the Land Matrix project. There is thus a gap which could be potentially filled with further scrutiny of media resources. In this respect, initiatives such the Europe Media Monitor (EMM) of the EC-JRC could be used for this purpose (http://emm.newsbrief.eu/overview.html). Another related initiative is that of the FAO Policy Decision Analysis (FAPDA) which seeks to enhance collection and dissemination of information on policy decisions to policy makers but also as a public good (http://www.fao.org/economic/fapda/tool/Main.html)

According to the World Bank (2010) an average annual expansion of global agricultural land was less than 4 million ha per year but between 2006 and 2009, this almost tripled to 11.3 million hectares per year (an increase also illustrated by Land Matrix data). 70% of land demands during this time period were said to be in Sub-Saharan Africa where in 2009 the demand for land was equivalent to more than 20 years of previous land expansion (Deininger, 2011). The issue that

three-fourths of the world´s land deals have taken place in Africa is also highlighted by Sparks (2012), World Bank, (2010) and Global Land Project (2010). Although according to the Land Matrix (2012) the area acquired in Africa corresponds to 35% of total land and a similar percentage is also said to have been negotiated in South East Asia (according to records up to December 2012).

Despite the discrepancies in terms of distribution of LSLT´s around the world, it is recognized in most data sources that the speed and the scale of land deals have not been constant and that some peaks emerged in the last decade. According to the Land Matrix there was a peak in the number of deals registered between 2005 and 2006 and then again in 2009-2010 (Figure 2 & 3). In the Land Matrix there were 924 documented deals (as reported in December 2012); all of them accounting for transactions above 1000 ha (See Figure 4 for an overview of where these deals took place). While the data for 2010 and 2011 is considered to be under verification and collection processes, academic sources differ on whether there has been an actual decline in the number of deals in the last couple of years.

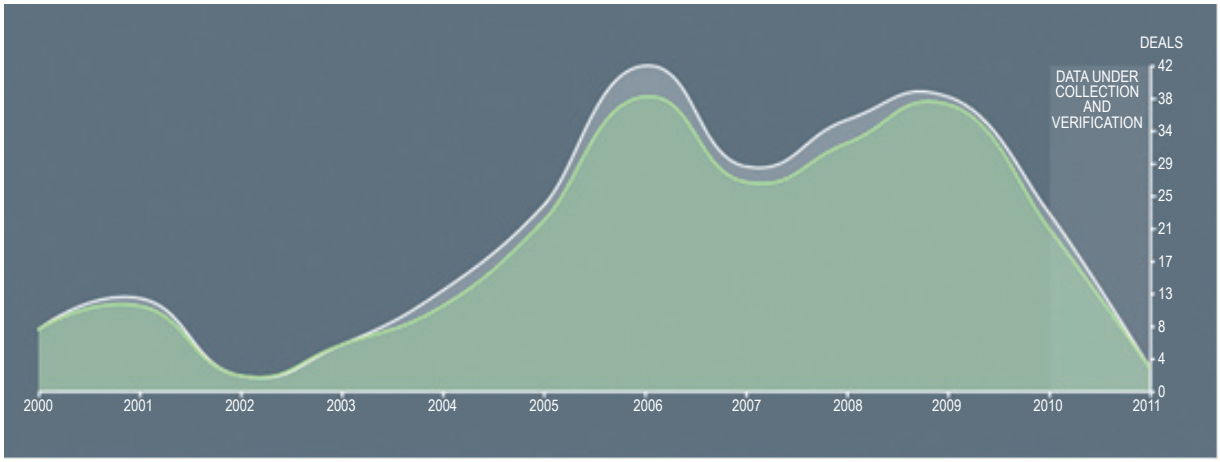
According to Sapelli (2012), the speed and magnitude of land deals during the first quarter of 2012 was of 2.5 million negotiated hectares, implying that the intensity is in fact maintained. However, Anseeuw et al (2012) have reported that the peak year for LSLT´s was reached in 2009 and that the number of deals and extension of land acquired has been slowed down since then, but continues. The latter would also be supported by Land Matrix data if the current data collected for 2010 and 2011 is not updated and the levels

Table 1: Overview of different sources for aggregate land areas acquired, based on media reports

Land Area in Ha	Coverage	Time Period	Database & Method
51-63 million	27 countries in Africa	2008-2010	Global Land Project – Systematic inventory of media reports included in the International Land Coalition (ILC) Blog
56.6 million (of which 39.7 in Africa))	Global	1 October 2008-31 August 2009	Systematic inventory of media reports included in the International non-governmental organization GRAIN blog – Dataset used by Deininger (2011), World Bank (2010)
48,829,193 million	Global	2000 to 2011	The Land Matrix includes deals that are made for agricultural production (for food or agro fuel production), timber extraction, carbon trading, mineral extraction, conservation, and tourism. Largely based on IFPRI´S site (www.farmlandgrab.org), ILC´s site (www.commercialpressureonland.org), media and direct individual reports.

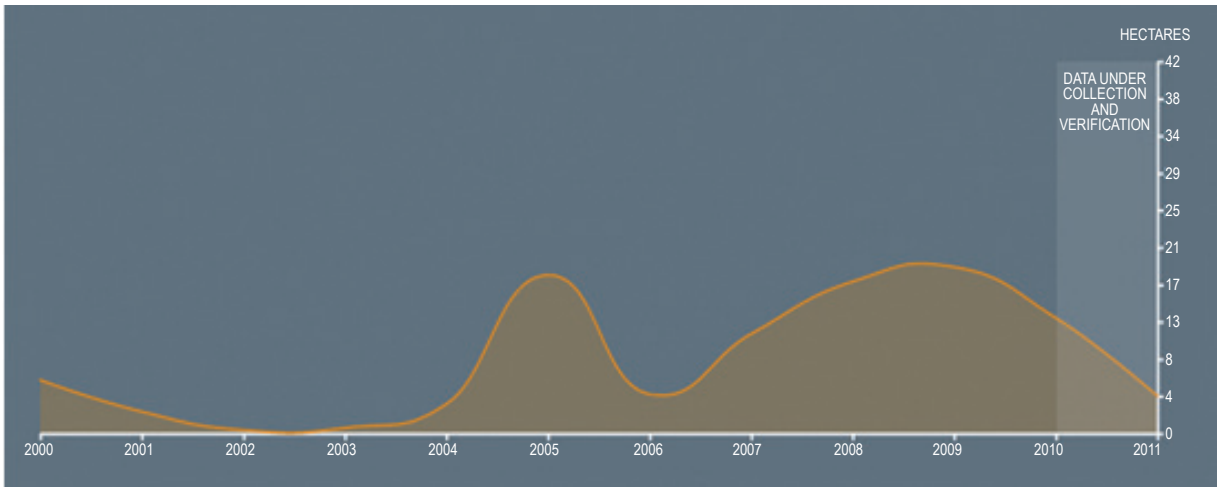
Source: Cotula (2012) and own elaboration

Figure 2: Number of deals (2000-2011)



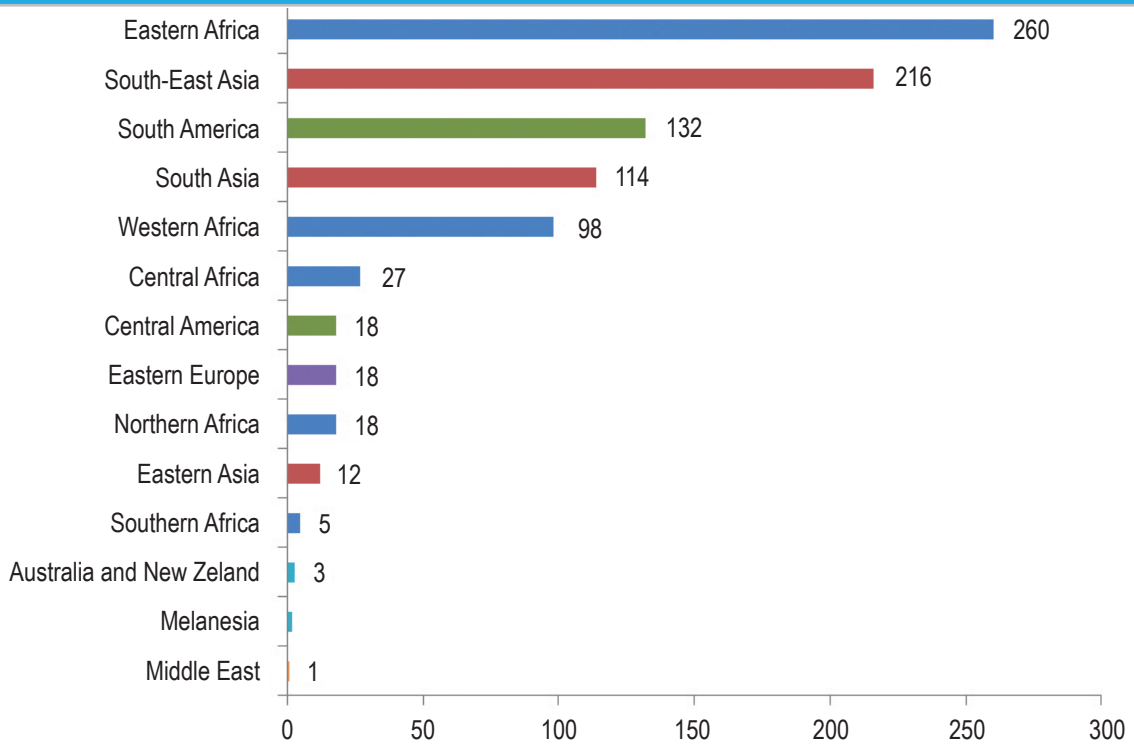
Source: Land Matrix (Accessed March 2013)

Figure 3: Deals by size in hectares (x 100.000) (2000-2011)



Source: Land Matrix (Accessed March 2013)

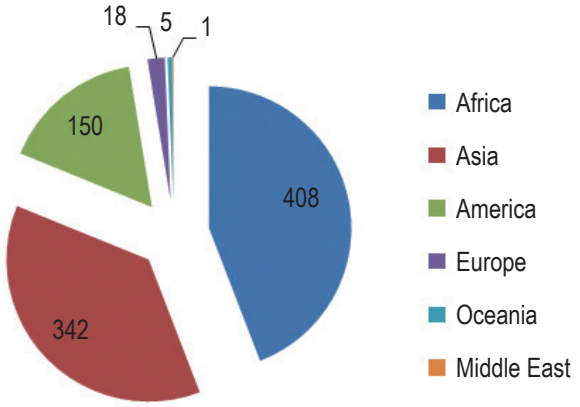
Figure 4: Overview of total number of land deals by sub-region and region (2000-2011)



Note: Total number of deals 924
Source: Land Matrix (Accessed March 2013)

are maintained as illustrated in Figures 2 and 3. According to Deininger (2011) a possible decline in the number of deals may be observed since LSLT´s have been pre-negotiated or even signed but their implementation phase is postponed. He indicates that this is the case for 50% of African LSLT´s. It is also possible that the apparent decline in land deals is attributed to the fact that major investing countries such as China have experienced reduced growth rates in their economies in the last couple of years.

In terms of monetary value, it has been estimated by the media that these recent wave of land deals amount to



20 – 30 billion USD that is at least ten times as much an emergency package for agriculture recently announced by the World Bank (The Economist, 2012). Other academic sources do not venture into calculating the overall value of such investments given their still early phase of development.

The size of deals has also increased. A big land deal used to be around 100 000 hectares and between 2002 and 2003 the total number of hectares transacted annually hardly reached this amount. In recent years, however, the largest land deals started to comprise 400 000 to 1 000 000 hectares. For instance, in Sudan, South Korea signed deals for 690 000 hectares, Egypt has secured a similar amount in that country while the United Arab Emirates has acquired 400 000 hectares. About one fifth of the Sudan arable land has been set aside for Arab governments (Land Matrix 2012; The Economist, 2012).

The Land Matrix Database also contains seven mega-deals ranging between 1.1 and 2.8 million hectares. For example, China secured the right to grow palm oil for biofuel on 2.8 million hectares in Congo, which would be the world's largest oil palm plantation (The Economist, 2012; Hall 2011; Land Matrix, 2012). According to Hall (2011) Chinese corporations also seek a similar amount of land for biofuel production in Zambia.

1.3.2. A preference for food and flexible crops

Another difference of the current LSLT´s with respect to the previous forms of FDI in farmland is the relative abandonment of the so called "banana republics" business models (8). The latter were to a great extent organized as large complexes for export of specialty crops (9) such as fruit, tea or peanuts. But nowadays the focus is geared towards crops which can be used for food, feed or biofuels (that is, largely staple crops and oilseeds).

According to the Land Matrix Database (as of November 2012), food (staple) production accounts for 34% of investments, non-food production crops account for 26% and the so-called flexible crops which can be destined for food or biofuel (soybean, sugarcane and oil palm) account for 23%, the rest is under the category of "multiple uses". Sapelli (2012) offers a different classification to land deals between 2007 and 2011: 52% related to food, 20% related to biofuels and 8% related to livestock. While FAO (2009b) identifies 40% of food crops, 21% cash crops, 20% biofuels and the remainder plantation forestry, livestock and game reserves (Figure 5). Deininger (2011) indicates that 37 per cent of land transactions directed towards food crops.

