

# Nuancing narratives on LAIs labor market effects in SSA

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## 1. Introduction

Employment creation is key to Sub Saharan Africa. Currently, the region labor markets are not sizing the increasing needs for new jobs as economic transition and industrialisation are lagging. Because of these low diversified economies, in 2015, the rural and agricultural sectors still employ the most of the active population and more than half of the active youth (Losch et al., 2016). In addition, in the context of on-going strong population growth, in the next 15 years, the continent's labor markets will have to accommodate another 375 million young actives.

In view of these challenges, the pro-investment discourse emphasizes the employment opportunities associated with the development of Large Agriculture Investments (LAI) (Collier and Dercon, 2014) as the African continent concentrates 40% of the land deals made since 2000 –and 73% of land surfaces planned to be transferred to those investors (LandMatrix, 2017).

In particular, as part of the onset of a 'global land grab' (Borras et al. 2011) and evidence of large scale land acquisitions in Africa, there has been a resurgence of plantations or large-scale estates that mimic colonial estates and state farms (Hall et al. 2015; Anseeuw et al. 2012; White et al. 2012). The difference is that the large-scale estates operate in a radically different context: no more subventions from the State– except from low cost access to land, and no more forced labor. In addition, unlike the deployment of large-scale plantations in the first half of the 20th century, companies no longer jointly seek access to land and labor (Baglioni and Gibbon, 2013). They rather access to the former in order to deploy large capital intensive agricultural activities, raising lots of questions about effective employment impacts (Deininger et al., 2011; Li, 2011, Anseeuw et al., 2012) and reviving discussions over the relative advantages and disadvantages of large-scale versus small-scale farming models (Borras & Franco, 2012; Deininger & Byrlee, 2012; Wegner & Zwart 2011).

Feeding this debate, recent synthesis about LAI employment –and socioeconomic impacts –present contrasted conclusions depending on the scope and level of analyses (Oberlack et al. 2016, Hufe and Heuermann, 2017). Further, beside few impacts assessment research on LAI job creation (Nolte Ostermeier 2017, Deininger et Xia, 2016 ; Deininger et al., 2011, Ali et al 2011), there is little comparative research to identify the nature and reach of benefits occurring through LAI grounded in strong empirical evidence and rigorous method (Oya 2013). Finally, literature points the need to look at LAIs labor impacts considering different models of commercial agriculture such as plantations, out growers or commercial farming areas, as they are likely to have heterogeneous employment effects, on different segments of rural communities (Hall et.al 2017, Yaro 2017).

Accordingly, despite existing studies about LAI workers and livelihoods profiles (McCulloh and Ota, 2002, Maertens et Swinnen, 2009, Burnod et Medernach, 2014; Ahlerup & Tengstam, 2015), Zoomers and Otsuki (2017) stress that the agency of people and the diversity of livelihoods are largely overlooked in current debate as people have

different priorities and different livelihoods, with strong implication to optimize current standard set of policy measures. In sum, there is still a critical need for cross study research, looking at specific forms of LAI and offering a more comprehensive vision integrating both companies and workers dimensions of LAI employment, based on reliable method and data.

Contributing to the limited literature that overcomes simplistic narratives on LAI socio economic and employment impacts, while adding to supply or demand centered analyses, the general research questions are: *What jobs are created by LAI (number and quality)? Who get the jobs and why? How these outcomes differ according to companies and more specifically according to production models and local contexts? And what lessons can be learned in terms of public policies in the context of SAA contemporary labor markets?*

To explore above questions on LAI labor market effects, the paper focuses on the “plantation” or “estate farming” model of commercial agriculture defined as large, self-contained agribusiness farms, often associated with one major crop but often involved in diverse cropping system (Hall et al. 2017, Smalley 2013). Focusing on plantations it compares the labour print of different companies through wage employment according to their production models. In addition, the paper put LAI Large Scale Farms performances into perspective with some small scale Farm results.

The research is anchored in and fueled by a variety of case studies in order to compare the employment supply and demand effects of these LAI in Kenya, Mozambique and Madagascar. The countries and selected study areas reflect the contrasting socio-economic and agrarian contexts, trajectories and levels and maturity/age of LAI: Nanyuki region, Kenya, known for its longstanding investments in and dynamism of the horticultural sector (Jaffe, 1992; Humphrey et al., 2004); the Nacala corridor in Mozambique, known for its pro-investment policy and the high number of investors present but in a context of increasing land pressure and little structured value chains (Hanlon, 2012; Deininger and Xia, 2017, German et al. 2016); and one company in Madagascar, the rare to have continued after a failure rate of 95% of the recent investment deals (Burnod et al., 2013, Burnod and Andriamanalina, 2017).

This paper uses a common methodology for the three countries deployed around three sources of primary data: (i) qualitative in-depth interviews at local and company level, (ii) the production of lists of all investments in the studied zones and their related companies' juridical, economic and production characteristics, and (iii) an *ad hoc* households livelihoods survey among 1,650 households.

On the LAI job supply side, first results underline that the number of direct gross jobs created on average per company are important in all case study. Similar to work carried out in Africa (Ali et al., 2017; Deininger and Xia, 2016; Nolte and Ostermeir, 2017), we find that the employment creation of the enterprises in terms of FTE per ha depends, beyond the institutional national and local settings: on the technical models of the enterprises, that is the crops produced and, in particular, the intensity of labor requirements. Then, Comparing small and large-scale farming, when production and processing are difficult to mechanize (horticulture), the jobs created per hectare are higher or similar than those generated by family farming. Job creation performance is much reduced when crops are mechanized or little labor intensive (cereals and perennial crops) and lower than family farming. These comparisons lessen initial gross job creation results and stress the importance to take into account previous land use in order to understand specific net job creation of diverse LAIs.

Second, regarding the quality of jobs created by LAIs, results show important national and regional disparities. The permanent jobs created represent most of the created jobs in Kenya, less than half of them in Mozambique and one third in Madagascar reflecting the logics of specific technical model. The level of remuneration offered by the LAI in Madagascar is better than the other job opportunities related to the rural (often remote) location of companies, in Mozambique roughly the same than opportunities in other sectors and in Kenya less attractive than jobs in other sector as in these two latter cases LAI develop in rural and urban areas. Beyond nuanced observations, the global picture confirms existing literature arguing that important part of the jobs created respond to precarious working conditions (Anseeuw 2013, Ali et Muianga 2016, Devereux S., Levendal G., Yde E. 2017)

When looking at the job demand side, results partly converge with literature stressing that part time jobs of day laborers or seasonal workers offered by LAI often benefit the most vulnerable segments of the population: poor households, migrants, youth and / or women (Mc Culloch and Ota, 2002, Maertens and Swinnen, 2009, Ahlerup & Tengstam, 2015, Li 2011). Indeed in the three case studies young people and migrants are the most frequently recruited for temporary and casual labor. These jobs remain also largely open to women who, unlike men, find it difficult to access employment in other sectors of the rural economy. This can be seen as an advantage in terms of poverty reduction (Maertens and Swinnen, 2009) or critically considered as the direct result of the absence of alternatives for the most vulnerable and their inability to deny low wages, difficult schedules or repetitive work (Li, 2011). However, when looking at permanent jobs, this age and gender dynamics of LAI labor effects do not prevail everywhere and LAI jobs also benefit other segments of the population as elder workers accessing stable and decent opportunities.

Nuancing LAI labor market effects from a more comprehensive approach, several implications in terms of public policies can be drawn. Employment is a key issue for African countries and their governments. The quantification and qualification of the jobs created by plantation forms of LAIs and their comparison according to the production models, taking into account local contexts, makes it possible to better inform the choices in terms of promotion of inclusive investments for different segments of the population of small holders and anticipated possible spillover effects on the local economy.

The rest of the paper is structured as follows. Section 2 presents a critical review about LAI labor market impacts stressing related controversies. Section 3 presents the cross country common methodology. Section 4 presents how both the country context and the companies' strategies have had an impact on the relative success or failure of agricultural investments in the different study areas. Section 5 exposes the LAIs' different technical models and their general impact in terms of job creation. It then analyses the quality of jobs. Section 6 presents the profiles of workers and their households in order to discuss LAI labour impacts in terms of households' livelihoods and poverty at the local scale. Section 7 concludes discussing about insights for LAI inclusive policy frameworks.

