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# Revisiting the rural-urban linkages in East Africa: Continuity or breakdown in the spatial model of rural development?

The case of the Kilimanjaro region in Tanzania

Bernard Charlery de la Masselière, François Bart, Bénédicte Thibaud and Rémi Benos

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## AUTHOR'S NOTE

This paper is a result of some extensive research carried out under the European programme RurbanAfrica ([www.rurbanafrica.ku.dk](http://www.rurbanafrica.ku.dk)) coordinated by the university of Copenhagen.

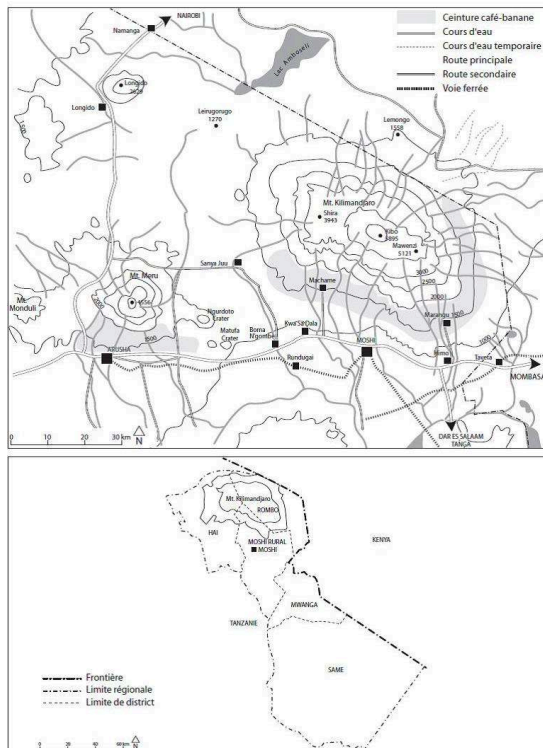
## Introduction

- 1 In Africa, agriculture transformation and rural livelihood diversification on one side, rapid growth of the urban system on another side are the general indices of the emergence of a new model of development. This model has a spatial dimension which challenges the rural-urban divide, through a new division, differentiation, prioritization of areas (production, resources, exchanges, etc.). This paper aims to contribute to a debate about what can be called the new reference areas, from the resources of which people derive their livelihoods. How new global dynamics redraw the spatial organization of the rural territories and, in that specific case of Kilimanjaro area, of the “rural” mountain itself?
- 2 In the cash crop growing zones, the peasants have tried to link the town and the countryside from below, by using social promotion as well as investment strategies

which went through the income generated from the crops and by the education of their children. This movement has been politically very contained and it influenced more the rural world's logic of "exit" than the harmonization of the two spheres (rural and urban). After the 1980s, the movement was constrained by urban employment crisis, both in the public and private sectors. The right to access urban food markets has been blocked for a long time by dumping policies carried out by giant countries, exporters of agricultural surpluses. Furthermore, the resistance brought about by the incumbent powers to the opening up of the countryside and to a better integration of farmers into mainstream society, which implies crossing the rural-urban divide, attests to a certain resilience of the agricultural modernisation model. It is the farmers themselves, in the line of survival, who try to reconstruct the social and economic links at different levels -regional, national or even international or global- by speeding up the precarious mobility between multiple territories, between country and town.

- 3 The RurbanAfrica project main objective to explore the new rural-urban linkages had two entry points: agricultural transformations and city growth and urbanization processes. This paper will start from the first with the hypothesis that agricultural transformations and their determinants are the main driving forces of social and spatial changes. Then, in Kilimanjaro region, we could identify two main momentums: a territorial momentum based on banana/coffee production, and a mobility or opened momentum based on vegetables production and/or tourism activities. Spatial differentiation and construction could refer to a "two ways process": on the one hand a mode of accumulation and development legitimizes and stimulates individual and collective strategies, on the other hand a set of sociocultural practices engenders forms of territorial and social identification.
- 4 In Kilimanjaro region, the old agricultural systems, which supported the households' livelihood and determined the forms of rural-urban linkages, are currently "in transition" if not brought to a breakdown. This specific juncture leads to very complex and diversified situations within the households and the farms and among individuals and communities in general. It is very difficult to capture this diversity and to give meaning to it. Between the valuation of the specific characteristics of the territories and the architecture of their relations which structure and determine their level of competitiveness in one side, and their integration in diverse networks (of information, of technics, of markets...) which do not respect the boundaries of these specific areas, on the other hand, how can we imagine the future of these former rural societies and territories which are entering in a new variable time-space?
- 5 This paper is organised as such: a first chapter presents the general situation of the Kilimanjaro region, its agricultural structures, as they have emerged from the colonial and neo-colonial process of development, and, specifically, the role of coffee production in the construction of the rural-urban divide; the second chapter is about the theoretical approach and the methodology of research. The third chapter deals with the current agricultural and livelihood transformations under the emergence of new spatial differentiation and organisation.

Figure 1. Arusha and Kilimanjaro regions.