Although the ultimate purpose of LSLT´s continues to be the export of a large percentage of farm output (either for food supply or for industrial transformation as in the case of rubber of biofuels), the dominant commodity profile has been swapped. In earlier forms of FDI in farmland, the emphasis was placed on fruits or cash crops which could only be grown in the tropics (banana, cocoa, coffee, tea, etc.), but now a focus on basic staple foods and oilseeds has emerged strengthening the linkages to the agro-energy sector.

Leahy (2009) argues that "rich countries are buying poor countries' soil fertility, water and sun to ship food and fuel back home, in a kind of neo-colonial dynamic". This ¨exploitative nature¨ of land deals is usually seen as a constant of both the current wave of LSLT´s and previous forms of FDI in farmland. Another one is that of forceful displacements which have been reported in the media (addressed in sub -sequent sections 2.2 and 2.3). However, with the increasing media pressure and the recent FAO and World Bank attempts (10) to regulate responsible land investments it may be expected that investors probably start focusing as well on the public perceptions surrounding their LSLT´s.

1.3.3. Involved parties and actors

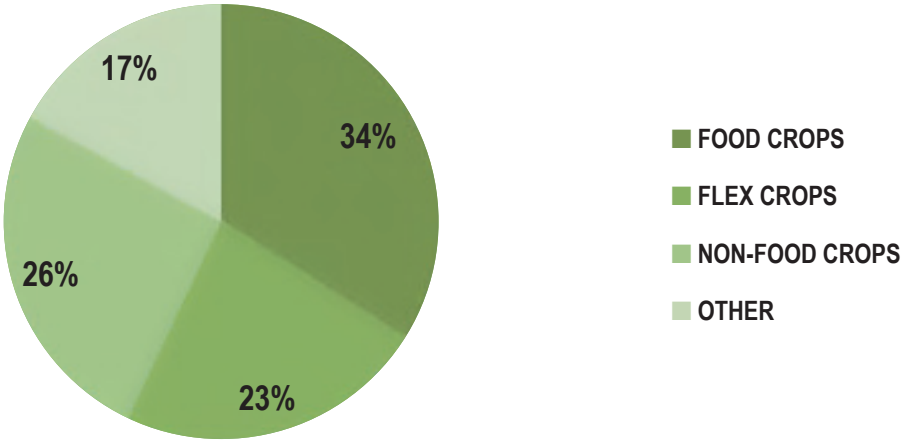
There is also a change in the nature of parties involved in LSLT´s. Before, it was customary that the deals were undertaken between private enterprises or individuals. The latter still takes place but nowadays, governments are starting to play an essential role in bringing about LSLT´s both from the side of the investor and the host country. Details of key drivers of different players are presented in section 1.4.2. At this point it is important to first identify who are the emergent players.

In this respect, Sovereign Wealth Funds (state-owned funds which generally originate from current account surpluses, exports of oil and other commodities or manufactured goods, fiscal surpluses, public savings or privatisation receipts) and other Sovereign Investment Vehicles (such as: Reserve investment corporations, Development funds, Pension reserve funds or State-owned companies) have been used to fund several LSLT´s. The latter takes place under the assumption that the land deals will serve the political objectives of the respective country and thus public funds can be used. For example, the Qatar Investment Authority is reported to have established joint venture funds with the governments of Indonesia, Vietnam, Malaysia, Philippines to secure food imports. Similar steps have been taken by the Saudi Industrial Development Fund where Saudi officials have visited several target countries such as: Australia, Brazil, Egypt, Ethiopia, Kazakhstan, Philippines, South Africa or Sudan (GTZ, 2009). State-owned enterprises are also very active players among which we may find the Chinese Corporation or the International Water and Electric Corporation with holdings in Zimbabwe, Tanzania and the Democratic Republic of Congo.

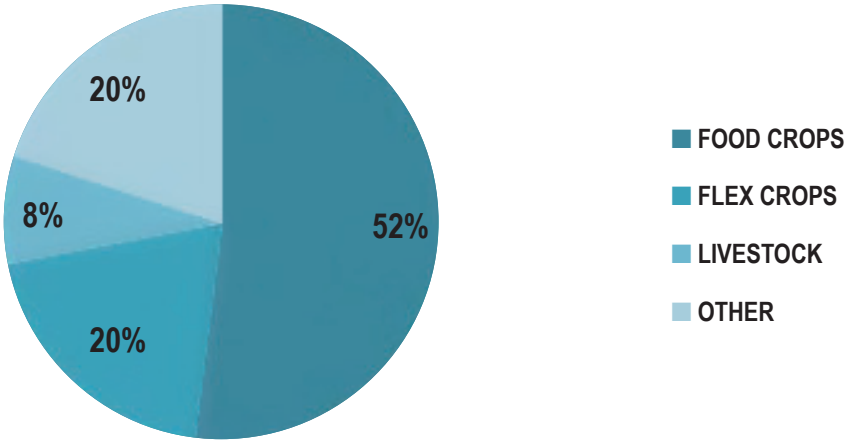
Saturnino et al (2012) indicate that domestic or trans-national capital is also taking part in land acquisition which includes companies from Vietnam and Thailand investing in neighbouring Cambodia or Brazilian companies investing in their own country as well as in other parts of South America (the so called ¨brasiguayos¨ for Brazilian land buyers in Paraguay). This implies that investors may not necessary

Figure 5: Profile of LSLT ´s

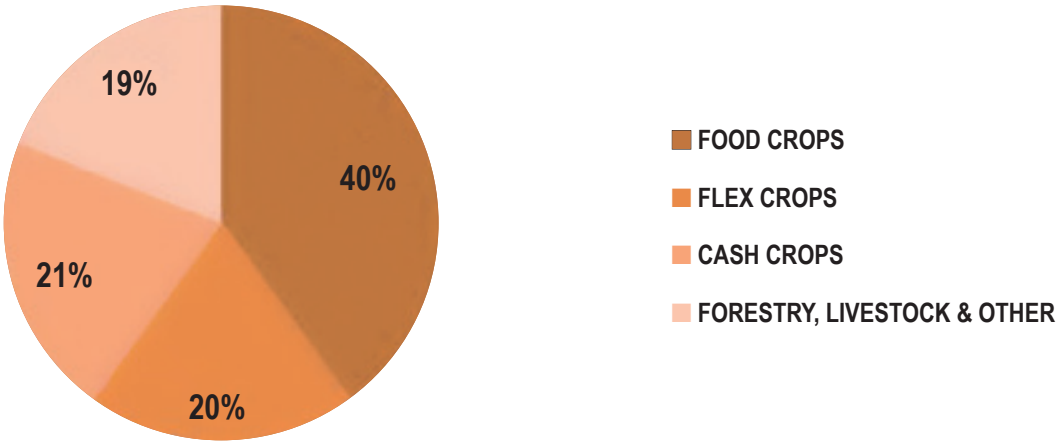
LAND MATRIX, 2013



SAPELLI, 2012



FAO (2009)



come from the distant ¨north¨. Despite this trend, a number of often small European Union companies are involved sometimes with support from their national governments in securing land abroad (UNCTAD, 2009). There are also large companies such as the Swedish investment groups Black Earth Farming or Alpcot-Agro who bought rights to 331 300 and 128 000 respectively in Russia, another one is Landkom (UK) which has acquired 100 000 ha in Ukraine.

According to Hall (2011) European and North American banks and financial investors are actively seeking alternatives to volatile international financial markets. Some examples

include Morgan Stanley (40 000 hectares in Ukraine) or Renaissance Capital (a Russian investment house which has acquired rights to 300 000 ha in Ukraine). More details on the different dimensions of LSLT´s, from a contractual point of view will be given below in section 1.5.

1.4 Why is this wave of LSLT´s happening now?

The main traits of LSLT´s and their differences with previous forms of FDI in land have been listed above but it is relevant to explore what drives and what has allowed for the wave of LSLT´S to take place. Saturnino et al (2012) point out that a convergence of global crises (financial, environmental, energy, food) in recent years has contributed to the dramatic revaluation of, and rush to control, land, especially land located in the "global south".

It can also be argued that the context of increased demand for food, fuel and fibre that results from higher demographic pressure and the reduced investment opportunities in traditional portfolios, are factors that have contributed to accentuate the competition for limited natural resources. It is interesting to note as well that among key investors, there are countries which have managed to increase their overall wealth in the last decades and which foresee an increasing demographic trend along with enhanced family incomes, namely China, United Arab Emirates and other south-east Asian countries. Interestingly, these economies have experienced since the late 1990´s and beginning of the 2000´s increasing economic growth rates that have allowed for surpluses (reflected in their sovereign wealth funds, discussed in the following sub-section). Only in the last few years have these players seen their growth rates reduced as a result of the global economic recession. The latter could be connected to the apparent decline in the number of land deals in the last couple of years, although the amount of available sovereign wealth funds (SWF´s) is expected to still show positive growth in the coming years.

From a more general perspective, it is plausible to argue that the phenomenon of LSLT´s and the above mentioned expansions and crises can be interpreted via economic cycle theories, such as those developed by Braudel, Kuznets, Kondratiev, Schumpeter, Kitchin, Juglar, etc... While a detailed examination of the these theories goes beyond the purpose of the present study, it is maybe useful to recall that among the theorists in this field Sweezy (1953) has emphasized that in capitalist systems there is a point where a condition of over-production and over-accumulation is reached which consequently translates into economic stagnation, reduction of profits and increase of unemployment (11). Like in every cycle, a recovery in demand is expected in due course. However, the next expansion phase does not appear ready to start. In the case of LSLT´s, It could be interpreted that funds (resulting from previous periods of over-production and over-accumulation) may have been partially allocated into the acquisition and leasing of natural resources which have great strategic value in the context of food security. In fact, according to UNCTAD (2009) FDI flows into agriculture have quadrupled in the last three decades. For the case of countries which have accumulated wealth in the same time period and which are at a relative disadvantage in the production of agricultural goods (given their reduced availability of land and water at a domestic level) LSLT´s have become a rather attractive investment option for their SWF´s. Moreover, LSLT´s would be in line with strategies to secure food access and affordability for their rising populations in the medium and long term.

1.4.1 The role of Sovereign Investment Vehicles

According to the latest UNCTAD report on Foreign Direct Investment, Sovereign Wealth Funds (12) destined to FDI in 2011 represented 125 billion dollars, or about 8% of total FDI flows at world level for that year; with about one quarter of sovereign funds destined to FDI projects in low or middle income economies. The report also reveals that the primary sector (agriculture, fishery, forestry, mining, etc.) was the sector with the largest increase from 140 billion in 2010 to 200 billion in 2011, increasing its share of total FDI flows from 11 to 14%.

The use of Sovereign Wealth Funds for FDI purposes was considered small given that they account for approximately 5 000 billion dollars (UNCTAD, 2012). According to data from the Sovereign Wealth Institute and TheCityUK, SWF´s at global level actually reached 4.800 billion in 2011 and they are expected to grow 8% to 5.200 billion towards the end of 2012, following a 9% increase in 2011. (See Table 2 for a summary of the largest SWF). According to the same source, there is an additional $7.200 billion held in other sovereign investment vehicles, such as pension reserve funds, development funds and state-owned corporations' funds and $8.100 billion in official foreign exchange reserves. Taken together, governments such as UAE, China, Norway, Kuwait, Singapore, Australia, Russia or Libya, among other emerging economies, have access to a pool of funds totalling $20.1 trillion dollars. This amount is smaller than other global assets under management such as pension ($30 trillion), investment ($24.5 trillion) or mutual funds (23.4 trillion), but definitely much larger than private equity ($2.6 trillion) or hedge funds ($1.8 trillion) (Figure 6).

1.4.2 Key drivers of LSLT´s

At a more detailed level, it is possible to identify different motivations driving LSLT´S, although they are all rooted to food and energy security challenges in one way or another. In the case of investors, three factors or motives can be put forward to explain their land acquisition strategies:

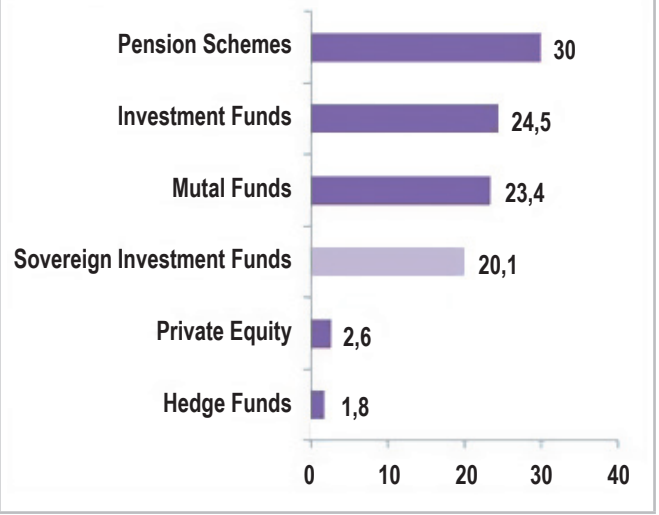
The first one and most important factor is related to securing food supply channels for their growing populations. In this respect, when they set up large-scale land transactions and farming complexes whose output is imported back to the domestic economy these governments are directly avoiding international market transactions. In other words, there is an evasion of price volatility particularly from rich but

Table 2: Largest Sovereign Wealth Funds (2011)

Funds	Assets under management ($ BN)	Country	Inception year
Abu Dhabi Investment Authority	627	UAE-Abu Dhabi	1976
SAFE Investment Company	568	China	1997
Government Pension Fund – Global	560	Norway	1990
SAMA Foreign Holdings	473	Saudi Arabia	n/a
China Investment Authority	410	China	2007
Kuwait Investment Authority	296	Kuwait	1953
Hong Kong Monetary Authority Investment Portfolio	293	China	1993
Government of Singapore Investment Corporation	248	Singapore	1981
Temasek Holdings	157	Singapore	1974
National Social Security Fund	135	China	2000
National Welfare Fund	114	Russia	2008
Tuatara Investment Authority	85	Qatar	2005
Australia Future Fund	73	Australia	2004
Libyan Investment Authority	70	UAE-Dubai	2006
International Petroleum Investment Company	65	Libya	2006
Others	626		
Total	4,800		

Source: TheCityUK (2012)

Figure 6: Size of Total Sovereign Investment Funds Vs. Other Global Assets (2011 in Trillion US$)



Source: TheCityUK (2012)

agriculturally speaking resource-poor countries who want to avoid dependence on international markets as well as to safeguard their access to natural resources in the medium to long term.