## 2. Literature review

### 2.1. The recurrent employment issue in the support of large scale farming in Africa

Employment and broad socio economic impacts of these LSAI A have been extensively debated in development, policy and academic arenas and are still objects of numbers of polemics, reflected in the polarization of discourses. Generally, local governments looked at those investments positively and identified them as an opportunity to increase their revenues, modernize agriculture, develop local infrastructures, as well as reduce poverty and fight against food insecurity by creating jobs and incomes (Collier 2008, Cotula et al. 2009, Deininger et al. 2011, FAO, 2015).

Conversely, numerous studies assert that those investments contribute little to development of host countries. Jobs created are usually less than expected and population employed are often the most vulnerable who are too poor to decline low wages and difficult working conditions (McCulloch and Ota 2002, Maertens and Swinnen 2009, Burnod et al. 2018). Detractors also underline that LAIs can lead to undermine or trample local population's land rights – with worrying number of people displaced and dispossessed from such deals (Wolford et al. 2013)- and are thus a threat for livelihoods and food sovereignty for displaced people (Cotula 2014). The latter resonates with deeper historical concerns regarding inequality in land ownership and the marginalization of poorer rural farmers (Li, 2011). Last, growing number of LAIs in poorest countries raises debates at global level about their contributions or not to rural development and poverty reduction (Aabro & Kring 2012).

Overall, this points the complexity and context specificity of LAI effects as a variety factors influence whether an LAI-induced transformation has a positive effect on rural livelihoods. As a result, The onset of a 'global land grab' (Borras et al. 2011) and evidence of LAI in Africa has also refocused attention on longstanding debate about the relative merits of large and small farms, their implications for labour absorption, rural livelihoods and growth in Africa's farm sector (Lipton 2009; World Bank 2008; Collier and Dercon 2014; Deininger and Byerlee 2011; Baglioni and Gibbon 2013). Hall 2017

### 2.2. Scope and nature of jobs created by LAI

As part of LAI socioeconomic impacts, available analyses about LAI employment impacts tend to present variable conclusions depending on the scope and level of analyses but also because local conditions play a critical role in the unfolding outcomes for land, labour relations, livelihoods and local economies". (Cotula 2013, Oberlack et al.2016, Hall 2017).

Critical analyses point that investing corporations make estimates on new job creation, the actual number of jobs created is typically well below expectations, due to transitions to plantation style agriculture preferring mechanization and wage laborers (Deininger and Byerlee 2011; Cotula et al. 2009). In most cases, the opportunities for employment are low-quality and limited or nonexistence (Deininger and Byerlee 2011; Cotula et al. 2009; Li 2011). However, in a meta analyses based on 146 LSLA projects in 22 countries in SSA, Hufe and Heuermann (2017) find that positive effects arise through employment

creation and the provision of public goods and services, although these benefits are offset by inadequate compensation, land conflicts, and environmental degradation.

These findings raise questions about the extent to which commercial farming creates net jobs or results in local labor redundancy, in particular where smallholders lose access to land and their former employment (Anseeuw et al 2012 (Li 2011, Ostermeir and Nolte 2017)). As a matter of fact, beyond few sound impact assessment research-mostly country based- works on LAI job creation (Nolte Ostermeier 2017, Deininger et Xia, 2016 ; Deininger et al., 2011, Ali et al 2011), there is little comparative research to identify the nature and reach of benefits occurring through LAI grounded in strong empirical evidence and rigorous method (Oya 2013).

In addition, recent strand of literature points the need to look at LAIs labor and socioeconomic impacts considering the diversity of large scale farming models of commercial agriculture such as plantations, out growers schemes or commercial farming areas, as they are likely to have heterogeneous effects, on different segments of rural communities, including within each category (Bruntrup 2018, Hall et al. 2017; Matenga&Hichaambwa 2017, Yaro et al 2017, Smalley 2013). Hall et al. 2017 identify commercial farming areas and contract farming models as producing the most local economic linkages, and plantations/estates as -typifying enclave economy- producing more jobs than the former, although these are of low quality and mostly casual. One reason is that as agricultural wage employment usually involves high monitoring costs, hired labor has usually been used for only simple low-paid tasks (Otsuka & Yamano, 2006; Oya, 2013) in Hermann 2017. Accordingly, Bruentrup (2018) stresses that plantation models with nucleus and out-grower scheme seem to have considerable potential to support local development, particularly by providing employment and salaries, incomes for out-grower farmers, infrastructure and CSR projects as compensation for loss of access to land for the community. Comparing wage labor and out-grower channels, for agro-industry workers in the sugar investment, estimated income effects are slightly lower than for out-grower farmers, but are still very large. For workers in the rice investment, predicted effects are significantly lower, but still positive and significant. In particular, the results concerning the sugar industry contrast with commonly voiced concerns about this type of employment, but are in line with Maertens' et al. (2011) study in Senegal.

Lastly, focusing on the plantation wage labor channel, a consensus emerge about the fact that overall benefits are strongly influenced by the labor intensity and level of mechanization of the investments as it determines the potential for creating direct and indirect effects (Ali et al., 2017; Deininger and Xia, 2016; Nolte and Ostermeir, 2017, Hermann 2017). For sugarcane, the number of workers employed per 1,000 ha may range from only 150 for mechanical harvesting in Mozambique to around 700 on irrigated plantations with manual harvesting in Tanzania (Deininger et al., 2011). In Ethiopia, based on census of almost 6000 commercial farms (from 10 ha to several thousands of ha) presenting a large array of crops, results point that in average one permanent job is created per 20 cultivated ha (Ali et al 2017). Comparing LS and SSA, when production and processing are difficult to mechanize (eg horticulture), employment created per ha are higher than those required for family farming. Impacts are much more limited and often below family farming when crops are mechanized and/or low labor intensive (cereals, ranch) (Deininger et Xia, 2016 ; Deininger et al., 2011).

## 2.3. Who gets LAI jobs: workers demographic and socioeconomic profiles

[Work in Progress]

Social differentiation and marginalization in LAI contexts mostly occurs along the social categories of gender, age, migration and poverty status, land access being a core dimension of the later (Schoneveld et al. 2011, Behrmann et al. 2012, Adams et al. 2018). Yet, the analysis of specific cases often relies on secondary data. When primary data are utilized, local impacts are not scrutinized in relation to specific groups defined in terms of gender, age or socio-economic class (Daley 2011). (Porsanni 2019)

*Do LAI benefit to poor/rich?* Agricultural wage employment is often argued to be performed by those households lacking the ability to engage in better paid non-farm or on-farm jobs (Davis et al., 2010). Hence, LAIs can employ the most vulnerable in the population but also the ones that are too poor to decline low wages (McCulloch and Ota 2002, Maertens and Swinnen 2009, Burnod et al. 2018) (Herrman 2017). Consequently, although it may be an important coping strategy against shocks, it is usually believed to add little to lift the poor out of poverty (Otsuka & Yamano, 2006; Oya, 2013b).

*LAI and gender/ Land:* The few existing case studies concur that LSLAs constitute drivers of land scarcity that affect women more than men due to women's weaker rights to land and women's usual position as providers of food to the household (i.e., Daley 2011; Daley and Pallas 2014; Doss et al. 2014; Tsikata and Yaro 2014; Fonjong et al. 2016). + Ahlerup, & Tengstam, S. 2015) The landless and near-landless are more likely to provide the labour for LAI and other large-scale production. (Peters 2013; Hermann 2017) Some richer governments (South Africa, Botswana, Namibia) are also providing or considering such income supports as child and old-age grants (Peters 2013, Burnod et Medernach, 2015)

*Do LAI benefit migrants or locals?* While LAI may offer new livelihood possibilities and attract new groups of people, they also often lead to evictions and other forms of displacements. Relation between LAI and local or migrant labour and migrant status (Kaag, Baltissen, lodder 2019) Nyantakyi-Frimpong 2017. / Plantation agriculture and biofuel production have often favoured migrant workers over residents for their greater acceptance of physically demanding labour and precarious contracts often described as exploitative (Deininger et al., 2011b).

## 3. Method

### 3.1. Selection of the study areas

In each country, study areas were selected in order to represent core national specificities in terms of large-scale agricultural investments' dynamics.