## The Kilimanjaro region under the modernisation model of development

### Descriptive account of relevant contextual characteristics of the research area

- 6 Agriculture, with 8.7 million operators, accounts for 29.1% of the GDP (National Sample Census of Agriculture 2016/2017) and represents 30% of total exports and 65% of the raw materials used by Tanzanian industries (FAO, 2008). This sector, which has been increasingly attractive since the 2007-2008 crisis, attracts both national and international private investors. According to the Ministry of Agriculture, Tanzania concentrates 44 million ha of arable land, of which only 23% are currently exploited. However, because of the opening of the land market to both the private national and foreign sector, new situations, and sometimes conflicts, are emerging and influencing the already existing tensions (Kimaro D., Proches H., 2014) while 66% of the population live in rural areas (World Bank, 2018) occupying a national average surface of 1.3ha (according to the National Sample Census of Agriculture (NSCA), 2007/2008 Small Holder Agriculture). Furthermore, according to the forecasts relating to demographic developments until 2050, the population is expected to rise from 51 to 129 million people in Tanzania (UN, 2012) and one can raise the question of the evolution of the tensions around land access in Tanzania, if the trend towards concentration of lands from large players is to proceed.
- 7 In this northern part of Tanzania, the two highest mountains, Mount Kilimanjaro (Kibo, 5895 m) and Mount Meru (4556 m), are in the heart of very high-density rural areas,

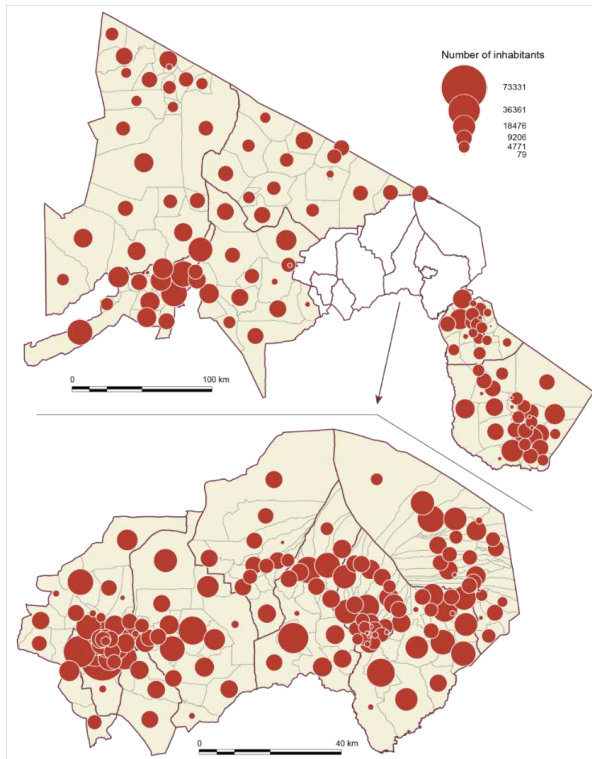
mainly situated on the south-eastern slopes of those volcanoes between 800 m. and 2000 m. altitude contour lines. Those volcanic soils are very fertile. The annual amount of rainfall is much more important on the highlands (generally 1000-2000 mm) than on the lowlands (500-1000 mm), with a main rainy season in March-June, and a short rainy season in October-December. The hydrology is characterized by many streams coming from the upper part of the mountain, digging deep *barrancos* separating the *planezes*.

- 8 In term of environmental issues, the main one is water, in term of climate change (water resource) and socio-economic change (water use) as well. One of the most noticeable features of the water management is the “traditional” system of furrows, going from the upper slopes down ward to lowlands, used for “irrigating” crops and cattle and human consumption.
- 9 On those very fertile and humid “terroirs”, high rural population densities are associated with complex farming systems where a wide range of food and cash crops are grown, mainly banana, maize, coffee, beans etc. together with cattle rearing and poultry breeding. Those “coffee-banana belts” have been for long the basis of the Chagga system on Mount Kilimanjaro and of the Wa-Arusha system on Mount Meru. Most of the farmers are smallholders, whose *shamba* (less than 2 acres) are made usually of very small plots, scattered along only one- or two-acres plots. In fact, there used to be some geographical and seasonal complementarities of the coffee banana belt production (two crops cycle each year) and of the lowlands system (one crop a year, mainly maize, plus cattle rearing).
- 10 One of the main features of the historical background is the differentiation of mountain farmers (mainly Chagga in Mt Kilimanjaro) and lowlands pastoralists (mainly Maasai). There are both complementarities, and more and more competition (especially for land) between those two groups of population, in a context of strong population growth. The history of mountain farmers was strongly influenced by the development of coffee cultivation since the colonial period.
- 11 Each of the two high-density mountains has its own town. Moshi is generally known as “the Kilimanjaro town”, and Arusha as “the Meru town”. The first step of urban development in those rural areas consisted in a backwash or polarization effect of those new urban centres, in a feature of core-periphery relationships where the core is urban and the periphery is rural. In this spatial model, “imported” urbanization mainly resulted in moving the core downward from highlands to lowlands. It is noticeable that the first German base in Mount Kilimanjaro was Old Moshi (*Neu-Moschi* 1893), about 1400 meters high, before Moshi was created in the lowlands (800 m.) a few years later, when the railway from Tanga reached the region (1912). It means that, in the first stage of urbanization, most of the rural population was living on highlands, in scattered settlements, and the urban development started in lowlands, attracting some population flows downward. The geography of those high mountains was such involved in growing up-down complementarities and flows, which may be considered as common in most mountains.
- 12 Since the colonial period, the extensive development of road transport and the growing flows and mobility of goods and persons have led to an increase in the number of market places along the main roads: in this part of Northern Tanzania, stretched on about 100 kilometres from the Eastern slopes of Mount Kilimanjaro (Himo), to the Southern piedmont (Moshi, Boma N’Gombe-West Hai) and to Mount Meru (Arusha) and Monduli Mts (Monduli), the main road is an international one, from the Indian Ocean