Investor countries may thus maximize profits through the reduction of transactions costs related to highly volatile agricultural markets and an increased reliance on LSLT´s to secure food provision at low or stable prices. According to Anderson and Nelgen (2012) export bans are established to protect domestic consumers from the effects of the international food price spike (examples in 2011 were bans on grain exports in Tanzania, Ethiopia, and Russia—all of which were lifted before the end of the year). But this type of mechanism exacerbates price spikes (by restricting supplies in the international market) and affect the international welfare transfer associated with that spike in terms of trade (which defines how much a country needs to export in exchange for a given import volume). In the same line, Anderson and Nelgen (2012) emphasize that governments of food-importing countries by lowering their food import restrictions (or even switching to food-import subsidies) also contribute to exacerbating the international price spikes—which means that it weakens the initial attempt by food-exporting countries to shield their consumers.

In other words, it appears that most investor countries have an unprecedented reluctance to depend on world markets to fulfil their food needs and prefer more secure and direct supply channels. Hallam (2011) in fact uses the word “fear” to refer to countries´ attitude towards volatile prices and uncertain, unstable international agricultural markets. The explanation to this attitude is based not only on the emerging price volatility which has led to increased food prices (as most oil-exporting Arab countries, for instance, can afford the increase) but to the possibility of having no opportunity to purchase food (due to export bans). It is in any case, a matter of protecting and securing availability of food in the medium and long term for their populations.

These countries, especially China, have realized that there is a growing pressure due to increasing population and income on food supplies at world level while access to key resources such as land and water is becoming highly constrained and competitive. According to Hall (2011) there are other agents interested in serving the Chinese markets such as Indian, Korean, South African and Taiwanese multinational companies who engage in farmland acquisition to supply the Chinese agricultural commodity needs besides fulfilling their own demand for food, fodder and fibre that allows them to maintain growth rates and be less dependent on world markets. As stated above, this demand pressure for agricultural commodities and the access to natural resources for their production is the key driver among investors with large funds at governmental level.

The second factor is linked to the emerging policies to foster biofuel production. These initiatives are usually in line with government commitment to reducing pollution and usage of fossil-based energy. The increase in demand for biofuels has potentially exerted pressures both on world prices for agricultural commodities and on land use, i.e. how much planting area could be diverted from producing other crops to those used as feedstock for the production of bio-fuels (FAO, 2009). Between 2008 and 2004 the total area under biofuel crops (estimated at 36 million hectares) doubled (World Bank, 2010) and as mentioned above, about one fourth of recorded farmland investment deals in the land matrix database are destined to crops which can serve for biofuel production. Moreover, not only high income countries are committed to extending the use of biofuels, such as the case of EU or USA. Brazil is one of the major producers of ethanol and smaller countries like Colombia have established by government decree that by 2016, all vehicles should function with biofuels. For this purpose, there is an aggressive Colombian strategy to attract investors to cultivate large extension of sugar cane and palm oil and set up processing plants (Proexport, Colombia 2012). In this respect, it is mainly the private agro-energy sector enterprises that have responded to these incentives by engaging in LSLT´s.

The third factor is connected to financial speculation (anticipating growing land prices) (GTZ, 2009). With the collapse of credit markets and the on-going crisis, investors find in agricultural resources and commodities an alternative way to expand and diversify their portfolios. The objective is to increase shareholder value via benefitting of rising food prices. The latter is based on the widely recognized interdependencies in the food, bioenergy and energy price systems (Ciaian and Kancs, 2011)(13) in a context of growing population, changes in consumption patterns, increasing climate variability and declining agricultural yields. As a result, there are international corporations not directly connected to agriculture which have undertaken farmland acquisition or leasing agreements to profit from the increasing challenges faced in the agricultural sector. According to Scoones (2010b) for a hedge fund or a pension fund (such as the TIAA-CREF in the US) considering to make an investment in farmland acquisition, food scarcity or rising prices are a positive sign which makes their investment decision in farmland even more attractive and safe.

Regarding host countries, it appears that many governments are taking a rather proactive campaign to attract LSLT´s. For example, in Africa there have been clear efforts to promote the existence of so called “unused lands” or “idle land” usually under state or unrecognized communal property systems. In July 2009 the government of Ethiopia reportedly marked out 1.6 million hectares of land extendable to 2.7 million, for investors willing to develop commercial farms (Cotula, 2011). The argument is that there are advantages that come with LSLT´s related to economies of scale in production, technology transfer, employment creation and the construction of related rural infrastructure. In any case, the main issue is that host countries who are usually poor and eager to capture any type of investment funds coming to their agricultural sectors. Not all countries, however, fall into this category. Concern about the potential negative effects of LSLT´s has given rise to draft legislation to limit land purchases by foreigners in a number of countries such as Argentina, Brazil and Ukraine (Arezki, et al 2012). In Argentina and Brazil there are also prohibitions for foreigners to acquires large tracts of land on or near borders. But if foreigners can use nationals as intermediaries, such measures do little to address the underlying issues and may exacerbate governance challenges by limiting competition (ibid.)

In this respect, it is possible to find classification of target countries in the literature. For example, according to GTZ (2009) target countries can be clustered into two groups:

- In the first segment we find countries which have large availability of arable land and not enough resources to utilize them, including inappropriate infrastructure, but characterized with a strong focus towards export agriculture (i.e. Brazil, Argentina, Russia, Ukraine). Their main motivation is to secure capital flow into agriculture which is an important and growing sector in the economy.

- In a second group, there are countries which expect to foster development through large-scale land transaction in agriculture. They are usually characterized by weak governance, unclear land markets, political disturbances, low input costs of land and labour, large presence of subsistence farming and favourable conditions in terms of climate, soil and water access (Sudan, Madagascar, Mali, Cambodia, Laos).

A common point in most of the target countries is that a substantial percentage of the rural population is currently reporting declining average farm size (or an increase in the proportion of farmland cultivated in small holdings), deteriorated agricultural infrastructure and very often a high degree of food insecurity (Scoones, 2010a; Lipton, 2006).

There are sometimes clear contradictions in the strategies to attract LSLT´s within target countries. One example is

Ethiopia where Saudi investors are spending 100 million USD to raise cereals (wheat, barley and rice) on land leased to them by the government. The investors are exempt from tax in the first few years and may export the entire crop back home. Meanwhile, the World Food Programme is spending almost the same amount as investors (116 m) providing 230 000 tonnes of food aid between 2007 and 2011 to the estimated 4.6 million Ethiopians threatened by hunger and malnutrition (The Economist, 2012). Another example is that of Sudan, a net food importer country that relies on food aid from international donors yet still manages to grow wheat for Saudi Arabia, tomatoes for Jordanian Army and sorghum – a typical Sudanese staple – for camels in the United Arab Emirates (Kugelman and Levenstein, 2009)

Many NGO´s, media reports and the UN representative for food security (De Schutter, 2011) argue that host countries are in an unfavourable position to negotiate LSLT´s. Three obstacles are usually highlighted:

- A first obstacle refers to the fact that poor agriculture-based countries who seek to attract foreign capital in order to develop their infrastructures are competing for the arrival of direct investment. This fosters a tendency to lower the level of requirements imposed on investors, whether these relate to the compensations owed, to the creation of employment or the payment of taxes. De Schutter (2011) points out that the development of a basic regional framework to define how the rights of land users should be protected, the local communities consulted and which business models to pursue according to investment types could significantly strengthen the bargaining position of host countries.

- A second obstacle resides in the weak capacity of host states to manage the investments in farmland and to regulate the wide-ranging impacts such investments may produce. For this purpose, it is important for them to strengthen security of tenure, implement social and environmental standards, establish appropriate consultation with local communities, screen investors' projects and set up valid dispute-resolution mechanisms among others.

- A third obstacle which host countries face is that transactions do not take place in a historical or political vacuum and there are pre-existing obligations of host countries which may preclude the adoption of measures which can bring about a win-win situation.

To summarize, host countries are not only competing to offer the best financial terms to potential investors but are not adequately considering other related issues of importance such as regulations regarding local sourcing of labour and other inputs, stakeholder involvement, consistency with food security strategies, distribution of food produced between export and local markets and distribution of revenues, environmental impact (Hallam, 2011).

1.5 Overview of investor & target countries

The Land Matrix reports that 22 million hectares were negotiated between 2000 and 2011 by investors coming from 10 countries: USA, Malaysia, UK, China, United Arab Emirates, Republic of Korea, India, Australia, South Africa, and Canada. For the cases of the USA, UK, Australia and Canada the sources of investment are mainly private while for China, United Arab Emirates, Republic of Korea the public sector is playing the decisive role. In the case of India and South Africa the investment sources are mixed. Figure 7 presents how these 22 million hectares are divided among investor countries.

According to the Land Matrix Database (2012), since the year 2000 just over 35 million hectares have been subject to negotiation in what are considered the top 10 target countries: Indonesia, Malaysia, India, Brazil, Philippines, Sudan, Ethiopia, Madagascar, Mozambique and Argentina. Table 3 indicates the number of hectares and land deals negotiated under each of these countries as reported by Land Matrix portal. The latter gives an idea of the approximate size of these ¨mega¨ LSLT´s.

Figures 8 and 9 present investor and target countries respectively, as reported in the Land Matrix database between 2000 and 2011. The latter suggest that LSLT investors are not necessarily all from the north and foreign. There are region and domestic agents (or joint ventures between domestic and foreign capitals); implying that the so called ¨south-south¨ negotiations are also taking place. The wide range of countries involved reinforces the idea that the widespread global food (and energy) insecurity triggers the strategic nature behind this type of deals.

1.6 Dimensions of LSLT´s

As it has been argued, there are new traits which make LSLT´s different to previous forms of FDI in the primary sector. In this respect, Hall (2011) highlights the following aspects:

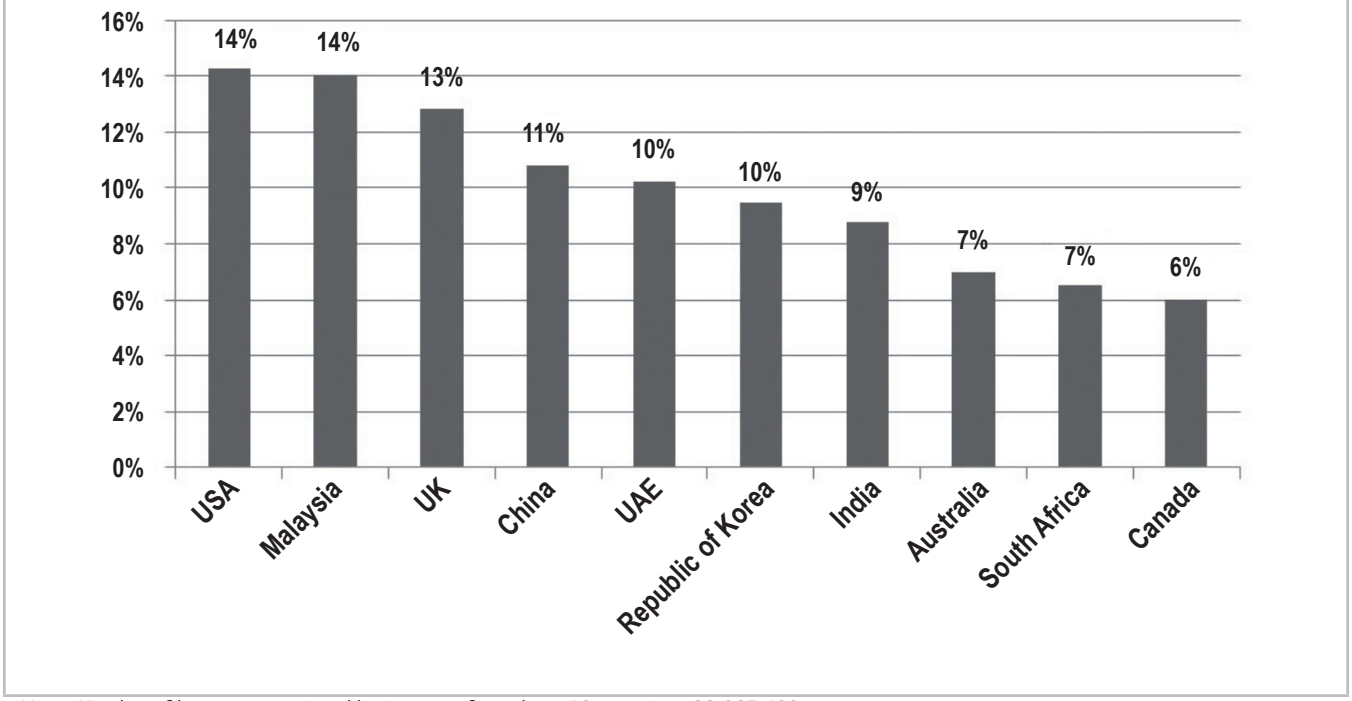
- Size of investment: There is large variation in the size of land deals from tens of thousands of hectares to hundreds of thousands (averaging 500 000 hectares) and plans of mega-deals deals from 1 up to 10 million hectares

- Duration of investment: Most deals are defined for long-term duration (15, 25 or 50 year often renewable as well as up to 99-year leases)

- Source of investment: Foreign and Domestic private investors (sometimes under the form of joint ventures), State Firms, Foreign Sovereign Wealth Funds and related investment vehicles, pension or mutual funds.