*[work in progress : information on family farming in each zone will be added]*

In Mozambique, the focus is on the Nacala corridor, which is one of six Agricultural Growth Corridor Development<sup>1</sup>. The Nacala corridor covers three provinces (Niassa, Nampula and Zambézia) and was supposed to be the largest investment zone, notably thanks to

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<sup>1</sup> These corridors were established under the Strategic Plan for the Development of the Agriculture Sector 2011-2020 (PEDSA) and National Investment Plan for the Agricultural Sector 2014–2018 (PNISA).

the Pro Savannah program<sup>2</sup>, jointly funded by the Mozambican, Japanese and Brazilian governments. In this huge corridor area, 3 study areas were selected in the Nampula and Zambezia provinces, offering good climatic and agronomical conditions and reflecting the diversity of LAI' progress on the field (**Error! Reference source not found.**):

- The first study area is Monapo (in Monapo district) where co-exist schematically two types of farms:
  - Large-scale sisal production farms (3 farms), inherited from colonial time, that have evolved through time in their juridical form, in the owner identity (the last ones being national investors from Indian origin) and in their agricultural orientations (diversification towards soya or forestry) (Figure 2);
  - New farms specialized in vegetables and fruit production (4 farms).
- The second one is Gurué area (in Gurué district) (6 farms in total), where the large-scale farms dated from colonial times and are still specialized in tea, or more recently orientated toward macadamia and, at the margin, soya production (Figure 2);
- The last one is Lioma area (in Gurué district) where a former state farm reinvested by foreigner company and new established farms starting from scratch develop soya production (3 farms in total, but 2 still active) (Figure 2).

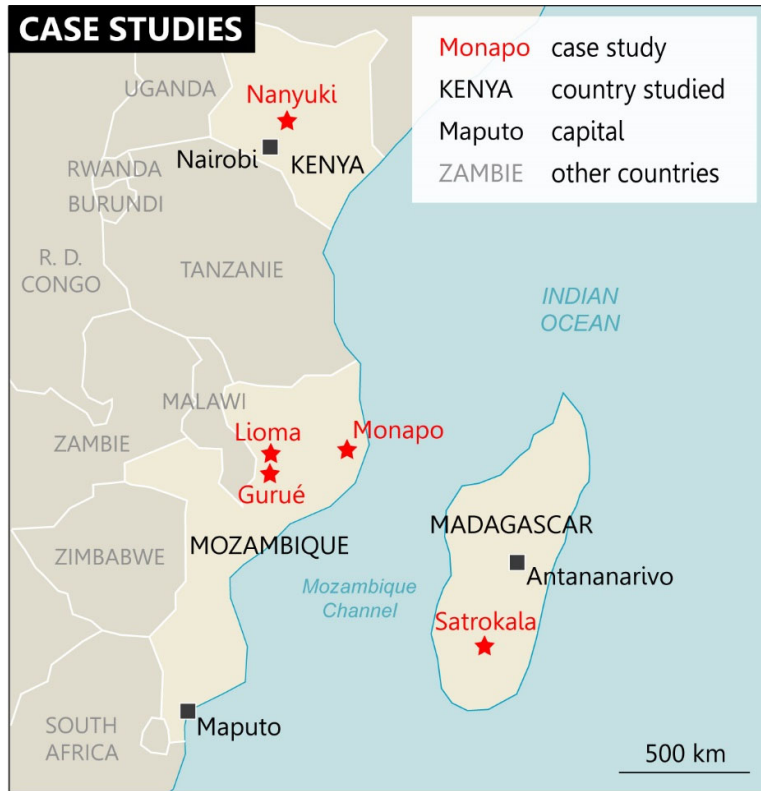
In Kenya, the focus is on the Nanyuki region, one of the two areas well known for horticulture production such as vegetable and flowers (mainly roses) since the 1980s. The region was developed since colonial time by settlers, largely invested by (or allocated to) Kenyan elites after Independence and also more recently targeted by foreign investors. It offers not only perfect weather and soil conditions but also, to compensate for its distance from the capital, good access to services (transport, inputs markets, etc.). Our study area was selected to encompass the majority of vegetables and flowers farms as well as some cereal farms (28 companies in total) (**Error! Reference source not found. 3**).

In Madagascar, 95% of the recent investment projects based on large-scale production collapsed. The focus was on 3 of the main active companies, one large-scale maize production (associated with other crops on smaller areas) localized in the Ihorombe region (Satrokala) and two other focusing on contract farming production (barley and artemesia) localized in the Amoron'i' a mania region. In this paper, dealing only with labor impacts of plantation/estate farming model, only the first company has been included. The study area is located on a plateau at 1000 m altitude, with good rain fall but poor soil conditions. The region is mostly dedicated to extensive zebu cattle production. The farm started from scratch and negotiated access to land on former grazing lands belonging to native populations (Fig 3).

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<sup>2</sup> ProSavana zone has 10 million hectares, of which 4.3 million ha could be used for farming. The plan estimates that there are 692,000 farming families farming 930,000 ha (1.3 ha per family) and have 1.9 million ha at rest (which means the average family has access to about 4 ha of farmland). The plan further estimates that there are 1.5 mn ha not used and available for investment.

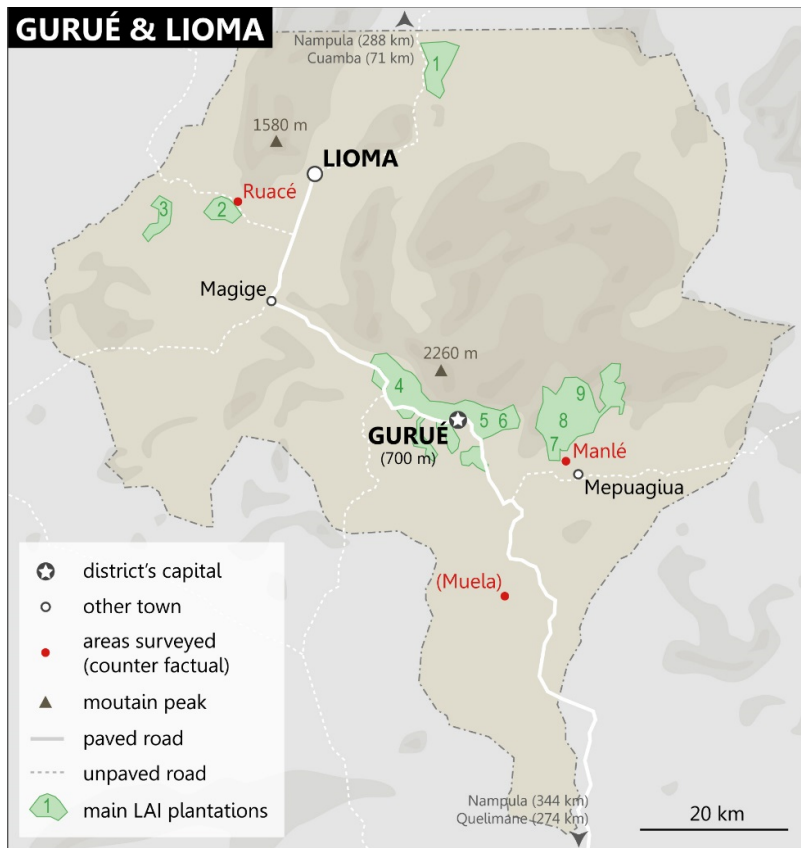
Figure 1: Case Studies areas selected



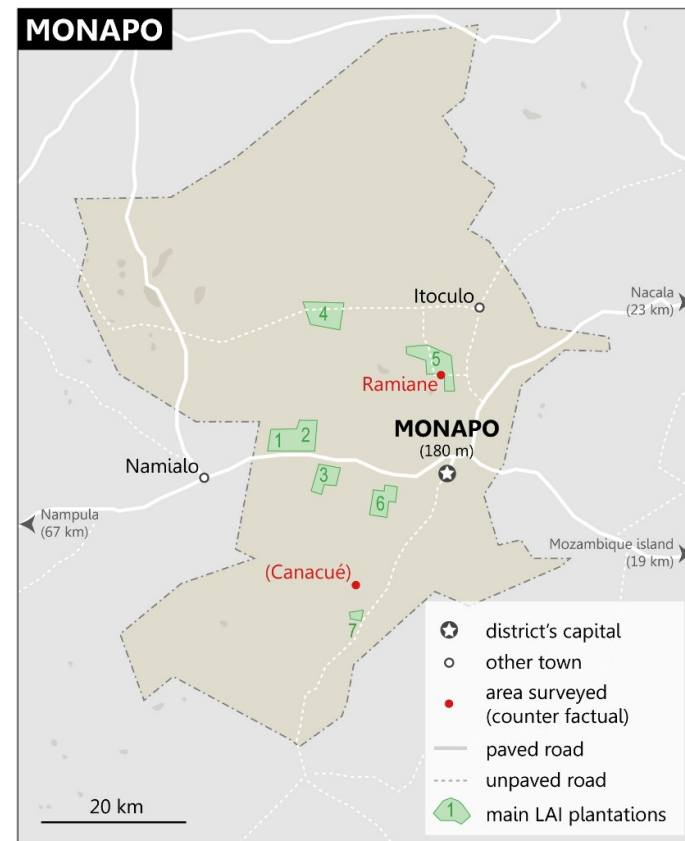
Source: Afgroland (2018)