(Dar es Salaam and Tanga) to the mainland (Nairobi, Kampala, Rwanda, Burundi and Congo). This key trunk tarmac road now carries a heavy traffic of trucks, buses, and tourist vehicles; as a result, there is a growing number of market places and bus stops all along the route, especially in the areas where people and goods coming from the highlands have convenient access to the international road. In fact, the previous spatial backwash scheme is gradually replaced by a linear model (trade and transport corridor).

- 13 The population growth along the southern piedmont highway of Mount Kilimanjaro, with a growing number of urban centres scattered along the road, is a very clear example of this phenomenon. According to census population data (1978-2012), we can notice two main trends:
- A significant growth of the two main cities: the population of Arusha was 55 000 in 1978, 416 000 in 2012 (an almost eightfold increase). Moshi Municipal District (52 000 in 1978) is now (2012) 184 000. The two cities were roughly the same size thirty years ago, whereas now Arusha's population is more than twice that of Moshi. This can be explained by the fact that Arusha has benefited from a good situation and more important activities (tourism, East African Community headquarters, ICTR - International Criminal Tribunal for Rwanda etc.).
  - Emerging new small towns, most of them along the highway, especially near junctions with local roads leading to the mountain: one of the most characteristic is Hai (Boma n'Gombe), situated on the Moshi-Arusha highway, which is a new district small town (17 000 in 2002, 34 000 en 2012); too Usa River, Hedaru, Himo, Sanya Juu, Kwasadala are other examples.
- 14 Both Arusha and Kilimanjaro Regions, according to the results of the 2012 census, have some specific population characteristics:
- In terms of age classes, the percentage of children (0-14 years) is lower than in the whole country: 37.8% in Kilimanjaro, 41.7% in Arusha vs 43.8% in Tanzania. Kilimanjaro Region has the second lowest percentage of children of the country, after Dar es Salaam (31.6%).
  - On the other hand, in both regions, the percentage of adults (15-64) is a little higher than at the country level (52.2%): 55.1% in each of them (compared to 66.3% in Dar es Salaam). But what is most remarkable is that Kilimanjaro by far has the highest rate of elders (9.7% > 60 years, 7% > 65) in the country (respectively 5.6% and 3.8%), while Arusha (4.7% and 3.2%) is more similar to the country level.

Figure 2. Arusha and Kilimanjaro Region: population 2012, with a special focus on Mount Meru and Mount Kilimanjaro surroundings districts.



Source: NBS

### “Coffee time”: the construction of the rural-urban divide

- 15 In Kilimanjaro region, the coffee tree has been incorporated into a mountainous environment with a strong identity. Even more than elsewhere, in the intertropical highlands, the mountain is clearly set apart from neighbouring lands by strong altitude, rainfall, temperature and soil types gradients. Those gradients determined clearly separated stages. That separation limits the possibilities of extending the development of a given species, and requires internal compromises and exchanges between the different stages. The different areas defined in that way are sensitive to changes. The fertility of that environment is on a par with the overall fragility, since the intensity of the work and exchanges that it presupposes results in conflicts of interest. Maintaining social and environmental cohesion is therefore the main challenge. Adhesion of all the stakeholders to a common cultural repository, constantly needing to be redefined, is fundamental.



Drying coffee at middleman shop

- 16 Coffee time can therefore be considered as a moment of a long history, in which the economic and cultural autonomy of the Chagga population was brought into play. That autonomy was strengthened in line with circumstances, particularly at the time of colonization, which exerted three-fold pressure on society and its territory:
- Pressure on land through the springing up of the *estates* in zones where men grew finger millet and grazed their herds, and through the population growth specific to that period;
  - Pressure on the accumulation method, through the loss of herds, which formed the basis of exchange and social betterment, and the setting up of the commodity system;
  - Pressure on economic and political autonomy, through the indirect imposition of hired labour and the administration and cooperatives control.