- Commodity: Cereals (maize, wheat, rice), jatropha, sugar, palm oil, other foods, forestry, various minerals

Figure 7: Top Investor Countries 2000-2011 & Percentage Allocation of Negotiated Hectares



Note: Number of hectares negotiated by investors from these 10 countries: 22 063 400
Souce: Land Matrix (Accessed March 2013)

Table 3: Top target countries

Country	Number of Hectares	Number of Deals	Average Size of Deal
Indonesia	7 527 760	23	327 294
Malaysia	4 819 483	20	240 974
India	4 616 760	109	42 356
Brazil	3 871 824	61	63 473
Philippines	3 191 021	30	106 367
Sudan	3 123 430	17	183 731
Ethiopia	2 412 562	56	43 081
Madagascar	2 176 241	36	60 451
Mozambique	2 017 912	96	21 020
Argentina	1 505 020	22	68 410

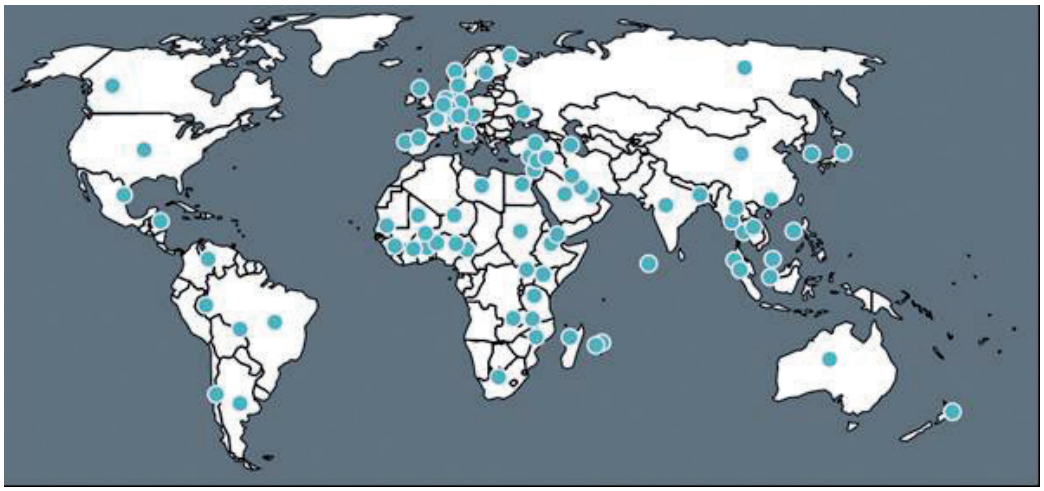
Source: Land Matrix (Accessed March 2013)

- But LSLT´s independently of their final use (food, biofuel production or other commercial or conservation purpose) differ as well in terms of a series of key dimensions (Table 4) which have relevant socio-economic and political effects in the areas where land deals take place.

In other words, the type of business model implemented (large independent complex vs. integration of local smallholders), the way in which land is held (highly dependent on existing property rights systems in the host country), definition of compensation schemes and labour regimes, plans for displacement or construction of infrastructure, constitute key varying features of contractual arrangements which mark differences among LSLT´s and the impact on the local communities.

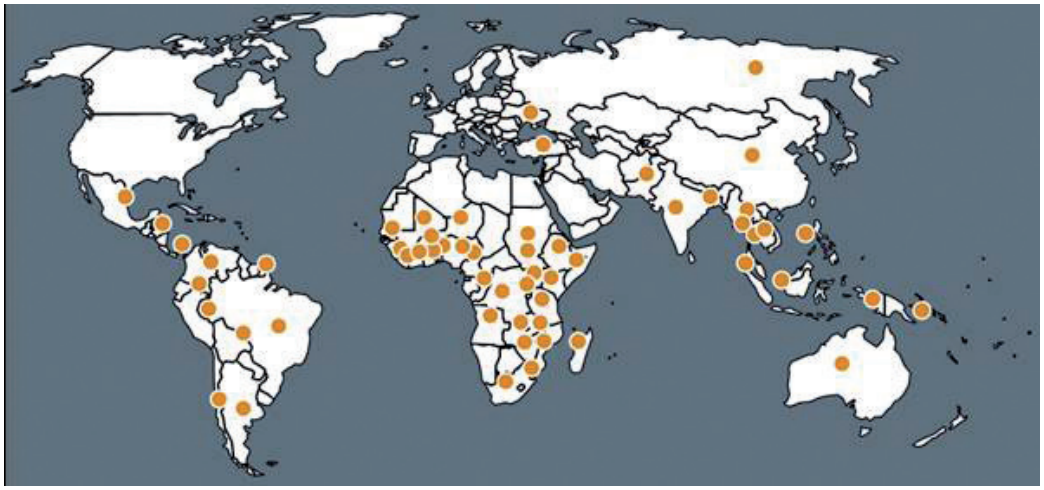
In most cases, the above mentioned dimensions are determined by the origin of the investor and the institutional capacity of the target country to negotiate effectively. Therefore, differences at regional level can also be highlighted. To illustrate these aspects, a close up is presented for three regions: Sub-Saharan Africa, where most deals are reported to have taken place in the literature; the Black Sea Region, one of the least studied areas but containing one of the

Figure 8: Investor countries of LSLT´s



Source: Land Matrix (Accessed March 2013)

Figure 9: Target countries of LSLT´s



Source: Land Matrix (Accessed March 2013)

Table 4: Different Dimensions of LSLT´s

Business model	Large commercial estates, nucleus estates with out-growers, contract farming for mono-cultivation
Tenure Arrangements	Purchase (rare), lease, concession, enclosures under contested property rights
Resources Accessed	Land, water, minerals, marine resources, wildlife, forestry and labour in certain contexts
Lease / Compensation Payments	Vary according to value, method of calculation, timing (once-off or repeat, e.g. annual payments) and distribution to local communities and their different agents (local authorities, land owners, etc.)
Degrees of Displacement	Acquisitions are usually said to take place in 'vacant' and 'unused' land which may be used for grazing, cultivation of local smallholders, or access to forest resources
Labour Regimes	Locally hired labour, imported labour, self-employment under out-grower or contract farming schemes
Settlement	Changes in Settlement (e.g. villagisation), De-agrarianisation
Infrastructure	Investment in infrastructure for production, processing, and transport

Source: (Hall, 2011)

largest tracts of agricultural land worldwide; and Latin America, where investors of LSLT´s have mainly a local or regional origin.

1.6.1 Nature of LSLT´s in Africa

According to Arezki et al (2012), one of the reasons Africa is highly attractive to LSLT investors is its high potential to generate output. The authors argue that none of the countries of interest to large investors achieve 25% of its potential yields, suggesting that enormous gains can be made with investments to increase productivity in land smallholders already farm, rather than conducting costly expansion into un-cultivated lands. The latter is somewhat disconnected to the rhetoric on targeting ¨marginal¨ lands for LSLT´s (Sparks, 2012; World Bank, 2010) since it appears that investors are in fact acquiring large tracts of prime agricultural area in Africa (Cotula, 2009; White et al 2012), although it appears that only 50% of all land deals have actually started either an initial development phase or actual production (Deininger, 2012). The case of Democratic Republic of Congo or Mozambique are particularly striking with LSLT´s representing up to 48% and 21.1% of total domestic land (Global Land Project, 2010).

Arezki et al (2012) also indicate that countries with weak land sector governance (as measured in the Institutional Profiles Database) are the most attractive to investors – at least in terms of the number of LSLT´s. In fact, in most of the African deals, the government plays a key role in favouring the leasing of what is termed state land but which at local level is used for communal purposes (pastoralists, wood, herb, fruit collectors, water access, etc.). In these cases, users have no official property title to the area in question, a situation which raises civil conflicts and demonstrations that have been widely documented by Civil Society Organizations or Think Tanks such as the Oakland Institute (2011) that has well-documented the situation in Sierra Leona.

In other words, there is wide literature suggesting that LSLT´s in Africa take place where land tenure is not strongly recognized, where governance is weak and local consent is not sought (Vermuelen and Cotula, 2010). This is particularly reflected in terms of rates charged per hectare annually which vary between 3 and 10 dollars a year and the zero or low taxes charged by national documents on the output produced. In exchange, the investors are expected to develop infrastructure and provide technological spill over effects to any remaining local smallholders.

One of the top investors in Sub-Saharan Africa identified in the literature is China (14) (Doriye, 2010). The Chinese land acquisition strategy is based on the government's objective of maximizing the country's long-term food supply (Grain, 2008). According to Li Ping from the Chinese Academy of Agricultural Sciences China's increasing need for agricultural land and water is so great that there is no other choice than to go abroad. Chinese companies leasing land are characterized by setting up large farms dedicated to the cultivation of rice, soy beans, maize, sugar cane, cassava and/or sorghum (for both food and biofuel processing). These companies obtain attractive loans from the China Development Bank and Exim Bank to facilitate the completion of land deals which according to Doriye (2010) include the provision of technology, training and infrastructure development funds with promised funding of $5 billion dollars for production of food and cash crops. One key aspects of Chinese land deals (not only in Africa but also in the Black Sea region) is that in many cases, Chinese workforce is also exported along with scientists and extension services officials, even seeds from Chinese hybrid rice are used. It is estimated that 1 million Chinese farm labourers worked in Africa during 2012 (The Economist, 2012). This is highly criticized given the abundance of African agricultural labour that could be employed but is instead displaced and cannot be effectively absorbed in other economic sectors. Other countries which have caught the attention of the media because of the size of their land deals are the United Arab Emirates and South Korea both acquiring 400,000 and 690,000 hectares respectively in Sudan.

Another illustrative case in Africa is that of Sierra Leone (Saravia-Matus, et al 2012b, c). Early in 2011, close to 500 000 ha of farmland (10% of arable land in the country) had been leased or were under negotiation for lease in Sierra Leone (Oakland Institute, 2011). Land regulation in Sierra Leone contemplates that any payment for land leasing are shared between various national, regional, district and local authorities (German et al, 2010). These land leases (mostly fallow lands) are usually tied to compensation in terms of fixed rent, and employment in the newly formed large farms. A review of the literature on land acquisition processes in Sierra Leone reveals three main issues:

- Compensatory agreements may not be high enough to compensate the change in rural livelihoods. According to Andrew and Van Vlaenderen (2011) in the land leasing agreement of Addax Bioenergy in Sierra Leone (currently leasing 10500ha destined to sugar cane plantations for ethanol production for export to Europe) the rental payment is very low – "less than half the estimated average annual incomes derived from rice and vegetable crops in the wet lowlands and similar to the estimated annual value of crops produced on dry rain fed lands cultivated by local households(15)".

- Individuals not belonging to landowning families who rent land on annual basis will be left out from any land leasing/acquisition compensation or payment. This particular segment of the rural population is therefore subject to a higher degree of vulnerability. Salazar (2004) indicates that these non-clan members constitute 20 to 40% of chiefdom populations. Although some companies appear to be aware of the situation (such as Addax Bioenergy that has proposed to lease an extra 1947 ha to produce food as part of its Social and Environmental Management Program), compensatory actions for landless farmers are not explicitly contemplated in official land regulations.

- Not enough transparency in land negotiation and agreements. According to the Oakland Institute (2011), the regulatory framework for the negotiation of land investments is extremely weak and the impact assessments developed by the Sierra Leone Environmental Protection Agency (SLEPA) are non-binding and investors have not been held accountable to them. One extreme situation takes place in the Malem Chiefdom where landowning families protest since 2011 against SocFin (leasing 6,475 ha for oil palm and rubber). Locals claim not to have been informed nor participated in any of the negotiations for the 50 year lease which has been agreed.

LSLT´s in Africa are often not predominantly foreign (Deininger 2012). Some examples include Ethiopia, Sudan or Mozambique were 94.3%, 68.8% and 67.7% of land deals have taken place among domestic parties (or through joint ventures between foreign and domestic investors). The latter have represented a substantial part of total negotiated area (48.9%, 77.8% and 52.5% in the respective three countries). Hall (2001) has also highlighted the role intra-regional investors which may or may not be supported by a foreign party. One example is that of South African investors and their target countries in Africa. In October 2009 the government of DR Congo signed an agreement with AgriSA (a consortium of South African Farmers) to allocate an initial area of 200,000 hectares of former state farms, with the option of expanding to 10 million hectares – an area twice the size of Switzerland. DR Congo imports 95% of its food requirements, and its Agriculture Minister claimed that the deal would stimulate agriculture as part of its New Plan of Action (SAPA 2009). Hall (ibid) points out that although initially designed as a 99-year lease, it appears that a renewable 30-year lease was signed, according to the terms of which no rent is payable, and which contains guarantees regarding the tariff-free importation of agricultural inputs, and unlimited rights to export produce (planned to include vegetables and poultry), and for these rights to be heritable. On top of this, it is mentioned that customary land rights in the area were not respected, while official sources claim that the land was vacant and unused and offer the promise of employment for the local people (SAPA 2009; Hall 2011).