Figure 2: Case Studies areas in Mozambique



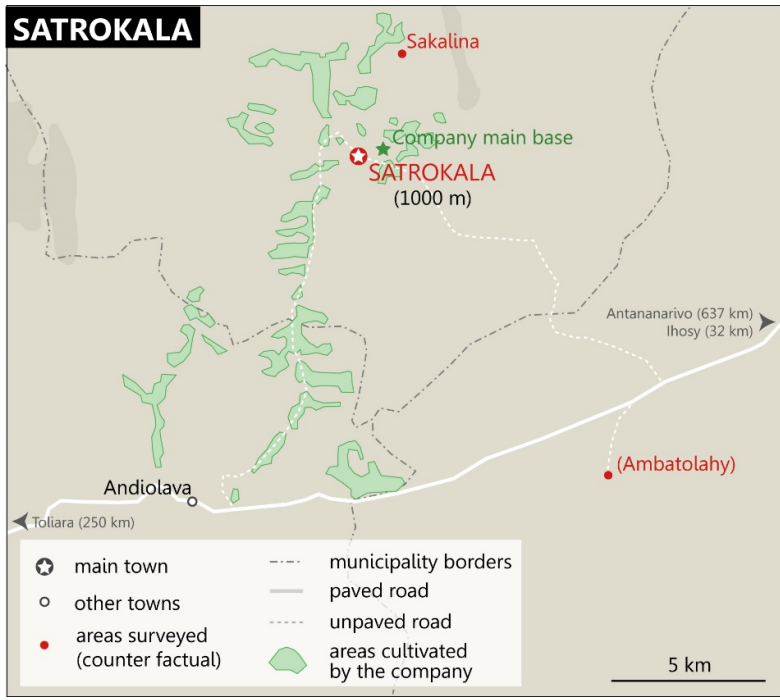
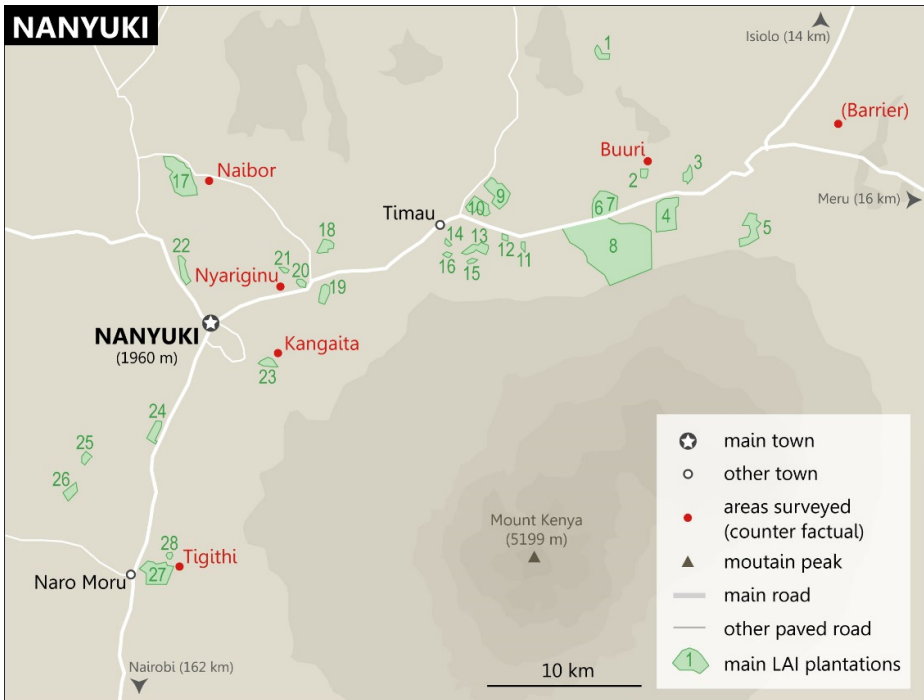
List of major agro-companies within the Gurué's district:  
 1. AgroMoz, 2. Hoyo Hoyo, 3. Rei do Agro, 4. Murrimo Macadamia; 5. Chazeira de Moçambique, 6. SDZ, 7. ATFC, 8. Chá Magoma, 9. GF Macadamia



List of major agro-companies within the Monapo's district:  
 1. Amarula Farms, 2. Matanuska Moçambique Ltd, 3. Alfa Agricultura, 4. Sisaleira de Mecuco, 5. Sisaleira de Ramiane, 6. Sisaleira de Jagaia, 7. RDC

Source: Afroland (2016)

Figure 3: Case Studies areas in Kenya and Madagascar



List of major agro-companies within Nanyuki area: 1. Afriorganic, 2. Bloomingdale Roses, 3. Kisima Flower Farm, 4. Batian Flowers Limited, 5. Marania Farm, 6. PJ Flowers, 7. Uhuru Flowers, 8. Embori Farm, 9. Lolomarik Farm, 10. Lolomarik Limited, 11. Timau Gardens Limited, 12. Sunland Roses: Lobelia Farm, 13. Timau Potato Farm, 14. Mr and Mrs Bill Blackbeared, 15. Teleswani, 16. Kentrout, 17. KHE, 18. Kongoni River Farm, 19. Colour Crop Farm, 20. Equinox Farm, 21. HM Clause Kenya Limited, 22. Likii River Farm, 23. Kariki Limited, 24. AAA Gowers: Turi Farm, 25. Tambuzi Horticulture, 26. Cinnabar Green Limited, 27. AAA Growers: Chestnut Farm, 28. Sunripe.

Source: Afgroland (2017)

### 3.2. Data collection on companies

In Mozambique, the Land matrix - an initiative that monitors large-scale land transactions at the global level ([www.land-matrix.org](http://www.land-matrix.org)), the University of Pretoria and Cirad<sup>3</sup> listed and updated information on 25 companies in the study areas. Out of the 20 active companies, interviews were implemented with and/or detailed information was collected from 14 farms (Adalima, 2017; Reys, 2017).

In Kenya, the Kenyan organization Cetrad<sup>4</sup> and CDE<sup>5</sup> from the University of Bern used to work on commercial farms in the Nanyuki area since the 1990's. We started from this list of 64 farms included in the study area and updated it. Thanks to CETRAD's longstanding relationships with farms owners and managers, we then did interviews with 34 farms to collect specific data on the company, production process and management strategy (Mutea, 2017).

In Madagascar, the Malagasy land Observatory ([www.observatoire-foncier.mg](http://www.observatoire-foncier.mg)) an organization attached to the Minister in charge of land affairs) and Cirad are engaged in monitoring large scale investment projects in the agricultural sector since 2007 at the national level. We listed and monitored 95 companies (we did not include companies created before the 2000 and did not analyze the large farms inherited from colonial times producing sisal or oil palm). In 2017, 75% of the companies collapsed in the sector (forestry, aquaculture, agriculture, etc.), 95% in agriculture (Burnod, 2017). We did interviews with 20 LAIs companies included in that list and, subsequently, additional interviews with 2 companies developing contract farming activities. This paper focuses on the only active and recent large-scale farming company.

**Table 1 : companies' census in study areas according to country**

	MOZAMBIQUE	KENYA	MADAGASCAR
<b>Large-scale farms</b>			
Level	Study areas	Study area	Country
Period	2000- 2018	1996-2017	2000-2017
Nb of companies in the inventory	<b>25</b>	<b>64</b>	<b>95</b>
Nb of interviewed companies	<b>14</b>	<b>33</b>	<b>20</b>

Source : Afrgroland LAI surveys

[WiP: main variables and indicators used for the analyses of job creation]

Labor intensity (LI) is defined as the amount of labor needed in a production process and is calculated as the number of workers required to cultivate one hectare of a specific crop (Nolte Ostermeier 2017)

LAI typology according to production model

<sup>3</sup> A French Center for International Cooperation for Agronomic Research.