### The territorial paradigm

- 17 The colonial and neo-colonial model of development sets out to make compatible the endogenous workings of the agrarian societies, the building of the modern State and the market trends. The prior delimitation of the borders designs a continuous territory over which the State could exercise jurisdiction. Any part of this territory must be stamped with a new identity or a new form of representation, established as a legal spatial entity and valorised with a specific function in the general system. Then, the territorial control goes beyond the delimitation of the administrative units; it concerns the strict allocation of any portion of space to a specific activity: forests, national parks, agricultural areas, urban centres, private estates, indigenous reserves, etc. This spatial integration is built on an over-determination of the territories by the technical rationality. It is the role of the technical administration, located in town, to implement this new spatial organisation. Then, setting and “ethnicizing” the basic sharing of the space, blocking the expansion of the agricultural units, narrowing the scope of the traditional mobility..., the colonial and neo-colonial model of development has introduced a structural relationship between socio-economic identities and territories, which has exacerbated the competition for access to resources. The link between individual dynamics and a national project went through the strict control of the agricultural (commodity) chains (in Kilimanjaro, the coffee and basic staple food chains) and the organisation of the administrative levels which determine the nature of the links between the country and the city or town.
- 18 Agricultural chains were organized in a strict division of labour, with certain opacity between their various segments (production, processing and commercialization).

Furthermore, cash crops were directly involved in the socio-economical process of the construction of the national States, and then of the institutionalization of power. The mobility was put under control even if, following the development of education and civil employment, migration started from rural zones to the main cities. Small and medium towns could be considered as appendixes of rural areas.

- 19 The relative success of the generating-income cash crops leads to a “territorial compromise” which was made possible by the adequacy of the economic and political objectives of the state administration with respect to the manpower needs of the estates and to the development and promotion needs of the local societies and their elite. However, forced into closed territorial confinement, farmers had to seek the further enlargement of their social environment elsewhere than in their local neighbourhood. That is why they try to migrate or to open new perspectives and new social and spatial frontiers in town, through the children schooling for instance, and to intensify their internal investment on land which created new borders by the fragmentation of the agricultural units. For a long time, the development policies have been based on agrarian and naturalistic models, confining the mountain issue to the specific managerial constraints of their fragile environments, and emphasizing a too exclusive linkage between societies and territories at local level. Over a given period, these models contributed to the value-added production potential but, nowadays, they are not able to give tools to overcome the contradictions of sustainable development.

### The rural-urban divide

- 20 In the first stage of urbanization, most of the rural population was living on highlands, in scattered settlements, and the urban development started in lowlands, attracting some population flows downward. The geography of those high mountains was such involved in growing up-down complementarities and flows, in terms of altitude levels, physical and human characteristics. But it signifies also that a new phenomenon started then: formerly, the core (highest population densities, agricultural production...) was on the mountain slopes and the periphery in dry and quite empty lowlands (*pori*, which means bush); subsequently, the core started to slide down the slopes. Arguably, urbanization started in the periphery of the rural core. As Moshi used to be, and still is, the small and medium towns were first places of traders and administrators who are the archetype of a civil urban society opened to the world, while the countryside has remained embedded in the heterogeneousness of its own cultures that are patrimonial, and in its agricultural and territorial (or land) logic. By being supervised from above as demands the strict vertical hierarchy of cooperative societies and administration system, the peasants' means of being integrated into the main trend of the historical process of development were limited. Even if, in the cash crop growing areas, they have tried to link the town and the countryside from below, by using social promotion as well as investment strategies, this movement has been politically very contained and has influenced more the rural world's logic of “exit” than the harmonisation of the two spheres. Small scale producers remained confined to the production sector and were therefore left on the margins of the official market. They were unaware even of the value of his production, and at the same time encouraging the misappropriation of income into private or public coffers. As recalled by Cecilia Tacoli (1998, p. 150), this situation leads to the notion of urban bias, which emphasized the idea that the rural poor were dominated and exploited by powerful urban interests.

In fact, there is a question of power which determines the relation between cities, towns and the countryside through the progress of the democratisation process and the economic development. We have to take into account the evolution of the state model in Africa and especially its strategy for the distribution of power, and the way of incorporating the peasantry into the state as citizens and not as subjects (Mamdani, 1996). The evolution of the urban-rural divide is also due to the nature of development, the unstable duality between, on the one hand, the markets, both external and urban and, on the other hand, land and workforce which depend on the field of action of customs. The extraction of work outputs, mainly agricultural products, in order to integrate them into market circles presupposes that, due to the heterogeneity of rural communities and the particular nature of the central government, there are concessions to the patronage system which seems to be a non-coercive way of linking the rural areas to the urban ones. Rural areas are breaking into particular territories, with, as it is in Kilimanjaro region, a strong ethnic connotation more or less institutionalised or sometimes an unstable multi-ethnic set-up, and regulating access to land.