According to Sparks (2012) the South African government has signed bilateral investment treaties with Angola, Cameroon, DR Congo, Gabon, Guinea, Ethiopia, Madagascar, Mauritania, Namibia, Sudan, Tanzania, Zambia and Zimbabwe. In most cases, South African farmers are said to be looking for cheap land, labour water and tax concessions for the production of jatropha (for biodiesel), sugarcane (for bioethanol) and other crops including maize, soya and palm oil. Again, compensation can take the form of resettlement on alternative (often poorer quality) land with payments going to and staying at central and/or local government level. According to IIED (2009) African host countries have poor governance and have little capacity to realize substantial benefits from LSLT´s at both short and long term.

1.6.2 Nature of LSLT´s in the Black Sea Region

According to Sapelli (2012) 54% of all land deals between 2007 and 2011 were in Sub-Saharan Africa. Oceania was second with 9.5% followed by South America with 9.4%. No data is mentioned for the Black Sea Region. This type of reports raises critiques which question the lack of attention to (and accounting of) land transactions in former Soviet Eurasia and an over focus on Africa (Visser and Spoor, 2011). In the post-Soviet region, Ukraine, Russia and Kazakhstan are the countries with the largest tracts of farmland which are at the same time considered to have (along with Argentina) significant untapped capacity to make a major impact on meeting the growing global food needs (Davis, 2008 based on FAO data). In the words of former Russian Minister of Agriculture Gordeev speaking at the ¨Green Week¨ in Berlin in 2009 Russia could potentially provide food for 450 million people or three times its current population (Visser and Bidaseca (2010).

Why have LSLT´s received less attention in this part of the world? One reason is that since the fall of the Soviet Union, the already large collective and state farms (kolkhozes and sovkhozes) of the Communist period were mainly transformed into commercial farms which largely maintained their size. This occurred despite the distribution of land shares among farm workers who for different reasons decided not to consolidate medium or small farms. Among such reasons were that the registration of allocated land implied high bureaucratic costs and in certain regions a minimum farm size was also established (for instance, a minimum size of 300 hectares was set in Krasnodar Krai, Russia). Thus many individuals decided to leave their shares of land to be managed under the so called agro-holdings or left them uncultivated. With the new land codes allowing ownership, transfer and sale of farmland introduced in the early 2000´s in Russia and Kazakhstan, the wave of LSLT´s was highly facilitated. There was apparently little change in the existing agrarian structure since agro-holdings were mainly passing from one hand to another. This premise is nonetheless challenged when digging deeper in the limited literature since a process of increasing number of agro-holdings as well as higher land concentration is said to have occurred as a result of the wave of LSLT´s.

For instance, according to Yanbykh et al (2013), in Russia in 2006 there were 285,000 family farms and individual entrepreneurs and the share of the largest 5,000 of them accounted for almost half of the total standardized revenue. According to the same authors, at the beginning of the agrarian reform it was assumed that family farms of a 'Western type' would replace collective and state farms. On the contrary, large agricultural enterprises, agro-firms and agro-holdings were created and incorporated in their structure several or even dozens of former state or collective farms (Yanbykh et al, 2013).

To explore the nature of LSLT´s in the Black Sea Region it is necessary to review the definition of agro-holding. An agro-holding includes a number of agricultural organizations whose controlling blocks of shares are owned by the holding company. It acts as an umbrella for the subordinated (not only agricultural) units and controls their policies and management (Visser et al, 2012). As a rule, both domestic and foreign have to invest in Russian land via agro-holdings and their number has expanded since 2000. According to the Russian Ministry of Agriculture in 2003, more than 90 agro-holdings were active and by 2006 the number had risen to 319 private agro-holdings. As a consequence, by the mid 2000´s in the fertile Black Earth regions (such as Belgorod, Lipetsk, Voronezh and Tambvos) there was practically no ¨free¨ land available that was not yet controlled by an agro-holding (Visser et al, 2012). There is also high concentration of land among the emerging agro-holdings since by mid-2008 about 11.5 million ha were under the control of 196 agro-holdings, 32 of them with landholdings of over 100,000 ha. As rural inhabitants gave up their land shares towards the formation of ¨mega-farms¨, the previous use of their land for the extraction of by-products (wood, fruit or pastoral purpose, etc.) was also terminated (Visser et al, 2012). However, other sources indicate that the economic/physical size and number of (very) large farms/holdings have been increasing during the last two decades in Russia and Ukraine. In a number of cases these (very) large farms/holdings have been incorporating international stake-holders in their ownership structure (Keyzer et al, 2013; Yanbykh et al, 2013).

Another different trait of LSLT´s in this part of the world is that there are additional incentives for their consolidation. The latter is particularly evident in Russia where since the early 2000´s the state has stimulated agriculture through a range of instruments such as a debt restructuring programme, the establishment of a state-financed agricultural bank, subsidized crop insurance programmes, simplified and lowered taxes on agriculture, and subsidised loans for capital investment (Visser et al, 2012; Wegren 2007). Similarly, in Ukraine, with the Decree on ¨urgent measures regarding acceleration of the agricultural sector¨ adopted in December 2000, it has effectuated the actual privatization of agricultural land, stipulating that land shares had to be transformed into private land plots with well-defined physical boundaries (Keyzer et al, 2013).

Land accumulation strategies of agro-holdings in the Black Sea region are varied. One way to secure land access is through negotiation with all shareholders within the agro-holding in order to have the land shares transferred to the investor (such cases include the following companies: Black Earth Farming (Sweden)(16), Heartland Farms Ltd (UK) or Agro-Invest Brinky BV (The Netherlands). This is a lengthy process which can take years and prices for hectares are sometimes negotiated separately with each shareholder. Another approach is to acquire agro-holding equity. Although the process of share emissions only started after the mid-2000´s, currently Russia and Ukraine have more agro-holdings at the stock exchange than do the large agricultural powers of Latin America (World Bank, 2010). In this sense, Russia is now at the forefront of financialisation and large-scale global commodification of agriculture and land (Visser et al, 2012). Visser et al (2012) report the following investments as being of particular relevance in terms of size: Us-based PepsiCo obtained a majority share in OJSC Wimm-Bill-Dann, the largest dairy agroholding in Russia and JP Morgan Chase Bank and MB Capital Partners who are the predominant owners of the largest agro-holding in Russia Cherkizovo group OJSC.

According to Keyzer et al (2013), speaking in the case of Ukraine, the intensification of agricultural production based on concentration of land and assets by consolidation into large holdings has been made possible by non-transparent control over the distribution of the former collective enterprises' property and agricultural lands, and the emergence of an informal land market, whereby lease, lease-to-purchase and purchase agreements led to consolidation of large stretches of farmland in the hands of vertically integrated legal entities and natural persons. The authors highlight that hundred thousands of hectares of consolidated land are now being cultivated as export-oriented corporations. According to the same source, the group of agricultural holdings that cultivates more than 10 000 hectares has grown significantly since 2004, more than threefold in 2010, on an area that was multiplied by four, as the average size of holdings rose by 31% to almost 22 000 hectares.

Investors from Asia are present in the Black Sea Region, but their LSLT´s are said to be more recent as a result of the price spike of 2007-8 (Visser and Spoor, 2010). Unlike Western investors, Asian or Middle Eastern governments (mainly in the cases of China, South Korea and the Gulf States) directly support LSLT´s and these take place in areas that are geographically closer to national borders (i.e. Siberia, and eastern borders of the Former Soviet Union). A major difference is that while Western investors mostly only ship in Western technology, Asian investors have a tendency to also bring their own workforce (Cotula, 2009) and/or work with ethnic minorities that are culturally closer to them. One of the largest deals planned in the region is that of China for one million hectares of farmland in Ukraine to cultivate rapeseed and soy. The size of deals creates social tension among local communities as well as a fear that these investors from the Far East are trying to get control over sparsely populated lands. Lastly, there is investment among Former Soviet Union states which are also substantial but generate less media attention. The main example is that of the Ivolga-holding controlling 1 million hectares of land in both Kazakhstan and Russia (Visser and Spoor, 2010).

1.6.3 Nature of LSLT´s in Latin America

In Latin America the definition of LSLT´s has been varied. According to the regional office of the FAO (2011), the phenomenon has mainly taken place in two (land-abundant) countries: Brazil or Argentina. For academics associated

Table 5: Land grabbing by country, by sector (According to Borras et al, 2012)

Country	Flex crops and other food sectors	Non-Food
Argentina	Soya, wheat, livestock, sugarcane, fruit	Tobacco, conservation
Bolivia	Soya, livestock	Forestry
Brazil	Soya, sugarcane, poultry, livestock, fruit	Forestry
Chile	Fruit, dairy, wine, seeds, poultry	Conservation, Forestry
Colombia	Oil palm, sugar beets, sugarcane, soya, rice, corn	Forestry
Ecuador	Banana, sugarcane, oil palm	Forestry, minerals
Paraguay	Soya, corn, wheat, livestock	
Peru	Fruits, vegetables, sugarcane, oil palm	Minerals
Uruguay	Soya, dairy, what, rice, livestock	Forestry
Mexico	Corn value chain, sugarcane, fruits, coffee	Flowers, tequila, conservation
Costa Rica	Banana, pineapple, oil palm	
Guatemala	Sugarcane, oil palm	Forestry
Nicaragua	Livestock, rice, oil palm, sugarcane, citrus	Tourism, forestry
Panama	Banana, coffee, rice, oil palm	
Dominican Republic	Sugarcane, banana, fruits, vegetables	
Guyana	Sugarcane, livestock, rice, pineapple	Forestry
Trinidad & Tobago	Sugarcane, cacao, fruits	

Source: Borras et al (2012) quoting Gómez (2011)

to ¨Via Campesina¨, the acquisition or grabbing of land is actively taking place in other countries of the region (Table 5). (For a review on Agricultural FDI in the region refer to the forthcoming 2012 FDI flagship publication of UN-ECLAC)

The differences between the 2011 FAO study and Borras et al article are largely connected to how land deals are defined. According to the former, the phenomenon is connected to the presence of a foreign government in the investor side (either as direct investor or as supporter of a foreign firm) and it is assessed in terms of its effect on food security at national level of the host country. For Borras et al (2012) ¨land grabbing¨ in the region is taking place not only through the investment of foreign public sectors but mainly through the intervention of international, regional and domestic actors. In this respect the authors highlight the role of ¨translatinas¨ firms (or firms which have a Latin American origin and also invest within their region) and of domestic firms or individuals within the host country. The latter may or may not be necessarily associated to a foreign investing partner. Moreover, Borras et al (2012) point out that LSLT´s are serving not only food and biofuel processing objectives but also uses related to forestry, conservation as well as the production of other cash crops.

Borras et al (2012) particularly highlight the case of the so-called ¨brasiguayos¨. That is, they include as land grabbing the acquisition of large tracts of land in Paraguay by private Brazilian farmers. These acquisitions, on the other hand, are under the 1,000 ha minimum set by the Land Matrix in order for the deal to be included in their database. While the Land Matrix has registered that about 6.5 million ha negotiated in Latin America between 2000 and 2012, Borras et al (2012) have documented that in Paraguay alone about 1.8 million hectares have been subject to ¨land grabbing¨ between 2006 and 2010. Consequently, depending on the definition used for LSLT´s, the extent of the phenomenon can be very different.

In Latin America a variety of foreign investors may also be found. On one hand, there are the investors interested in the provision of basic staple crops for their domestic economies. One case is that of Al-Khorayef conglomerate (Saudi Arabia) that reached an agreement with the Provincial Government of El Chaco in Argentina to produce sorghum in 200 000 ha (with an estimated investment of US$ 400 million dollars). Another case is that of Walbrok group (Indo-Malayan capital) which acquired 600 000 ha to produce staple crops under a contractual arrangement with Argentinean farmers (Observatorio Iberoamericano de Asia Pacífico, 2011). Transnational companies from the agro-chemical sector, such as Monsanto, Dow and Dupont have also announced their plans to acquire 2 million ha in Mexico for the planting of hybrid maize. This is still under consideration by the Mexican authorities since potential threats to local varieties are being evaluated. There are also a series of biofuel companies all over the region, a few examples are: Pure Biofuels (USA) with 74 thousand ha in Peru or Shree Renuka Sugars, that acquired in 2010 130 000 ha in Brazil. Lastly, another interesting fact is that private investors from Brazil have also started acquiring land in countries such as Ethiopia and Mozambique (about 28 000 ha). According to Land Matrix data the deals are aimed at growing sugarcane and other crops.

2 Assessment of LSLT´s in terms of Efficiency /Productivity, Transparency and Compensation

The analysis of LSLT´s is directly related to the identification of the agricultural production structures which make the most efficient use of existing resources and thus contributes to overall development (Arezki, 2012). From this perspective, three aspects of LSLT´s are separately evaluated in this section:

- First, the question of efficient use of inputs (from an economic and environmental viewpoint) and overall farm productivity are addressed by revisiting the inverse productivity-size hypothesis. The discussion is complemented by reviewing the role of direct farming in low as well as high income countries.