<sup>4</sup> Center for Training and Integrated Research In ASAL Development.

<sup>5</sup> Center for Development and Environment.

### 3.3. Data collection at the household level

To qualify the employee's demo economic profiles and discuss the quality of jobs created, primary data was collected through an *ad hoc* households survey, the Afgroland survey, conducted in October 2016 (Mozambique), January 2017 (Kenya) and in April 2017 (Madagascar) on a large sample of 500 to 600 rural households per country. The survey focuses on the local effects of the company's presence and interactions with households' livelihoods (level).

Study areas and surveyed-areas were selected in a reasoned way in order to reflect the diversity of agricultural investments (cf. typology of LAIs technical model). For each study area hosting large scale agricultural companies, factual and counterfactual area were selected presenting similar agro-ecological and population context and Households (HH) were randomly selected: 504 HH in Mozambique, 545 HH in Kenya and 601 HH in Madagascar. Results described here on the labor effects of the companies are representative of the studied areas but not of the country as a whole.

Within each study area included in this research project, data collection was based on open interviews with local representatives and key persons, as well as on *ad hoc* survey with households (either the household head or his/her spouse). The questionnaire was designed so as to include, besides others, various modules on household member demographic criteria, economic activities, land tenure practices and perception on changes induced by LAIs.

## 4. Development of LAIs in Kenya, Mozambique and Madagascar

### 4.1. Contrasted country trajectories and different LAI development

*[work in progress : more information on land pressure and influence of socio political context]*

The 3 countries and related study areas had different colonial patterns and followed different agricultural development paths since Independence, with strong influences on the way family farming might take advantage or not from the development of LAIs.

Kenya is a former settler economy with a core of commercial agriculture, with large-scale farming accounting for 30% of marketed agricultural produce, including tea, coffee, maize, wheat and livestock (Dolan and Humphrey 2000; Kirsten et al. 2012). In Mount Kenya, the British settlers invested the best land in specific territories and their private property were not challenged but even confirmed at the time of Independence to avoid generating economic crisis. Accordingly, so far there is no reported case of land eviction in Nanyuki area between LAIs and local communities and smallholder farmers (?). At the end of the 1970's, the State strongly supported the development of certain value chains orientated through export (horticulture: vegetable then flowers production) and created strong incentives to attract both national and international private investments (Jaffe, 1992; Minot and Niggi, 2004). The horticulture sector enjoyed a quick and sustainable development and is considered until nowadays one of the most dynamic agricultural sector in terms of production, exportation and smallholder inclusive labor creation (Dolan and Sutherland 2003). Post-independence land reforms, particularly in highland areas, resulted in the transfer of State land to smallholders through settlement

schemes (Leo 1981; Haugerud 1989 in Hall et al 2017). In the Mount Kenya area, lots of landowners have legally secure their land and the market is quite active.

Mozambique has repeatedly struggled to establish such a commercial agriculture sector (Pritchett 2009). In North Mozambique, the Portuguese colonial rulers gave huge concessions to private companies that developed some crop productions (mostly cotton, tea and sisal) based on large-scale plantations and contract farming, both benefiting from smallholders free labor via the forced labour system. After Independence in 1975 and until 1980's, the State nationalized the productive structures and strongly supported the development of State farms to take over colonial concessions production, still relying on local labour. The later failed due to post independence warfare, resettlement policy mismanagement and land claims by smallholders. The structural adjustment plans from 1986 imposed the liberalization of the different value chains and the privatization of the productive structures, but the investors were not that numerous and often discouraged by the civil war which undermined most of national infrastructure and any small or large scale agricultural activity till mid 1990's (Boche, 2014). After 1992 peace agreement, new liberal government settled for market economy orientations and the broad family farming sector did not received the support required. This translated in the promotion of high capital intensive extraction activities in mining and agriculture through strong foreign investment incentives (Castel Branco x) accompanied by low consultation processes regarding land access and low considerations of the family farming sector priorities (ref), despite one of the most progressive Land reform passed in 1997 (Tanner 2013). In this context, the renewal of interest for the agricultural sector reappeared in the 2000's and is one of the most dynamic investment climates on the continent (German et al., 2016), resulting in an overall context of land conflicts.

In Madagascar, by contrast, the French settlers developed agricultural plantations in very different and scattered territories. At the time of Independence, some left their business whereas other families well anchored in the economic sector stayed and kept increasing the volume and diversity of their activities. In the 1970s, the State supported the creation or the evolution of former colonial farms in State farms but the agricultural policies were orientated mostly towards family farming. The promotion of private investments started in the 2000's but companies mostly invested up or downstream agricultural production but barely in the establishment of new LAI.

Since the 1980's for Kenya and the 2000's for Madagascar and Mozambique, the 3 countries implemented pro-investment policies (specific institutions to welcome private companies, tax exemption). In the 3 countries, in parallel to or in articulation with land laws securing local and customary properties, the State eases the allocation of huge tracks of land to private investors that generally infringe, whatever the juridical tool used and the legal status of land is, on land already used and appropriated by local communities (farmers and herders) (Hanlon, 2011; Twomey 2014, Burnod et al., 2013, *ref Kenya*).

Since the 2000s, the 3 countries were significantly affected by the new rush for land. In Kenya, 800 000 ha were targeted by new investments (Klopp & Lumumba 2010), in Mozambique, 1 550 000 ha were requested by private companies (Boche, 2014) and, in Madagascar, more than 3 000 000 ha were targeted by the pharaonic projects of investors (Burnod and Andriamanalina, 2017). Most of these projects collapsed due to the investors' profiles lacking of solid funding and experience in agriculture, complex and sometimes predatory practices of administrations, and social movements and contestation at the national or/and local levels.

In 2018, in Kenya, only 4 recent large-scale projects are listed as active operating on 12 500 ha (Land Matrix). In the Mount Kenya area, since the 2000, except through government transfers to national elites in order to reward some political allies (O'Brien, 2011), no land were granted to investors by the State. All investors got access to land through land market and they generally bought land from other companies.

In Mozambique, 56 projects are active mostly concentrated in established national economic corridors, and operate on 120 000 ha, which is over ten times less than the size of land requested by companies (Land Matrix 2017?). [add info on Nacala corridor and land reform].

In Madagascar, 100 000 ha were legally allocated to investors but only 20 000 ha were cultivated (and some already abandoned).[add info on 2005 land reform and LAI]. Despite this high level of failure, some companies are still active and are about 10 years old.

This paper targets these still active companies with the aim of qualifying and quantify their labor impacts in terms of jobs created and the socioeconomic profiles of LAI workers in a range of national and regional settings.

## 4.2. Diversity of existing technical models

A business model can vary according the 6 following main lines: (i) The type of actors (including inter alia nationality, former experience or not in agricultural and the juridical status of the companies); (ii) The investment model (origin and type of capital; strategy and duration of investment, the existence of public or private support, etc.); (iii) The degree of integration (position or function in the value chain, independence or dependence regarding the assets management such as labor, capital, decision, etc., market destination of the products, etc); (iv) The organization of the agricultural model (socio-institutional dimensions): large-scale or contract farming (land use change), labor use, etc.; (v) The technical agricultural model (type of crops, irrigation, mechanization, rotation, chemical inputs, ect ) and (vi) Ways of accessing land (state concession via purchase or lease; private land via purchase, lease, contract with communities, etc.).

[Focus on technical model]

[Presentation on diversity of technical models in the 3 counties study areas]

## 5. LAIs impacts on jobs supply: technical model and local context matter

### 5.1. Quantity of created jobs

#### **Contrasted job creation at regional and company levels**

At the level of study areas (Table 3), results show that overall LAI directly contribute to absorb part of local active population, benefiting to 3% and up to 30 % of local households. Indeed, a significant number of employment were created, which is crucial in rural areas where new jobs opportunity – especially in the formal sector- are scarce.

[work in progress : to be specified with employment rate and active population per zones

In Mozambique, in the districts of Monapo and Gurué, the 13 active plantation companies assessed created about 11 000 jobs (respectively 5 000 and 6000 in each district) 20% of those were permanent and the other were temporary positions (seasonal- casuals jobs).



For a total population in the 2 districts of about 160 000 HH and 834 563 inhabitants (INE 2017)<sup>6</sup>, roughly, this means that the LSAI impact on 7% of the total households; and 3% of the district active population<sup>7</sup>. Considering unemployment rates in rural Mozambique are about 13% and underemployment levels at 20%? (LFS 2014-5) this is a clear contribution to the local economy<sup>8</sup>.