- 21 Agricultural fertility and population growth rapidly led to a saturation of *terroirs*, hence to territorial enclosure, which carried with it the principle of an exit from the system. Patrimonial management has lost its ability to reproduce the system by passing from a local scale to a national scale.
- 22 Towards the end of the 1980s, the weakening of the State machine, loss of foreign markets and the cash crop crises called into question the fragile balance of the neo colonial development model. Moreover, the crisis in public employment and the impoverishment of urban circles dismantles the links of solidarity between towns and rural areas. At the end of the twentieth century, the coffee revival policy fitted well into the new logic of competition between local territories. Those territories needed flexibility that involves the gradual elimination of mechanisms controlling and organizing the territory. That policy needed to mobilize local forces to renew territorial anchorage and make profitable use of the fundamental characteristics of specific spaces.
- 23 One of the objectives of the RurbanAfrica European project has been to reconsider the nature of the connections between rural and urban areas. The colonial and neo-colonial model of development was mainly based on the control and the separation of territories by the State, which built the rural-urban divide. At the global level, the contemporary neoliberalism has established a new “territorial game” which is economically very competitive and supposes the breakdown of the former system of territorial regulations. At the local level, different blockages lead to the redefinition of the reference areas within which people organize their systems of resources.
- 24 Agricultural Africa today does not escape this general redefining of the socio-political, economic and special framework in which producers of more diversified status who by organising their activity, think about their identity and manage their development. This is a source of conflicts at all levels whereas the modes of traditional control have been watered down in the exercise of decentralised despotism. The transformation of rural communities has to keep in tune with a larger space. As Mahmood Mamdani demonstrates, there can be no redefining of the general framework of reference for the national society without the need of a reform of the modes of power in both urban and rural settings, or the need of a structural integration of rural and urban are(n)as.

## Methodological background of the study

25 This general shape suits to the main three objectives of the study, which aims to analyse new types of rural-urban linkages in those densely populated mountain areas scattered along the main highway of Northern Tanzania, with two main towns, Arusha and Moshi. The main issue was to investigate the major changes of agricultural systems in relation with urban growth and socio-economic dynamics in the selected rural areas. Under the RurbanAfrica program methodological approach, fieldwork took place along the Northern corridor of Tanzania. This site was made up of three case studies, the two latest of them being used for this paper: Monduli area (West of Arusha), West Hai-Kwa Sa Dala [Southwest Mt Kilimanjaro, in both highlands (Machame) and lowlands (Rundugai)], Marangu area. Due to low availability of time, data collection was conducted during a short period, from the 22<sup>nd</sup> to the 30<sup>th</sup> of June 2015, using the links of the people's social network and/or a spontaneous approach (*guerilla* interviewing). Nevertheless, this study benefited from previous research projects on Kilimanjaro region. The main hypothesis for selecting the respondent has been based on the transition from coffee production to horticulture (tomato as a “booming crop”) and to tourism activities.

### A brief literature review

- 26 Along the coffee banana belt on the mountain and its maize periphery in the plain, the Chagga farming system has already been well documented for a long time. Ten years ago, it could be described by (among others) François Devenne, Odile Chapuis and François Bart (Bart *et al.*, 2006). They pointed out:
- The farmers have limited manpower at their disposal: in the farms where they conducted the survey, the majority of them survived solely on two adults, except in the area closed to the city of Moshi.
  - The size of the farm was still very small, between 0.7 ha to 1.30 ha. Some farmers cultivated land in the plains (small plots, less than 1 ha), but the high cost of renting land and the distance between kihamba and plain dissuaded numerous farmers (37% in Machame *chefferie* for example) from cultivating plots down below.
  - Coffee growing, which was an exclusively male domain, led to the decline of zebu breeding, supplanted seasonal farming, exiling it to the lower slopes of the mountain or to the plain. Banana, today the private domain of Chagga women, little by little, had acquired market value. Coffee and Banana are the two pillars of the socioeconomic domestic system, which was made vulnerable by the decline of the coffee prices during the 1990s.
  - Most farmers had less and less land, often not enough to feed the family. They combined parcels from various altitudes and a variety of complementary activities.
  - Most farmers had outside work, and the range of activity and social status was enormous.
  - The changing physiognomy of the area and the limitless capacity for innovation of its indefatigable inhabitants: variety of land acquisition strategies, strategies for diversifying income.
- 27 Land blockage was seen as the main blockage on the mountain: it splintered farms and made farming all but impossible. In response to this, the Chagga farmer, whose attachment to the land is visceral, sprang into action and partook of the mountain's

multiple networks. Roads, city and the willingness of the younger generation to move away are essential to success.

28 More recent papers based on field surveys emphasized the same factors of evolution and the same trends and tendencies, which means the Kilimanjaro farming system and the model of development to which it refers, have been in transition for more than 20 years. More than this, we can suggest the emergence of a new model according to the fact that:

- The farming system is no longer based on colonial commodities (coffee) but it is completely reorganized to face the boom of the commercial food sector. Coffee production has declined dramatically (less than 4000 tons).
- National policies support commercial small-scale farming and mainly large-scale commercial farming.
- On the farmers' side, the diseconomies of scale related to the small landholding, and on the investors' side, the difficulties to have access to additional land and labour lead to new contract farming which change dramatically the social relations of production.
- An increasing number of young people do not inherit any land. Then they have to start accumulating relying on their own initiative and strength. Then they are looking for fast earnings.
- Family members are disseminated in different places, often far away from the others.
- Rural livelihoods have become increasingly multi-occupational on the basis of rural-urban mobility. Then, family members are disseminated in different places, often far away from the others, having to reorganize their solidarity.