- Second, the question of transparency of LSLT´s is discussed in order to analyse how (weak) institutions and governance relate to achieving widespread development goals.

- Third, the compensation frameworks of LSLT´s (based on qualitative cases) are assessed.

2.1 A question of Efficiency/Productivity

At the centre of the consolidation and expansion of new large-scale farming systems is the discussion of size and productivity in agriculture. This has direct and long-term implications for the future of farming (and the rural populations) (Scoones, 2010a). In this sub-section, the theoretical and empirical literature supporting one structural farm type against another, including not only efficiency/productivity aspects but also environmental issues is revisited. The discussion will be accompanied by an overview of the relevant policy discourse.

2.1.1 On of the Relationship between Farm Size and Output per Land Unit: Theoretical and Empirical Issues

In 1954 Lewis (Nobel laureate in 1979) proposed his dual sector development model. It was based on the assumption that many developing countries had dual economies with both a traditional agricultural sector and a modern industrial sector. The dual economy model became a predominant analytical paradigm which strongly influenced policy making since the post-World War II decades. In this framework, agriculture has been considered the less efficient, less productive economic sector. Griffin (1969) explains that in the conception of the dualistic models "the traditional, feudal, agricultural sector is stagnant; production is for subsistence; little output passes through a market; the leisure preferences of producers are high and they do not follow maximizing behaviour. Unemployment is assumed to be widespread... and, indeed, the marginal product of labour is zero if not negative"; its counterpart, the industrial sector in the urban environment, possesses all the desirable opposite characteristics that include technological advancement, higher levels of investment and savings, etc. This theoretical background has strengthened and deepened the bias in favour of the urban/industrial sector in most development strategies (Saravia-Matus, 2009). This discussion has fed the idea that the agricultural sector must become industrialized and organized into larger units in order to gain efficiency, to enjoy economies of scales, to benefit from labour arrangements with wage workers, access equipment and machinery, adopt new technology etc.

Lewis model was not the first. From the perspective of classical political economy, the Physiocrats were among the very first to support large-scale forms of farm organization in agriculture. According to François Quesnay (1986[1758]) who developed the "Tableau Economique des Phisiocrates" or the economic model of this group, there were three economic movers: the land owners, the agricultural workers and the "sterile" consisting of merchants and artisans (Villey and Neme, 1996). Under this model, the advantages of larger farms in terms of cost structures are emphasised.

However, some years later Adam Smith (1776) indicated the role and value of smaller farming units by focusing on the case of yeomanry in England. The Yeoman is the term given to a free man who was devoted to his own farm from the Elizabethan era onwards. These farmers are given the main credit for conducting with great success the British Agricultural or Agrarian Revolution which consisted

in an evolving process of improving soil preservation and input mixes to increase yields per land unit (Allen, 1989). According to Allen (1989) yeomanry is at the heart of the productivity growth recorded in England during the 17th century which later contributed to the emergence of the Industrial Revolution.

While emphasising on the role of small farms Smith (1776) also introduced the concept of economies of scale which is the basis for the focus that most of economics later gave to large scale production units. For instance, in the case of the neo-classics or marginalist economics framework this occurred via the development of a classification of economies of scales (A.E.G. Robinson, 1931), as well as the idea that largest installations are better utilized than smaller ones (N. Georgescu-Roegen, 1972, 1976).

It is interesting to recall here that within the wide range of believers that 'large is beautiful' is also another major character in economic thought, indeed quite far from mainstream economics, such as Karl Marx. According to Marx the agricultural system of direct farming (that is most often inherently 'small') represented an inadequate form of organization. He was convinced that these small-scale farms were the result of the dissolution of the feudal system and in his view the difficulties they had to face to adapt and adopt new technology would eventually lead to their disappearance (Marx, Das Kapital, Book 1, 1976[1867]; Villey and Neme, 1996). Not few among socialists' thinkers were convinced of the same, as recalls the following quote by Lenin, which support the same principle: "small-scale production gives birth to capitalism and the bourgeoisie constantly, daily, hourly, with elemental force, and in vast proportions" (cited by Byrne, 2008). In accordance with Marx's and Lenin's viewpoints, Trozski envisaged the organization of the agricultural setting as that of an enormous factory (sovkhoz or state farms and kolkhoz or collective farms). Yet, Bukharin held an opposite view and addressed the particularities of peasant (or direct firming) agricultural production. As history reveals the Trozskian view prevailed (particularly during the Stalinist period) but it is worthwhile examining the theoretical postulates of the competing proposal which were based on the work of Alexander Chayanov. According to Chayanov (1920) there were key disadvantages in the soviet agricultural planning (based on large state and collective farms) because they disregarded the motivations and incentives governing peasant agriculture for which (in the absence of markets) the accumulation of surplus was not an immediate objective. In his view, peasants who practice subsistence farming will concentrate their efforts in the production of the food required to meet their survival needs (Chayanov, 1920).

In 1962 Sen addressed the issue of an inverse relationship between the size of the farm and the output per hectare for the particular case of the Indian Agriculture. Other studies followed as identified by Larson et al (2012) such as Yotopoulos and Lau (1973) who argued that Indian smallholders were more efficient because owner-managers had an advantage in supervision and leadership; Taslim (1989) made similar arguments using Bangladesh data. Also based on Indian agriculture Ghatak (1987, p. 355) explored the motivations of small-scale farmers and presented a list of reasons why there is an inverse relationship between farm size and output per acre based on empirical studies:

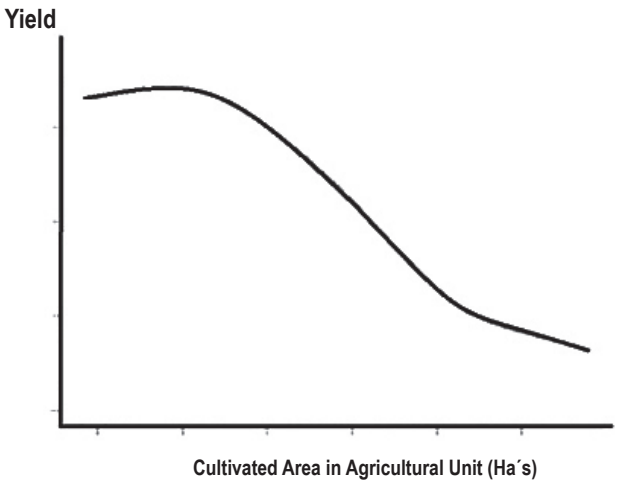
- Small farmers tend to use inputs such as labour more intensively and efficiently because they operate to achieve a level of survival. Unlike larger farm structures, peasants in small plots maximize total income not profit. Family labour is employed until its marginal productivity equals zero in the peasant small farm, while "capitalistic" farming employs labour until the level where marginal productivity equals the wage.

- In large-scale farms workers, tenants or share croppers are commonly used for production. Such arrangements are usually not instituted in a legal framework or if they are they tend to provide a smaller compensation in comparison to owner-operated tenure. The latter unchains disincentives that are not present in owner-operated plots; these include the risk of eviction for the tiller or shirking of paid workers.

- Poor farmers in distress sell land of inferior quality to the landowners of larger plots while keeping the more fertile smaller plot (assuming a well-functioning land market and property right system).

All of the above mentioned arguments support the inverse productivity-size relationship hypothesis depicted in Figure 10.

Figure 10: Inverse Productivity-Size Relationship Hypothesis



Source: Own elaboration adapted from Barret et al (2010)

In other words, the key determinant that makes smaller farms more efficient than larger ones is their higher degree of land utilization. Yet, both under the Marxian thought and the early classical economists (with the exception of Smith), there was

the issue of economies of scale which could be best enjoyed in the context of a large-scale farm. However, empirical findings on this subject are not conclusive. According to Otsuka et al (1992, p. 1974), the scope of scale economies is rather limited in agricultural production; making small farm more socially efficient given its labour intensive nature. The literature also indicates that the monitoring and supervision of hired labour in large production systems that involve mixed crop rotation and raising livestock can be substantial; making the family farm the optimal structure (Ghatak, 1987, Otsuka, 1992; Gomez y Paloma and Segrè, 1993, Saravia-Matus, 2009). From an empirical perspective, Larson et al (2012) found evidence that supports the hypothesis that maize yields fall with increases in the scale of production based on four datasets containing detailed production data at the plot level (LSMS in Malawi and Tanzania and REPEAT project database in Kenya and Uganda).

As stated by Arezki et al (2012) owner-operators usually are more motivated to adjust to micro-variations in climate and seasonality because they better internalize the benefits resulting from their operations. More importantly, family-owned farms (i.e. direct farming) rather than large companies run by hired labour, have been the most competitive all over the word, including in developed countries such as the United States and Europe, contributing to poverty reduction in a wide range of settings (Lipton, 2009). While in the context of high transaction costs related to output markets that encourage self-sufficiency, also small farms appear as having efficient strategies because food security concerns induce smallholder farmers to supply added labour as a risk-mitigation strategy (Lipton, 2006; Kami, 2006)

But in the recent wave of farmland acquisitions, there is a propensity towards mono-cultivation and mechanization which is largely inspired by the apparent export competitiveness of mega farms in Eastern Europe or Latin America which highly benefited during the 2007-8 price spikes. According to Rosset (1999) yield (understood as the production per unit area of a single crop i.e. metric tons of crop per hectare) can be higher in a large-scale farm. However small-scale farming is not characterized by mono-cultivation but rather by mixed or integrated farming systems and so the concept of total output is proposed to establish comparisons. Total output or the sum of everything a small farmer produces (various grains, fruits, vegetable, fodder, animal products etc.) is higher per unit area in small-scale farms than in monocultures. The reason behind this is that with intercropping practices, empty niche spaces are occupied by other crops and the rotation of crops along with the presence of livestock contributes to replenishing soil fertility. To summarize, multiple cropping, output composition, land and input use intensity, labour quality and intensity are among the factors which contribute to higher productivity of small farms (Mazoyer and Roudart, 2006).

However, Deininger and Byerlee (2011) reflect on the factors which have contributed to increased farm size among which the following are listed:

i) new technology that makes it easier to supervise labour or occupy it continuously

ii) limited availability of labour in frontier areas, possibly exacerbated by high capital requirements of land clearance and infrastructure construction and

iii) greater emphasis on integrated supply chains and certification of produce.

One example of technology improvements in large-scale farming relates to tillage which is guided by GPS information systems. Private operators in Argentina and Ukraine assert that, with modern technology, good managers can effectively supervise units of 10 000 to 15 000 ha for grain and oilseeds. The latter makes labour supervision easier and reduces associated costs. This type of examples partially addresses the argument which relate to the higher transaction costs of supervising hired labour in large farms in comparison to the more motivated family labour on peasant farms. In addition, it is stated that in large farms it is also possible to reduce transaction costs associated to the acquisition of certain inputs such as credit while bargaining power in the purchase of fertilizers or equipment is increased. Nonetheless, the establishment of farmer cooperatives could be encouraged to ensure that smaller farms can also save on transaction costs of accessing certain inputs and move up the value chain into processing, packaging and marketing of their crops.

Like Otsuka (1992) Deininger and Byerlee (2011) also recognize that while large farms have historically had a dominant role in plantation crops, agricultural production is not characterized by significant economies of scale. In addition, the authors also coincide that any advantages in terms of marketing or processing of agricultural output of larger farms can be overcome by smaller farms through collective actions, although the latter requires strong organizational efforts and institutional coordination from various agents. As an example, Deininger and Byerlee (2011) refer to studies in Russia which fail to find any inherent economies of size in farm production but they clearly stress advantages of large farms in terms of lower transaction costs and higher product prices. The latter implies that the ability to overcome market imperfections is a key driver for consolidating large farms in Russia. Similarly, the experiences in Russia reflect that large farms, even if they are not vertically integrated, can also leverage their superior bargaining power as markets for agricultural inputs and outputs are often highly concentrated. Visser and Spoor (2011) present however, different conclusions in the case of Post-Soviet Eurasia large-scale farming. In their article it is indicated that the performance of large farms enterprises (taken over by agro holdings) is not better than that of farm enterprises that are not incorporated into them. A study on the effectiveness of farm enterprises within and outside agro holdings in the Belgorod region found that the performance within agro-holdings was lagging behind those outside such structures. This suggests (as illustrated in section 1.6.2 above) that there

are also more fundamental obstacles intrinsically connected to the organizational functioning of agro holdings that hinder a steady increase in productivity and efficiency. This is also supported by profit figures collected (Yanbykh et al. (2013). The authors indicate that the most effective agricultural holdings were those aligned with foreign parent companies: their profitability was 25.9 per cent on average, while the profitability of independent large and medium agricultural enterprises was only 12.5 per cent. The least efficient farms were state agricultural holdings (average profitability of 4 per cent). Municipal agro-holdings were unprofitable (-12.5 per cent).

Another aspect which Deininger and Byerlee (2011) highlight is that large companies can expand strategically by acquiring assets at relatively low prices in periods of climatic or other distress. This type of land acquisition may be associated to distress sales and so Deininger and Byerlee (2011) emphasize that the recent emergence of large-scale farms may be associated to significant social and environmental risks mainly in the presence of badly defined property rights, lack of a transparent and enforceable regulatory frameworks, distorted input prices and inadequate provision of public goods.