- In Kenya, in the Nanyuki region, the 33 companies analysed generated 5439 permanent jobs and about 2339 temporary jobs. The total region – including Nanyuki town - hosts about 200 000 households of which about half resides in the rural countryside<sup>9</sup>. As such, the agribusiness companies roughly impact on 3,5% of the rural households; Data focused on 5 Cies representative of Nanyuki study area shows that these LAI benefited 8% of the active population (Reys et al 2018).
- In Madagascar, the one agribusiness company creates 95 permanent jobs and 200 temporary ones. That number is important knowing that the company works mainly in two municipalities of about 1 000 HH/6 000 inhabitants (source : interview). The company can thus affect 30% of the households of the two municipalities.

A second step is to discuss these numbers at the company level. The results are also significant: on average, each agribusiness company creates between 95 and 165 permanent jobs and 50 to 450 temporary jobs (table 2).

	MOZAMBIQUE	KENYA	MADAGASCAR
<b>Study areas level</b>			
Nb of companies assessed	13	33	1
Sum of permanent jobs created	1218	5439	95
Sum of temporary jobs created	5940	2339 (1612 seasonal & 727 daily)	200
<b>Company level on average per company</b>			
Average permanent job created	94	165	95
Average temporary job created	456	49 (seasonal) 22 (daily) 71 (seasonal and daily)	200

**Table 2: Existing jobs in 2016 by study areas and company in average in 2017**

Source: Afgroland survey

<sup>6</sup> Respectively 413 694 and 420 869 inhabitants for Monapo and Gurué districts ( INE 2017)

<sup>7</sup> Authors calculation with share of national active population applied to the districts population (Moz labour force /active population is 12.5 million (43,4% of 28,8 million total population, LFS 2005)

<sup>8</sup> Unemployment rates are 1,3% in rural areas (21% in urban). With broader definition that account occasional workers + idle self-employed + family workers, as unemployed, the unemployment rate rise at 12,9% in rural regions (31% in urban)-(LFS 2004-5). Underemployment: proportion of workers who worked fewer than 40 hours /week though they want to work more affects 18,6% of men and 8% of women (LFS 2004-5).

<sup>9</sup> Info to check with Cetrad recent and updated atlas.

### ***LAI technical model as the main driver of job creation***

A third and more specific step is to analyse the number of jobs created per cultivated hectare and to pay special attention to qualify the business model of companies. Following the literature on main determinants of job creation by LAI, we retain here only 2 dimensions - organisational and technical – of the agricultural model to study the labor impacts. The results corroborate the literature broad findings: different labor intensities according to annual /perennial crops (with few exceptions) and mechanized/non mechanized process (Nolte and Orstermeier 2017, German et al 2017, Gibbon 2014) (Table 3).

**The rose production** and processing is the most labor intensive with 17 permanent jobs and 2 temporary jobs generated per cultivated hectare. The processing step clearly contributes to the labor intensity of the company activity.

**The vegetable production** is second with 2.1 permanent and 2.25 temporary jobs per cultivated hectare.

All the other agricultural models employ far less people per cultivated hectare. **Tea** generates 9 permanent jobs and 71 temporary jobs per 100 cultivated hectares (respect. 0,09 and 0,71 for 1 hectare), mainly related to manual harvesting, whereas **cereal production**, mostly mechanized, induces maximum 6 permanent jobs and 3 to 22 temporary per 100 cultivated hectares (respect. 0,06 and 0,03 to 0,21 for 1 hectare).

The impacts are even less if the number of jobs is analysed in relation with the total area acquired by the farms. The farms cultivate only 39% of their total area in Mozambique and 57% in Kenya. The number of created jobs per hectare then strongly decreases. The latter is all the more the case when the many failed and collapsed farms are included.

### ***Employment potential of alternative land use (cost of opportunity)***

To better grasp the impact of LAI on jobs supply it's important to look at previous or alternative land use in term of employment potential :

In a context where soil and weather conditions are relatively good – as it is the case in Nanyuki (Kenya) and in Monapo, Gurué and Lioma (Mozambique), **rose production** and processing create more jobs/ha compared to the family farming entities in the area, **vegetable** production generates a number of jobs slightly superior to family farming but all the other models (cereals and tea) are less efficient than family farming in terms of job creation. From the data collected through the households survey in each study area? we roughly estimate that family farming creates 1.5 to 2 FTE or permanent jobs per cultivated hectare.



	Country	Nb of companies	Area cultivated Min & max in ha	Area cultivated in average In ha	Mechanization	Processing	Sum of permanent workers	Nb of permanent job/ha In average	Sum of temporary	Nb of temporary job / ha In average
<b>Horticulture</b>										
Vegetables /mixed	Kenya	15	3 to 105	31	Partial	yes	956	<b>2,1</b>	1046	<b>2,25</b>
Roses	Kenya	10	7 to 81	23	no	yes	4004	<b>17,4</b>	510	<b>2,2</b>
<b>Grain production</b>										
Cereal	Kenya	8	8 to 3000	952	yes	no	479	<b>0,06</b>	46	<b>0,01</b>
(maize, soybean, etc)	Moz	3	900 to 2000	1467	yes	no	251	<b>0,06</b>	950	<b>0,22</b>
	Mada	1	3500		Yes	yes	95	<b>0,03</b>	200	<b>0,04</b>
<b>Perennial crop</b>										
Sisal	Moz	3	220 to 3000	2073	no	yes	65	<b>0,01</b>	2500	<b>0,4</b>
Tea	Moz	2	1450 to 1666	1558	no	Yes	286	<b>0,09</b>	2200	<b>0,71</b>
Trees (moringa, macadamia, forestry)	Moz	4	250 to 2450	1593	no	some	568	<b>0,12</b>	190	<b>0,04</b>

Note: temporary jobs: according to employer's statement, these jobs can be close to full time equivalent job when the companies recruit temporary workers almost every day, or close to half jobs when companies recruit only for some agricultural tasks. For that reason we do not aggregate permanent and temporary workers.

**Table 3: Number of jobs created by cultivated hectare and technical model**

## 5.2. Quality of created jobs

To better assess LAIs impacts on employment creation, above numbers of jobs created have to be put in perspective with their quality.

### ***Diversity of job status and quality***

Overall broad diversity of jobs status in terms of job security (temporary/permanent and declared or not) and working condition (safety, wage and benefits), the more commons being : i) Permanent employment with formal contract - with or without benefits, ii) temporary employment, formal or casual/ informal, below agriculture minimum wage

Regarding attractiveness of LAI jobs compared to other opportunities, the level of remuneration offered by the agribusinesses is in Madagascar better than the other job opportunities in the rural countryside (job in other sector or handcraft and services activities), in Mozambique roughly the same than other opportunities and in Kenya less attractive than jobs in other sector (but better than self-employment) Table 4].

*[WiP To be compared with legal salary. Agribusiness salary = Complementary job income for household but not an automatic mean to escape poverty. Important turn over, cf qualitative interviews].*

### ***Quality of jobs depends strongly on national legal frame and Cie technical model and policy***

*[WiP: Data from LAI interviews by Cies with main production model, information about work penibility and health conditions in particular for Tea & Rose production models ]*

	<b>MOZ - Monapo percent</b>	<b>MOZ - Gurué percent</b>	<b>MOZ - Lioma percent</b>	<b>KENYA - Nanyuki percent</b>	<b>MADA - Satrokala percent</b>
<b>Type of jobs</b>					
% of permanent workers	65	41	54	89	36
% of temporary workers	35	59	46	11	64
% with “declared” contract	19	37	42	80	24
% of permanent with a “declared” contract	18	76	62	86	65
% of temporary with a “declared” contract	24	8	18	37	2
<b><sup>10</sup>Level of remuneration per day (local unit)</b>					
	<b>MNZ</b>	<b>MNZ</b>	<b>MNZ</b>	<b>KS</b>	<b>MGA</b>
<b>Agribusiness jobs</b>	120	80	80	320	7 500
<b>Non-agriculture employment*</b>	80	110	220	420	3 500
<b>Self employment</b>	100	90	100	250	2 900

Source: Afgrolland households survey 2016

Notes: Permanent workers = working period in an agribusiness farm > 8 months per year. Workers stated to have or not a declared contract, they may not know exactly what their employer pay for them.