## The conceptual framework

29 The current situation is very complex and diverse as these new areas are very flexible according to the circumstances, or the opportunities that may open for individuals or collective persons. The former social and geographical categories are not very useful to understand the new dynamics. Then, we need to break the rural-urban divide and to integrate both city/town and countryside in the same continuum, as new areas of life, as *continuous areas of movement* (Haggett, 1973). We will consider the idea of “*continuous area of movement*” as a key notion to set our analysis framework up. To deal with the land problem, small and big farmers or investors, etc. have to reconsider the way they will follow to access to, to utilize and/or to allocate the land or the space in general as a resource. This process leads to new forms of differentiation amongst the actors and to new forms of differentiation of the space.

KEY NOTION	DIMENSIONS	COMPONENTS
Continuous area of movement	Land problem	Land scarcity
		Renting
		Contract farming
	Agricultural transformation	Diversification
		Intensification
		Labelling, certification
		Integration into the market
	Livelihood diversification and sustainability	Business
		Rural tourism
		Off farm jobs
	Mobility	Transport network
		Multi locality
		Commuting
Interconnectivity / Flows	Use of mobile phone	
	Family solidarity	

## Analytical framework

30 We could summarize the analytical framework as such:

31 **Key notion**

Continuous area of movement: in order to develop new livelihood strategies, people have to overstep the limits of the former territorial categories (like the rural-urban divide, the family farm, etc.) to define a new geographical scope of their activities which could be “truncated, distorted, fragmented” (Lefebvre, 1974), etc. The hypothesis is as follows: a new socioeconomic spatial model is under construction and this process cannot be predictable.

32 **Dimensions**

Agricultural transformation: Farming used to be and generally remains the main source of incomes. The colonial and neo-colonial model of farming came to a crisis in the nineties. The conditions for running a farm have dramatically changed: intensification, diversification, integration into the market, integration to new activities, etc. The agricultural model or the system of production determines the socioeconomic and cultural construction of the territories, especially the division between urban and rural areas.

Land problem: Land is the key factor as most of the people are still involved in agricultural activities and as newcomers are interested in investing in agriculture and are looking for land. Access to land is spatially heterogeneous and not really flexible. The land access problem reshapes the structure of the space of production and contributes to redefining the role of urban areas in the livelihood strategies of rural households.

Livelihood diversification: Beyond the mere diversification of incomes, the understanding of livelihood strategies must be seen as an approach to the study of rural change, including a multi-scalar perspective from global to local level.

Mobility: the *continuous area of movement* supposes the areas of live in general are defined by the way people utilize their capacity to move and to relate different places of resources through mobility. Mobility could be seen not only at the individual level but as a chain of mobility.

Interconnectivity: Mobility is not the only way to relate separate areas or places, separate actors, and/or to animate and sustain social networks (family, domestic, professional ...). The use of ICT... contributes to build a specific relation to the space.

Growth of small and medium towns: The first step of urban development in those rural areas consisted in a backwash or polarization effect of the new urban centres, in a feature of core-periphery relationships where the core is urban and the periphery is rural. Now the situation is much more poly-nuclear.

## The emergence of a new spatial model

33 The imperative need to build a new system of resources is based on two main phenomena: agricultural transformation and livelihood diversification, both of them related to land scarcity. We have to link them to the liberalization of the economy in a context of the emergence of a more and more globalized capitalistic world, which demands a certain link of subordination of the State national level to its local strategies

of investment. In Kilimanjaro region, producers engage in new crops which benefit from mountainous physical advantages: horticulture as tomatoes, onions, potatoes, peas, cabbages... These new crops need irrigation, enhancing the mountain as a water catchment area. However, in a context of global climate change which causes the melting of the big glaciers (Mounts Kilimanjaro, Kenya and Ruwenzori), the management of this resource becomes sensitive. On another side, tourism becomes a structuring activity: the most emblematic mountains are more and more seen as a natural world heritage relevant to the agenda 21 of UNCED. Then, population dynamics, collapse of traditional benefits from agriculture (colonial commodities...), opening of new markets, economic liberalization, urban income insecurity, adjustment policies... have radically changed environmental management conditions and spatial organisation, on the one hand, and, on the other, economic accumulation structures like those of social identity.

### Agricultural transformation: the tomato deal

- 34 In Kilimanjaro region, the countryside has experienced glory days with the coffee industry which has structured its territories and supported a strong process of development. The region is entering into a post coffee era, with emerging new agricultural chains, well connected to the urban markets, like the tomato chain which supports the main activities of Kwa Sa Dala market, located 20 km away from Moshi town. The old markets' network is increasing and is better connected to the roads. The countryside is now very well connected to the urban centres, through very complex and multimodal relations.

#### The tomato chain and challenge

- 35 According to a report on *MUVI-SIDO Iringa Tomato Value Chains Analysis for Local (National) Market* (2009, p. viii),
- There had been consistent growth in national output up to around 2000 where production has been staggering at around ± 140,000 mt. With 107,190 mt in 2008, Iringa accounts for 72% of tomato produced in Tanzania. Average regional yield is around 17.5 mt per hectare or about 7mt per acre. Tanzania is a net exporter of fresh tomato; between 2004 the country's annual export averaged 1.05 million kgs against an average import of 6,824 kgs though the pattern is highly uneven for both exports and imports.
- 36 The production in Kilimanjaro (17.500 t) remains small compared to Iringa Region, but it is significant at local or regional level (62% of the vegetables and fruits production) and yields (maps 3.22, NSCA) are higher than in Iringa (17.5 t/ha). It must be noted that some Chagga farmers cultivate tomatoes in Iringa region too.
- 37 Tomatoes are produced to supply the city markets and for export. Dar es Salaam is the main Tanzanian city market. According to the same report (p. 13),
- Reflecting seasonality of supply of tomato in Dar es Salaam, prices do fluctuate significantly, [...] higher prices between March and May and a trough (low) from June through September. The spike in December is assumed to be caused by year-end festivals when consumption is highest. Traders who take the risk at farm gate indicate that the major risk in tomato marketing is oversupply caused by weak market intelligence and inability to forecast.