Consequently, Deininger and Byerlee (2011) conclude that it is in cases of land abundant countries (where specific conditions apply) that we may find potential for large-scale farming. These conditions refer to:

i) growth of non-agricultural employment and the sector's ability to absorb labour

ii) availability of uncultivated land that is potentially suitable for agricultural production in areas with very low population density and

iii) the extent to which gaps in provision of public goods or market imperfections may limit the scope for the agricultural sector to achieve its potential as indicated by the "yield gap" which indicate whether gaps in technology, institutions or other public goods (infrastructure) prevent existing cultivators from realizing their potential.

In the case where labour is abundant other conclusions may be drawn. There is evidence on the potential benefits of small farms in promoting rural development and social efficiency (Berry & Cline, 1979; Ghatak, 1987). In this sense, Berry and Cline (1992) favour land reforms which support the expansion of small farms since it constitutes an effective mechanism to increase employment and output in the agricultural sector, as long as the country has a surplus of labour at low opportunity cost. It is until the opportunity cost of labour becomes relatively high that the advantages of small farms tend to disappear. In the meantime, as Doner (1992, p. 70) argues: "People cannot simply be placed on hold until they are needed by the industry", stressing major importance on the potential social benefits of a land reform. Arthur Young (1741-1820) claimed that "the magic of property turns sand into gold" (quotation), but evidence has proved that an egalitarian land reform program alone is not sufficient to guarantee agricultural development, particularly for smallholders (Todaro & Smith, 2003, p. 453). Failed agrarian reform processes are largely found in Latin America (i.e. Nicaragua) where land gini coefficients remain largely unaltered. Property formalisation should thus be considered a technical tool because it is not enough on its own to reduce poverty (De Soto, 2000). Other measures which include extension services, market access, support to farmer organizations and training are essential to stimulate (semi)subsistence farming (Saravia-Matus et al, 2012a).

For Hall (2011) as well as other defendants of the Via Campesina such as Saturnino (2012) or Scoones (2010a), the World Bank latest publication on "Rising Global Interest in Farmland" is diverging from its previous position of an "inverse-size productivity relationship" favouring small farms and highlighting their role in poverty reduction. This pro-smallholder position was mainly represented through studies by Deininger and Binswanger, 1992; Binswanger et al, 1995; Stiglitz, 1998, Allen and Lueck 1998, Binswanger and Deininger 1997, among others where it was demonstrated that agricultural production has few technical (dis)economies of scale so that a range of production forms could coexist. It was thus often framed that smallholder organization was crucial to improve rural livelihoods since agriculture was seen as the main economic engine to foster (rural) development (Larson et al, 2012). This critique by Hall (2011) and others however is somewhat counter-argued by declarations of World Bank President Robert Zoellick in 2011 who expressed support for smallholder-led strategies (17) .

2.2.2 Environmental Aspects of Large-Scale Farming & Long Term Productivity

According to Scoones (2010a) there are research findings which illustrate that industrial (capital and energy intensive) forms of agriculture are unsustainable and accelerate global warming rather than slowing it down (Scoones, 2010b). In this respect, the UNEP GEAS (2011) reports a series of potential environmental impacts of the rush for land, particularly when aimed at monoculture. Monoculture has been widely accepted as the most efficient type of large-scale agriculture. But their long term productivity is challenged. According to Rosset (2011) high yields may result, at least for a time (18), but growing one crop over a large area for several years has negative environmental impacts that will deteriorate overall performance.

One of these impacts relates to biodiversity loss. Studies in Malaysia and Indonesia have shown that 80-100 per cent of fauna species in tropical rainforests cannot survive in oil-palm monocultures due to increased pressures from various crop diseases and pests (Fitzherbert et al 2008), often requiring large scale use of chemical pesticides, fungicides and herbicides (UNEP, GEAS 2011). In addition, increased fertilizer use to safeguard crop yield may increase pollutant levels in downstream waters and nitrous oxide emissions (SCAR 2011).

Over the last decade, approximately 14 million hectares of forest per year has been converted to other uses or lost through natural causes, particularly in Latin America and Sub-Saharan Africa (FAO 2010) where many large-scale agricultural projects are or will be be located.

In the UNEP GEAS report (2011) it is stated that much of the land area under biofuel crops will come at the expense of forests and pasture (Melilo and others 2009, Fairley 2011). For example, the expansion of soya beans and sugarcane for the production of agro-fuels in Brazil has destroyed protected areas of the Amazon and Cerrado (Mendonça 2011). The Cerrado (savannah) holds nearly 160 000 species of plants and animals, many of which are endangered. Studies indicate that nearly 22 000km^2 of savannah are cleared each year for sugarcane production (Mendonça 2011). With technological advances, use of biofuels in transport is expected to increase from the current 2 per cent to 27 per cent by the year 2050 (Fairley 2011). At least 55-59 per cent of oil palm expansion in Malaysia and 56 per cent in Indonesia has been at the expense of forests (Koh and Wilcove 2008). Deforestation is one of the major environmental threats facing Ethiopia. Much of the land that has been given to investors (and that is marketed as available) is not presently under cultivation, rather much of it is covered by woodland or forest (OI 2011a).

In addition, depending on the methods used to process biofuel or produce the feedstock, some crops can even generate more greenhouse gases than do fossil fuels. For example, nitrous oxide, a greenhouse gas with a global warming potential around 300 times greater than that of carbon dioxide, is released from nitrogen fertilizers (FAO 2008).

The impacts of climate change represent a challenge for the future of agriculture. According to Padgham (2009) if no adaptation measures are put in place a temperature increase as small as 1 degree Celsius by 2030 will lead to a decline in yields of major cereal crops in the tropics and subtropics. Impacts of temperature increase of 3 degree Celsius or more by 2100 could result in a significant loss of productivity in low-altitude regions and diminish effectiveness of adaptation measures (Padgham, 2009 cited by UNEP GEAS (2011)).

Another important factor of environmental risk associated to large-scale farming is the increased competition for water (Rost et al, 2009). The Oakland Institute (2011a) has recently reported that In Ethiopia, for example, several key wetland areas have been given to investors and evidence of limits on water use are lacking. Further, of the lands listed as available for large-scale commercial agriculture, more than 70 per cent, or 1.5 million hectares, are located within the Nile watershed. Ethiopia constitutes about 90 per cent of the total flow of the Nile and impacts of water use on downstream users in the future may raise concerns (UNEP GEAS, 2011). Similarly, the intention of the government of Mali is to extend the irrigated area from the current 100,000 ha to 960,000 ha through large land leases. This will involve a massive increase in the amount of water extracted from the Niger River, which is shared by nine countries within its watershed—Benin, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Guinea, Mali, Niger, and Nigeria (OI 2011b).

According to IAAST (2009) the dominant practice of industrial, large-scale agriculture is unsustainable, mainly because of the dependence on such farming on cheap energy, its negative effects on ecosystems and growing water scarcity. Instead, industrial monocultures must be reconsidered in favour of agro-ecosystems that combine mixed crop production with conserving water supply preserving biodiversity and improving the livelihoods of the poor in small scale mixed farming (Scoones, 2010a). For this purpose it is not necessary to invest in farmland but in public services, rural infrastructure and innovation programs for smallholders.

2.2 A question of Transparency

Under this sub-section, we proceed to describe how LSLT´s take place in theory and in practice. Similarly, we explore the main forms of local response (in terms of either resisting or welcoming new investors) and the recent response of the international community on how to promote responsible investment in land.

In the context of a global economy with open markets and multiple agents, neoclassical theory indicates that the best allocation of resources may be achieved. However, in reality there is no equal bargaining power between sellers and buyers particularly in the case of farmland acquisition or leasing in low income countries. Although land deals presume a willing buyer and a willing seller, they often involve contracts negotiated behind closed doors and between powerful groups that rarely include the people who use the land in question on a daily basis. The latter raises particular concerns in terms of how the weakest social groups stand concerning LSLT´s; particularly how rural smallholders (especially women) will fare in the competition to control resources. The latter is a worrying situation mainly for rural women in low income countries who constitute the most resource poor and neglected socio-economic group. Women are said to produce 80% of household food needs, but on average control less than 2 per cent of the land (ActionAid, 2012).

As reported by Scoones (2010a) land deals are usually portrayed as consisting of "unused", "unproductive", "idle" or even "empty". In fact the World Bank (2010) refers to a "vast under-utilised reserve" (as cited by Hall 2011). A first difficulty is that concepts such as "under-utilized" or "available land" tend to obscure the fact that these are not really unoccupied lands but lands used in ways that are not perceived as productive by governments (Cotula et al, 2009). Mounting evidence shows that leases or concessions have been granted on communal land that is already claimed, occupied and used by local people (Hall 2011, Cotula et al. 2009, Sulle and Nelson 2009). In the case of Africa (where most deals have taken place), this is an important aspect to

consider given that there are 80 million smallholder farms (which contribute 30% to continent's gross domestic product and 40% of its exports) and whose activities sustain many of Africa´s poorest citizens. Yet the secretive nature of such deals as well as of the identities of the investors and the terms of the deals (including the distribution of rents from them), is maintained, partly because of the contested authority of states to allocate lands to which citizens might have a prior competing claim (Alden Wily 2010 cited by Hall 2011).

Scoones (2010a) refers to the one precise example presented by NGO RAINS on how a Norwegian agro fuel company Agro Fuel Africa (a subsidiary of Bio Fuel Norway) took advantage of Northern Ghana's traditional system of communal land ownership in an attempt to claim on on large tracts of forest area and create the "largest jatropha plantation in the world". It is stated that "the company co-opted local government officials and together with them persuaded an illiterate local chief to sign away 38 000 ha and several whole villages with a single thumb print".

These events are not only reported in Africa. Visser and Spoor (2011) state that in post-Soviet Eurasia few landowners understand and exercise their legal rights within agro-holdings. The authors refer to a village in the Pskov region where several villagers filed a court case in order to regain the land they were entitled to from a large farming enterprise. The authors conclude that large-scale land acquisitions in this part of the world (whether conducted legally or under the counter) might well have far-reaching consequences for the livelihoods of the rural population, which already has few rights and low incomes.

The response of the international policy agents can be summarized under the newly published "Voluntary Guidelines on the responsible Governance of Tenure of Land, Fisheries and Forests in the Context of Food Security" published on 9 March, 2012 by FAO and 96 signing governments (UN NEWS Centre, 13 March 2012). In this document, the main objective is to put forward recommendations which safeguard the people's tenure rights from risks that could arise from large-scale land acquisitions. According to FAO Chief Graziano Da Silva the goal is to give poor and vulnerable people secure and equitable rights to access land and other natural resources as a key condition in the fight against hunger and poverty. However, these guidelines are defined at a moral level, because the rules adopted are voluntary and not compulsory. In fact, only moral sanctions are foreseen (Sapelli, 2012).

Other relevant regulations concern The Santiago Principles which contain 24 voluntary guidelines that assign "best practices" for the operations of Sovereign Wealth Funds. The principles were proposed in 2008 through a joint effort between the International Monetary Fund (IMF) and the "International Working Group of Sovereign Wealth Funds" (IWG-SWF). 25 nations have signed onto the principles. In the same spirit, the UN Global Compact may also be highlighted. The latter is a strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption. ¨By doing so, business, as a primary driver of globalization, can help ensure that markets, commerce, technology and finance advance in ways that benefit economies and societies everywhere¨ (http://www.unglobalcompact.org/AboutTheGC/index.html)

2.3 A question of Compensation

In this section, we attempt to analyse who are the main winners and losers from the new wave of farmland acquisitions worldwide. In addition, we bring forward any available evidence on the type of compensation schemes for different land deals.

Governments supporting the acquisition of great expanses of land by large corporations, foreign and domestic, usually in the form of long-term concessions or leases rather than outright purchase, do so in the name of development (Scoones, 2010a). A review of experiences with local smallholders suggests that contract farming (as opposed to pooling programs) which allows smallholders to retain property rights over their land is advocated as an alternative to outright purchases and leasing of land (Hallam, in Kugelman and Levenstein, 2009). In this respect, contract farming if properly managed can allow farmers to be supported by indispensable investments without depriving them of access to their land, particularly where the buyer negotiates with farmers cooperatives (De Schutter, 2011). It is also considered that contract farming would be a better exit concerning food security objectives since it would allow growing as well their own crops (Kugelman and Leveinstein, 2009).

But contract farming schemes (which could allow smallholders to maintain a diversified livelihood strategy) are not frequent. Cochet and Merlet (2011) have undertaken a study which calculates which stakeholders rip the benefits from the value added generated in large-scale field production. They present an analysis of net aggregated value of agricultural output in terms of the percentage share of return on labour (salaries), capital, land rent, taxes for case studies in Ukraine and Ecuador. Their findings indicate that under large-scale farms, there is a growing gap between return on capital and remuneration for labour, with the previous increasing at detriment of the latter. Labour compensation is limited while Capitalist investors manage to secure very cheap access to land. Consequently, value added is highly concentrated on the return on capital, disregarding both fair compensation for labour and the land use. This situation is particularly acute in the case of large-scale farms which are non-labour intensive.

Government and policy reports (such as World Bank 2010 or NSADP 2009) indicate that in principle positive effects emerging from LSLT´s could include: additional income

possibilities and employment opportunities, reactivation of abandoned land, integration of smallholder/family farmers to markets, training of farmers, etc. The negative effects commonly listed by Think Tanks and NGO´s (such as the Oakland Institute 2011 or ActionAid 2012) refer to displacement, stronger competition for remaining land, reduction of land access for smallholders, emigration of local farmers which can increase social tensions and urban poverty, immigration of foreign employers that can invoke social friction in rural areas. Besides these socio-economic implications, negative environmental impact may include soil erosion, abuse of natural resources, reduction of biodiversity, introduction of plants or species that are not part of the local biodiversity (such as eucalyptus, palm trees or rubber in some areas), etc. (GTZ, 2009).