**Table 4 : Quality of existing jobs in 2016 -2017**

<sup>10</sup> In average per day for all the permanent and daily workers. Wages are estimations: wages ranges were asked, per day, per month or per year. To be calculated, the medians of the range were reported. For wages given per month or per year, we divided by 30 and 360 to get the wage paid per day, as most respondents reported of having to work every day.

## Section 6. LAI labour impacts from the demand: workers and households profiles

[Work in progress Descriptive statistics from table 5 to 10 PP 22 TO 26]

### 6.1. Workers' and households profiles

Labor impacts in terms of **gender** are interesting to underline. In the three country cases, only 1 member in the household is working for an agribusiness. In Madagascar and Kenya about half of the workers are women. They are household head, spouse of the head or, in Kenya, still living with their parents. They occupy half of the permanent jobs in Kenya but only one quarter of them in Madagascar. (*Level of remuneration are linked to type of jobs more than gender – to be developed*).

The situation is different in Mozambique where the vast majority of agribusinesses' employees are men and household head.

Two-third of the workers are between 20 and 40 years old. In Mozambique, permanent workers are more important in the 30-40 year old category whereas the temporary workers are more present on the 20-30 year old category. In Kenya, the younger employee are more often temporary worker and still living with their parents.

In the three countries, only 10 to 15% of the employees never attended school. Almost half of them went to school at least to the primary level. Nevertheless, in Kenya, the temporary workers are the one who never attend school or only to primary level whereas the permanent worker have a better level. In Madagascar, the temporary workers have very different profile in terms of education but seems to be slightly more represented in the “no school” and the “secondary level” categories.

The majority of the workers are migrants: 80% in Kenya and Madagascar and 50% in Mozambique. They come from neighboring localities in Kenya whereas they are native from remote localities in Madagascar and Mozambique. The rate of migrant population is similar in counterfactual zone in Kenya and Mozambique meaning that agribusinesses are not a cause (or not the only cause) for migration, which is confirmed by the households' statement during interview. Family reasons (wedding) in Mozambique and search for cheaper land in Kenya are the main declared motivations both in factual and counterfactual zones. The situation is different in Madagascar where the rate of migrant population is much higher in factual than in counterfactual zone and where all the migrants declared to have moved to find job opportunities.

In the 3 countries, the workers (or more precisely their household) belong to all the categories in terms of poverty but the temporary workers are strongly more represented in the poorest category. In addition, in Madagascar only, the permanent workers are more represented in the richest category. Without the possibility to affirm a causality relation and the direction of this causality, the temporary jobs are mostly seized by the poorest households.

Lastly, in Mozambique and Madagascar, the agribusiness development cause some land lost in the studied areas – mostly agricultural land in Mozambique for 30 to 45% of the households and mostly grazing land in Madagascar for 6% of the households. By comparison between household engaged or not in labor relation, this land lost seems not to have forced people to look for a LAI job and induced a massive proletarian movement.

[WiP - Econometrical analysis on factors that favors job access: temporary and permanent]

	MOZ - Monapo	MOZ - Gurué	MOZ - Lioma	KENYA - Nanyuki	MADA - Satrokala
<b>Amongst the workers</b>					
<b>Workers profile</b>					
% of female workers	3	15	13	54	45
% of female permanent workers	-	-	-	56	23
% of HH head	92	83	92	37	57
% of HH head's wife or husband	2	5	0	32	31
% of HH dependent/other	6	12	8	31	12
Median age	37.5	37	36	34	32
Age category (%)					
<20	3	0	0	4	6
20-29	23	33	28	26	34
30-39	28	28	28	45	38
40-49	18	15	21	19	13
>50	10	23	30	7	10
Education level (%)					
No school	13	10	13	11	16
Primary	48	37	50	50	52
Secondary	37	39	21	35	30
Higher	2	15	17	4	3
Migrant status (%)					
Non-migrant	37	56	50	19	21
Migrant nearby	15	15	8	70	7
Migrant far	48	29	42	11	72

**Table 5: Workers' profiles**

Source: Afgroland surveys (2016)

## **General discussion / job attractiveness and perceptions – work in progress to deepen with qualitative interviews with HH and key person]**

In the three countries, the interest in the proposed jobs and the income impacts depend on the remuneration and working conditions, which vary significantly from one business model to another. In Kenya, both permanent and temporary workers may have very good access to health services but work under conditions of exposure to large chemical inputs. The services associated with the contract are not sufficient high to avoid employee turnover.

In Mozambique, contracts are most often informal and short-term and are only an intermediate step in workers' career path.

In Madagascar, during the agricultural seasons, local farmers who (still) have land often prefer to work on their own farms. In a risk management strategy and aiming at maintaining social networks, they consider that working on their farm allows them to earn more, to ensure self-consumption and to fulfill their family obligations (production donations, mutual assistance in work, etc.) (Medernach and Burnod, 2013). Thus, even for households that have lost land and if alternatives exist, the installation of enterprises does not mechanically and systematically create a forced proletarian movement

### **6.2. Discussion of controversies: who gets LAI jobs**

[Work in Progress: explanation of nuanced workers and HH profiles according to LAI technical models and case studies socioeconomic and demographic structures ]

#### ***Gender and age***

#### ***Locals (land loss)/ migrants***

#### ***Poor / rich households***

### **Conclusion : the need for context specific investment policies as part of territorial development strategies**

[WiP : Several implications in terms of public policies can be drawn]

- Employment is a key issue for the countries of the South and their governments. The quantification and qualification of the jobs created by agricultural enterprises and their comparison according to the business models makes it possible to better illuminate the choices in terms of promotion of investments and anticipated spillover effects.
- Subsidizing investments (notably by making available cheap land) does not automatically yield higher value benefits (Ali et al., 2017). In particular, the quantification of the jobs created by cultivated area makes it possible to compare the performances of large-scale farming with that of family farming. This information, depending on land contexts and land density levels, can reinforce the demonstration of the lack of economic relevance of expelling farmers, even if they are squatters.
- Finally, the analysis of employee household profiles and the effects of these off farm incomes offers the opportunity to discuss the quality of the jobs created and their effect on a possible exit from poverty.
- All these results help to inform decision-makers on the models of agriculture to be promoted to meet the challenges of the rural and agricultural sector.

**Table 6: MOZAMBIQUE - MONAPO Distribution of households with or without workers in an agribusiness by main characteristics (in %)**

	Percentages in column					Percentages in line				
	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total
<b>Poverty status</b>										
Richest/Less poor	36	47	48	40	42	27	18	27	28	100.0
Intermediary	21	26	31	26	26	26	16	29	30	100.0
Poorest	44	26	21	34	33	43	13	15	30	100.0
Total	100.0	100.0	100.0	100.0	100.0	32	16	24	29	100.0
<b>Education of head</b>										
No school	15	11	21	20	17	28	9	28	34	100.0
Primary school	46	53	52	55	51	29	16	24	31	100.0
Secondary school	36	37	28	19	29	39	20	22	19	100.0
Higher	3	0	0	5	2	36	0	0	64	100.0
Total	100.0	100.0	100.0	100.0	100.0	32	16	24	29	100.0
<b>Age of head</b>										
29 and -	18	28	17	27	22	27	19	19	34	100.0
30-39	29	28	24	29	28	34	15	21	29	100.0
40-49	32	28	14	22	24	43	18	14	26	100.0
50-59	13	11	21	11	14	30	12	36	22	100.0
60 and +	8	6	24	11	12	21	7	48	25	100.0
Total	100.0	100.0	100.0	100.0	100.0	32	15	25	28	100.0
<b>Migration status of head</b>										
Migrant far	56	32	41	16	37	48	13	26	12	100.0
Migrant nearby	23	0	10	18	15	49	0	16	34	100.0
Native	21	68	48	66	48	14	22	24	40	100.0
Total	100.0	100.0	100.0	100.0	100.0	32	16	24	29	100.0
<b>Sex of head</b>										
Female	3	0	24	10	9	9	0	60	31	100.0
Male	97	100	76	90	91	34	17	20	29	100.0
Total	100.0	100.0	100.0	100.0	100.0	32	16	24	29	100.0
<b>Land taken by an agribusiness</b>										
Yes	18	37	41	0	30	27	27	46	-	100.0
No	82	63	59	100	70	52	20	28	-	100.0
Total	100.0	100.0	100.0	100.0	100.0	45	22	33	-	100.0