- 38 The other risk of tomato is “over dependency on rainfall, therefore weather or rather climate change is the major risk and producers have indicated experiencing erratic rainfall pattern over the past 10 years. Poor water management and pollution water sources adjoining the tomato fields are two other important risks” (p. 10).
- 39 All the farmers who were interviewed have started tomatoes production for less than ten years, and one can consider tomatoes as a new important cash-earning commodity. The main reasons are:

- Tomatoes are in high demand.
- Tomato production is a fast cash earning activity which attracts especially young farmers who do not have received any inheritance (land, coffee trees, etc.). Some of them, who were interviewed, explained that they had first to find a way (selling workforce, doing small business) to accumulate a primary capital before starting farming. They could get a fast-seasonal return on investment from tomato production which allows them to invest again and to grow. According to the report on Iringa tomato value chain, “Return on tomato cultivation can be improved if yield is enhanced from around 15 mt reported in the field to at least 22 mt” (p. 9), which is the case in Kilimanjaro region.



A banana-tomato plot rented in Machame

- Farmers could easily invest in new skills and in new stages of the value chain. Many women are already involved in marketing in different local places and especially in Kwa Sa Dala market, which is the main market to export tomatoes out of the region. Women could be producers and retailers at the same time; they could wholesale first to middlemen or to transporters, and sell the left over directly to the local consumers; when their own production is finished, they could also buy tomatoes from other producers and sale them. Even if they are involved in business, they prefer to be identified as farmer or peasant.



Tomatoes at Kwa Sa Dala market (November 2014)

- Some farmers with good skills could also become middlemen as a main activity. Then they rent their farm to other producers or they employ workers to cultivate their land. Robert, whom we met in Kwa Sa Dala, is representative of this category of brokers, which is at the core of the chain, at the core of the rural-urban linkages, linking producers, transporters, wholesalers and retailers. He is responsible of his father's land in Machame Juu, a former coffee plantation which has been replaced by tomatoes in the shade of banana trees, and rented to neighbours. Mobile phone is the main tool to manage the business: during the one-hour interview, Robert gave or received several telephone calls (every 5 minutes in average). Mobile phone allows him to get information on the state of the market in any places, to give an order to a transporter to come and to collect the goods immediately, etc. Then, he has to sustain a quite important network of professionals. He is paid a commission by either party, generally 10% of the contract. He lives in the small town of Boma N'gombe.

### The land issue

- 40 For farmers, the main change is in land use and in the accumulation process. The territorial enclosure, specific to the highlands of East Africa, marks "land's end" and rules out any flexibility in the choice of crops and orientation of productive investment. The patrimonial logjam, with fathers keeping their hold over land planted with coffee trees and benefiting from the income up until their death, has helped to turn younger people from the crop to "fast growing and fast selling crops" as tomatoes. The new system has not affected the land ownership, but through renting, access to land becomes more flexible. There is no need to be a landlord as farming is mainly on a seasonal basis.
- 41 The main problem for tomatoes' producers is to get access to land. To do so, flexibility is the keyword. Renting a land permanently or for one or two growing seasons (to grow vegetables for example) is more and more common. The price is fixed according to the

geographical location, to the access or not to the water. In Machame (coffee-banana belt) for one growing season (from planting to harvesting, 5 months in average), renting two acres costs 150 000 Tsh (75 €) + the charges after the harvest. In Boma N'gombe (in the plain), it is less expensive (100 000 Tsh without charges). The owner preferred to rent on the basis of a fixed price instead of a percentage of production. There is no formal "contractualisation" of the exchanges.

- 42 Flexibility means the people who want to rent a piece of land, have to move even far away from their homeland. Some Chagga farmers for example rented land in Babati over two hundred kilometres from Kilimanjaro on the road to Dodoma. Others may rent land even further, in Iringa region for example to grow tomatoes when it is the right season, before to go back to Kilimanjaro when the season is better there.
- 43 Renting is possible because some owners have available land. In the low densely populated areas (as in Rundugai in West Hai district), it is easy to understand land is available. It is less understandable in the high densely populated slopes of Kilimanjaro Mountain. Actually, the availability of land reflects the extreme complexity of the land question in Kilimanjaro. Some people have land they are not able to cultivate for any reasons: because they are too old, they have a job in town, they don't have the capacity to invest, etc.
- 44 Having access to water is necessary to grow tomatoes. The coffee-banana belt has had a very well-organized furrows system for long, to supply the domestic needs, to water livestock and to irrigate the shambas, especially the coffee plantation to avoid the hydric stress. Having plots closed to the rivers or to the furrows is a comparative advantage more than before, even if the rapid reduction of glaciers at the top of the mountain, due to climatic change, is problematic. In the semi-arid plains, tomato cultivation depends on the implementation of an irrigation scheme: it is the case in Rudungai (USAID/TAPP project) and in Ngabobo (west Kilimanjaro), two sites where we had interviews.
- 45 Tomato production is relatively input intensive, including seeds, fertilizers and pesticides. Local storekeepers generally provide these inputs as an advance in kind which could be refunded in cash after the sales. Then, farmers have to set up a network of trustworthy in town to be able to get credit. The tomato plant is affected by a number of diseases. High incidence of pests and diseases, especially during the wet season, results in low productivity and supply.