The World Bank (2010) states that large-scale land acquisition can be a vehicle for poverty reduction through three main mechanisms: the generation of employment for wage workers, new opportunities for local farmers and payments for the lease or purchase of land. Each of these aspects is separately addressed.

• Generation of Employment

Job creation capacity on the mono-cultivation of various crops selected (for the expansion of large-scale farms) is not necessarily abundant. For example, the number of projected jobs is very small for grains with 10 workers per 1000 hectares, soy with 18 per 1000 hectares, forestry plantation with 20 per 1000 hectares, sugar cane with 150 per 1000 hectares and oil palm with 3 per 1000 hectares; (only rubber reports higher labour requirements of 400 per 1000 hectares). Another issue which may reduce the effect of employment generation is that migrant work is sometimes hired over local people (Scoones, 2010a). Lastly, job conditions appear to be precarious with scant protection against health hazards, irregular wage payments and no legal regulations (LRAN, 2011).

• Opportunities for Local Farmers

The literature suggests that there are differences in terms of potential benefits for farmers who pool their land to be managed as a single block by the foreign investor and farmers who maintain control over their lands. According to Murray Li (2011) compensations are far lower for the former than the latter. Her case study in Indonesia reveals that in Boul, the dividend being paid in 2009 to smallholders who had pooled their land was minimal: Rp350,000 per month, a tiny amount when compared to the Rp 4 – 5 million per month received by contract farmers in Morawali who maintained direct control of their plots but arranged for their farm output to be sold to the large farm nucleus set up by foreign investors in the area.

• Lease or Purchase of Land

Table 1.7 of the World Bank report (2010) presents a list of "land expectation value for perennial crops". One interesting point to highlight is that in Mozambique, the ¨expected¨ return to land per hectare per annum for the cultivation of sugarcane under irrigated (optimal) conditions is equal to $USD 9 750/ha. Investors however are currently charged only 60 cents (cited by Murray Li, 2011). Another related fact to stress is that a sugarcane producer in Zambia is said to make six times more money on one hectare smallholding than he or she could earn in wages working on the same crop in the context of a pooled investment project (Murray Li, 2011). In other words, there appears to be very different returns between capital and local inputs such as land and labour.

Displacement or re-settlement as a result of a large-scale farmland acquisition or leasing is one key matter for consideration. In February 2007 a senior representative of the Lao Government stated that "the issuing of land concessions and leases for tree plantations over large areas and for excessive periods has led to social and environmental problems and required both the resettlement of people and compulsory acquisition of the land which the people farm on. The people have lost their source of daily livelihood and lost their long term rights to use the land" (Kham Ouane boupha, Head of the national Land Management Authority, LAO PDR) (cited by LRAN, 2011)

Land is both an asset and a form of social security. An author of the IAASTD report (2009) noted: "a half-hectare plot in Thailand can grow 70 species of vegetables fruits and herbs, providing far better nutrition and feeding more people than a half-hectare plot of high yielding rice". Land offers access to trees, water, grazing areas, etc. Displacement or re-settlement implies that rural dwellers have to spend more time to obtain water, firewood, and fruit or even to look after their home gardens. The monetary value of their earnings will rarely match what they have lost in terms of time and resources and assets prior to losing their land (ActionAid, 2012).

Large-scale land acquisitions ignore the non-market unpaid work and the importance of social reproduction for economic growth (ActionAid, 2012). On the contrary, large-scale land acquisitions are often justified by pointing to the un-viability of subsistence agriculture for significant national development. Just as the role of care or moral economy is excluded from orthodox or neoclassical views of development economics, so too is the value of most goods and services produced in agrarian systems, particularly with respect to food security (ActionAid, 2012, Saravia-Matus et al, 2012b). Murray Li (2011) discusses the predicament of people who are displaced from their "inefficient" farms. It is stated that opportunities to secure an alternative livelihood or a living wage are decisively scant.

Another form of compensation is said to be also found in terms of the benefits to local people in the form of infrastructure development. It is argued that only through farmland acquisition will certain public services reach these communities (water, electricity or roads).

But if displacement is associated to these improvements, the overall effect may not necessarily be positive.

According to Wily, E.A. (2012) of the 70 conflicts raging across the world in 2008, 60 were in agrarian economies, where traditional land rights are not recognized, poverty persists and local institutions are weak. It is the case that when families who are forced to make a living by opening up new areas of forest and woodland for cultivation can lead to conflicts with previously settled communities over access to limited resources (LRAN 2011) leading to higher food insecurity, inequality and civil unrest. Moreover, if foreign investors target what to them appears to be empty land but is in fact a community's ancestral burial ground, then passion and resentment will ensue (Kugelman and Leveinstein, 2009)

The International Conference on Agrarian Reform and Rural Development organized by FAO in Porto Alegre, Brazil in 2006 reaffirmed the fundamental importance of wider secure and sustainable access to land, water and other natural resources and of agrarian reform for the eradication of hunger and poverty. According to FAO director, Graziano Da Silva (FAO 2012) the food security issue and sustainable development goes in hand with supporting smallholders' access to food, income generation opportunities, strengthening of safety nets, cash for work, cash transfer that improve local production and consumption circuits.

Concluding remarks

In this report we have addressed the main agents and drivers behind the recent wave of LSLT´s. The fact that there is a particular focus on flex-crops (those crops that may be used for food and biofuel production) indicates the nexus to food and energy security issues. From the investor side, key motives at government level were to secure food supply (availability & affordability) in the medium and long term for their growing populations, reduce import costs for food as well as dependence on international markets at times of price volatility. At private sector level, LSLT´s represent a lucrative investment alternative since shareholder value may be increased in a context of rising food prices (due to population growth and climate change), the emerging agro fuel markets and the general anticipation of growing land prices (GTZ, 2009).

For Host countries one of the crucial challenges around LSLT´s relates to the difficulties associated to setting up land deals that are in line with food security and agricultural development principles, such as those reported by Hallam (2011):

- Economic viability of local producers
- Food access and rural development
- Responsible agro-enterprise investment that promotes technological spill-overs, environmental sustainability & social welfare
- Transparency and good governance
- Consultation and participation
- Respect for land and resource rights

The review LSLT´s in Africa, the Black Sea region and Latin America also suggest that investors are not only foreign investors but that domestic or regional players have a relevant role. Similarly, LSLT´s in these regions differed in terms of business models, compensation schemes and labour regimes. Another key aspect to consider is that the return on investment for inputs used in LSLT´s are very different between capital and labour, with the latter being substantially higher in all surveyed regions.

As stated, FAO estimates that additional investments of USD 83 billion annually are needed if developing country agriculture is to meet food needs in 2050 (FAO, 2010). But the review of issues of efficiency/productivity, transparency and adequate compensation in the context of LSLT´s (for all surveyed regions) reflects that it is necessary to further discuss what agricultural model is more suitable to feed the growing population in terms of environmental and social consequences that are particular to each context. In this sense, not only economic returns (based on short-term yields) have to be considered. It is also important to value non-market goods and services emerging from (semi)subsistence farming systems before these are directly exchanged for farm wages or land rental payments. In the case labour-abundant countries, agricultural transformations will most likely have an effect in other sectors and geographical areas of the host countries (urban migration, increased unemployment, etc.).

The debate around LSLT´s is thus really about the future shape of farming and the fate of rural populations (Scoones, 2010a). It is also an issue of consumer sovereignty where global interests appear to be imposed on local food and energy sovereignty (McMichael 2010 as cited by Scoones 2010b) (19) .

It is also relevant to highlight that while there have been similar phenomena in the fishery and forestry sectors in the past, these have received far less attention than the current wave of LSLT´s. The latter is perhaps related to the great and direct social implications around LSLT´s. In this respect, a natural concern behind LSLT´s is that giving land away to large scale investors, having better access to capital to develop farm technology or access markets could guarantee increased production. The downside being that agricultural sectors will be transformed reducing their poverty-reducing impacts, not to mention any potential conflict surrounding land access.

Binswanger and Deininger (1997) remind us that sustained growth of agricultural productivity will depend on the implementation of policies that induce research on new technologies as well as investment in human and physical capital. The latter has not reached smallholders and a large majority of low income countries tend to neglect primary education, under-invest in agricultural research and direct a disproportionate amount of the public resources to urban areas instead. This situation makes the policy discussion

around LSLT and other forms of investment in the agricultural sector of utmost relevance.

In this sense, it is essential to set up agricultural investment & LSLT specific frameworks which are beneficial to all involved stakeholders, especially rural small-holders. For this purpose, it is important to have reliable information, transparent negotiation processes, effective systems for integrating poor smallholders and equitable redistribution/ compensation schemes. In this respect, 2014 has been named by FAO as the year of "family farming". This should be used as an opportunity to explore how the recent wave of LSLT´s can be directed to seeking an agricultural model which is socially inclusive and effective in feeding the planet in a sustainable manner, while also taking into consideration regional constraints and factors.

Notes

(1) According to Deininger (2011) only 50% of announced deals signed in Africa have started initial investments or are already producing.

(2) In low income countries the question of food access is a key problem particularly in rural societies since the percentage of rural poor continues to be higher than the percentage of urban poor (Saturnino et al, 2012). It is estimated that three-quarters of the world's poor today live and work in the countryside (Saturnino et al, 2012).

(3) Following manufacturing in the 1980's and information technology in the 1990's.

(4) The Economist: "Outsourcing's third wave" May 21, 2009 – The Guardian: "How food and water are driving a 21st Century African land grab" 7 March 2012 – The Guardian: "Thousands 'forcibly relocated' in Ethiopia, says HRW report" 17 January 2012 – BBC News: "Land grab or development opportunity?" 22 February 2012, UNEP: "The rush for land and its potential environmental consequences" July 2011

(5) Via Campesina: An international movement that ¨defends small-scale sustainable agriculture as a way to promote social justice and dignity. It strongly opposes corporate driven agriculture and transnational companies that are destroying people and nature¨ www.viacampesina.org

(6) The Land Matrix is an online public database that permits all users to contribute and improve data on land deals, and for this data to be visualized. The visualization offers both overviews of the data and complete access to the public database down to the level of an individual deal. The project is based on the partnership of various institutions: CIRAD, GIZ, ILC, Centre for Development Environment (CDE) and German Institute for Global Area Studies (GIGA).

(7) Each record in the database is assigned a reliability code. Information is sought for over 30 fields for each deal, but for legal reasons only 8 fields are published. Where possible, data is distributed to partners in host countries for cross-checking. This may be achieved through personal interviews, direct personal knowledge of the transaction, or access to research that has not yet been published.

(8) Originally referred to servile dictatorships running countries whose economies were dominated by foreign-owned fruit plantations (The Economist, May 24, 2012)

(9) The Specialty Crop Competitiveness Act of 2004 and the Food, Conservation, and Energy Act of 2008 have defined specialty crops as "fruits and vegetables, tree nuts, dried fruits, horticulture, and nursery crops (including floriculture)." http://www.ams.usda.gov/AMSv1.0/scbgpdefinitions

(10) Refer to FAO Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests & World Bank 2010 report on ¨Rising Interest in Farmland¨

(11) Amoroso and Gomez y Paloma (2007) provide a synthesis of Sweezy´s interpretation of the economic cycle.

(12) Defined as state-owned investment funds composed of financial assets such as stocks, bonds, property, precious metals, or other financial instruments (UNCTAD, 2009)

(13) The empirical findings suggest that an increase in oil price by 1$/barrel increases the agricultural commodity prices between 0.10$/tonne and 1.80$/tonne (Ciaian and Kancs, 2011).

(14) Although according to Land Matrix data, the majority of the Chinese land deals are registered in the region of South East Asia

(15) The authors have calculated that average annual income per household is 76.98 GB pounds for rice and 88.25 GB pounds for vegetable.

(16) According to the Land Matrix about 325 000 hectares have been acquired by Black Earth in the Russian Federation

(17) "86% of staples in poor areas come from local sources, so country-level efforts to support smallholder agriculture are critical".

(18) Semi-mechanized sorghum and sesame production in Sudan illustrates the risks of large-scale farming and holds lessons for current investors. In an agro-ecological environment comparable to Australia, where yields are 4 t/ha, sorghum yields are only 0.5 t/ha and have been stagnant or declining (World Bank, 2010).

(19) Simultaneously, the consumption patterns should also be aligned to a sustainable food, feed and fuel production system. Diets can be shifted towards smaller environmental footprint and a reduction of food losses. FAO estimates that global food losses and waste amount to 1.3 billion tonnes per year – roughly one-third of the world food production for human consumption – and correspond to more than 10 percent of the world's total caloric energy consumption (FAO, 2012). A reduction of waste could thus serve to reduce the current pressure on key resources such as land and water.

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Abstract
The present report highlights the main characteristics of large-scale land transactions and the practical implications of the emerging agricultural holdings with respect to food security challenges at global and local level. The analysis makes a distinction of land deals and investors in three different geographical areas (Africa, Black Sea Region and Latin America) while also evaluating the social, economic and environmental impact for the recipient country. Results indicate that the current wave of large-scale land transactions, triggered in the last five years, is largely focused on the production of the so-called flex-crops (that can generate feed, fuel, fiber and feed). Concluding remarks include policy recommendations for the inclusive development of agricultural sectors, particularly in low income countries.

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