Source: Afgroland

**Table 7: MOZAMBIQUE - GURUE Distribution of households with or without workers by main characteristics (in %)**

	Percentages in column					Percentages in line				
	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total
<b>Poverty status</b>										
Richest/Less poor	47	27	41	36	37	15	13	20	52	100.0
Intermediary	20	18	18	36	28	9	11	11	69	100.0
Poorest	33	55	41	27	35	11	27	20	41	100.0
Total	100.0	100.0	100.0	100.0	100.0	12	18	18	53	100.0
<b>Education of head</b>										
No school	13	14	19	18	17	10	14	19	57	100.0
Primary school	27	45	52	50	47	7	17	19	57	100.0
Secondary school	53	23	19	27	28	23	14	11	51	100.0
Higher	7	18	10	5	8	10	40	20	30	100.0
Total	100.0	100.0	100.0	100.0	100.0	12	18	17	53	100.0
<b>Age of head</b>										
29 and -	13	29	24	29	26	6	19	16	59	100.0
30-39	20	38	24	22	25	10	27	17	46	100.0
40-49	13	24	5	25	20	8	21	4	66	100.0
50-59	40	5	38	12	19	26	4	35	34	100.0
60 and +	13	5	10	12	11	16	8	16	61	100.0
Total	100.0	100.0	100.0	100.0	100.0	12	17	17	53	100.0
<b>Migration status of head</b>										
Migrant far	13	36	32	30	29	5	22	19	54	100.0
Migrant nearby	7	23	5	15	13	6	30	6	58	100.0
Native	80	41	64	55	57	16	13	20	51	100.0
Total	100.0	100.0	100.0	100.0	100.0	12	18	18	53	100.0
<b>Sex of head</b>										
Female	7	14	27	15	16	5	15	31	49	100.0
Male	93	86	73	85	84	13	18	15	54	100.0
Total	100.0	100.0	100.0	100.0	100.0	12	18	18	53	100.0
<b>Land taken by an agribusiness</b>										
Yes	13	18	32	0	22	15	31	54	-	100.0
No	87	82	68	100	78	28	39	33	-	100.0
Total	100.0	100.0	100.0	100.0	100.0	25	37	37	-	100.0

Source: Afgroland



**Table 8: MOZAMBIQUE - LIOMA Distribution of households with or without workers by main characteristics (in %)**

	Percentages in column					Percentages in line				
	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total
<b>Poverty status</b>										
Richest/Less poor	23	0	38	-	33	7	0	93	-	100.0
Intermediary	0	45	31	-	34	14	12	74	-	100.0
Poorest	38	55	32	-	34	9	14	77	-	100.0
Total	100.0	100.0	100.0	-	100.0	10	9	81	-	100.0
<b>Education of head</b>										
No school	15	9	10	-	10	15	8	77	-	100.0
Primary school	46	55	46	-	47	10	10	80	-	100.0
Secondary school	23	18	29	-	27	9	6	86	-	100.0
Higher	15	18	15	-	16	10	10	80	-	100.0
Total	100.0	100.0	100.0	-	100.0	10	9	81	-	100.0
<b>Age of head</b>										
29 and -	23	36	27	-	28	9	11	80	-	100.0
30-39	23	18	33	-	31	8	5	87	-	100.0
40-49	23	9	18	-	17	14	5	82	-	100.0
50-59	31	27	12	-	15	21	16	63	-	100.0
60 and +	0	9	10	-	9	0	9	91	-	100.0
Total	100.0	100.0	100.0	-	100.0	10	9	81	-	100.0
<b>Migration status of head</b>										
Migrant far	62	18	49	-	48	13	3	84	-	100.0
Migrant nearby	15	0	16	-	15	11	0	89	-	100.0
Native	23	82	35	-	38	6	19	75	-	100.0
Total	100.0	100.0	100.0	-	100.0	10	9	81	-	100.0
<b>Sex of head</b>										
Female	8	9	10	-	9	8	8	83	-	100.0
Male	92	91	90	-	91	10	9	81	-	100.0
Total	100.0	100.0	100.0	-	100.0	10	9	81	-	100.0
<b>Land taken by an agribusiness</b>										
Yes	38	54	45	-	45	9	10	81	-	100.0
No	62	45	55	-	55	11	7	81	-	100.0
Total	100.0	100.0	100.0	-	100.0	10	9	81	-	100.0

Source: Afgroland

**Table 9: KENYA - NANYUKI Distribution of households with or without workers by main characteristics (in %)**

	Percentages in column					Percentages in line				
	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total
<b>Poverty status</b>										
Richest/Less poor	37	0	36	33	35	14	0	77	10	100.0
Intermediary	29	36	30	36	31	12	2	74	12	100.0
Poorest	34	64	34	30	34	13	3	75	9	100.0
Total	100.0	100.0	100.0	100.0	100.0	13	1	75	10	100.0
<b>Education of head</b>										
No school	18	32	22	25	22	11	2	76	12	100.0
Primary school	46	68	49	45	49	12	2	77	9	100.0
Secondary school	34	0	23	22	24	18	0	72	10	100.0
Higher	2	0	6	8	6	5	0	83	12	100.0
Total	100.0	100.0	100.0	100.0	100.0	13	1	76	10	100.0
<b>Age of head</b>										
Less than 29	7	0	5	5	5	17	0	73	10	100.0
30-39	41	24	16	17	19	27	2	62	9	100.0
40-49	27	12	17	24	19	18	1	69	13	100.0
50-59	8	44	27	19	24	4	3	85	8	100.0
60 and +	18	20	35	35	32	7	1	81	11	100.0
Total	100.0	100.0	100.0	100.0	100.0	13	1	75	10	100.0
<b>Migration status of head</b>										
Migrant far	10	0	11	4	10	14	0	83	4	100.0
Migrant nearby	67	100	78	71	76	11	2	77	9	100.0
Native	22	0	11	25	14	20	0	62	18	100.0
Total	100.0	100.0	100.0	100.0	100.0	13	1	76	10	100.0
<b>Sex of head</b>										
Female	5	24	26	22	23	3	2	86	10	100.0
Male	95	76	74	78	77	16	1	72	10	100.0
Total	100.0	100.0	100.0	100.0	100.0	13	1	76	10	100.0

Source: Afgroland

**Table 10 : MADAGASCAR - SATROKALA Distribution of households with or without workers by main characteristics (in %)**

	Percentages in column					Percentages in line				
	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total
<b>Poverty status</b>										
Richest/Less poor	52	20	35	33	34	13	7	36	44	100.0
Intermediary	23	38	31	36	34	6	13	32	49	100.0
Poorest	25	41	35	31	33	7	14	37	43	100.0
Total	100.0	100.0	100.0	100.0	100.0	9	11	35	45	100.0
<b>Education of head</b>										
No school	4	21	13	13	13	3	18	34	46	100.0
Primary school	67	49	55	67	61	9	9	32	50	100.0
Secondary school	21	30	31	17	24	7	14	46	33	100.0
Higher	8	0	1	2	2	39	0	10	52	100.0
Total	100.0	100.0	100.0	100.0	100.0	9	11	35	45	100.0
<b>Age of head</b>										
29 and -	19	17	27	24	24	7	8	39	46	100.0
30-39	38	38	25	31	30	11	14	29	46	100.0
40-49	17	24	22	26	23	6	11	33	50	100.0
50-59	17	8	13	11	12	12	8	38	42	100.0
60 and +	10	13	14	9	11	8	13	43	36	100.0
Total	100.0	100.0	100.0	100.0	100.0	9	11	35	45	100.0
<b>Migration status of head</b>										
Migrant far	81	68	40	5	31	23	25	45	7	100.0
Migrant nearby	0	11	12	5	8	0	17	55	29	100.0
Native	19	21	48	91	62	3	4	27	67	100.0
Total	100.0	100.0	100.0	100.0	100.0	9	11	35	45	100.0
<b>Sex of head</b>										
Female	15	13	16	12	14	9	10	40	40	100.0
Male	85	87	84	88	86	8	11	34	46	100.0
Total	100.0	100.0	100.0	100.0	100.0	9	11	35	45	100.0
<b>Land taken by an agribusiness</b>										
Yes	0	6	8	0	6	0	21	79	-	100.0
No	100	94	92	100	94	17	21	63	-	100.0
Total	100.0	100.0	100.0	100.0	100.0	16	21	64	-	100.0

Source: Afgroland

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