### **Towards new spatial differentiation and organization**

- 46 The spatial organization for the tomato chain refers to the production and to the market. According to the land and water problems, the area of production is reshaped. Over short and medium distances, the production area extends along a new type of altitudinal stages, integrating in the same continuum low and high lands: the former coffee banana belt, the lower slopes of the mountain and the semi-arid plain are thus connected on either side, up and down, of the main tomato primary market of Kwa sa Dala. Over a long distance, the area is more and more fragmented, depending of the natural conditions and the availability of land. Many factors affecting the new spatial organization are common to all situations: the ability of being mobile, the ability to mobilize labour force and to raise capital, the importance of the information chain, notably the chain which is based on personal relationships, the quality of the transport

network, and the element of chance too, etc. The dynamic remains an internal rural dynamic with related connections to the urban market network, including Kwa sa Dala, on the upper- and down-stream of the chain. If those rural market places are “urbanizing”, as we were told during our survey in Boma N’Gombe, some farmers said it is first these internal rural dynamics which boost this urbanization process: the countryside “builds” the small towns.

- 47 As usual, the market area is organized into an extensive network. This network links the production areas to the market places, which are mainly located in the big cities. It is surprising that this market network is not necessarily hierarchized on the basis of primary, intermediary and final hubs. The market area itself is a fluctuating area according to the prices offered in different urban places at any fixed time. To identify new patterns of rural-urban linkages, we have to point out the crucial function of mobile phones and the growth of more virtual rural-urban connections based not only on floods of goods and persons but also on many rapid information flows, mainly about transport facilities and market prices. Those increased flows of information combined with flows of capital and with the development of individual mobility blur the boundaries between rural and urban areas. Generally, scholars say that through the new technologies the city life is spreading across the countryside, but we could also emphasize the countryside invites itself in the cities. There is a kind of spatial continuum defined by market power and including separate functional rural and urban places and/or areas connected by transport and transmission networks. This is some new issues to be investigated.

### **Livelihood transformation: the growth of the tourism industry**

- 48 As for small producers the crisis in the sector continues to be very present, they can no longer rely on coffee as a unique resource even if it is now associated with other agricultural crops: bananas but also tomatoes, peas, etc. Furthermore, most of them have gradually been led to totally replace coffee earnings by other resources: the prices but also the production are too low and too irregular to rely on them. Small producers nevertheless continue to maintain their coffee trees on their land. This allows them to be able to draw casual and irregular income when production is particularly good or when market prices are exceptionally interesting.

### **The importance of “cultural tourism”: the city invites itself in the countryside which reshapes its image**

- 49 What the authorities and local tourism players call “cultural tourism” is one of the strongest recent dynamics of these years in the Kilimanjaro area:
- “Clearly, the development of these significant and increasingly widespread local sources of revenue holds important implications for rural development and poverty alleviation. The income from tourism represents a growing source of economic, community based tourism in Tanzania (Akunaay *et al.*, 2003).”
- 50 Several interviewees consider that “without tourism, there is no life for Chagga in Kilimanjaro”. Small coffee producers who are turning to tourism are not necessarily the poorest or the most affected by the crisis in the sector. Developing a tourist activity is not considered as an obligation for them, but rather a chance. Our investigations reveal how coffee is now frowned upon by Chagga: it is an agricultural production

associated with decline, uncertainty in the past. Young people in rural areas do not absolutely identify themselves with coffee and do not want to do it even if they can develop the production. Conversely, tourism is seen as a dynamic, modern, western activity. The work is less painful, less physically demanding. If tourism is a chance for them, few small producers are directly engaged in tourism activities. It is mainly young people who benefit from tourism. In the area of Marangu, it is estimated that more than 2/3 of men younger than 35 years work as guides and porters on the ascent of Mt Kilimanjaro. Similarly, young women find employment in cleaning and maintenance occupations (maid, cleaning) of tourist accommodation facilities around Marangu (hotels, lodges). These individuals are usually from family producers but they do not work themselves in the family plot. They seek income from outside.

- 51 Some small producers manage to take advantage of tourism directly. For example, they value their land by promoting natural (like waterfalls) or cultural (Chagga caves for example) curiosities. These sites are key elements of the “cultural tourism” offer in Marangu area. International tour operators exploit this tourism offer very much. Today, the sites of “cultural tourism” are increasing, thanks to the improvement of road access in rural areas. Producers who are lucky to have such resources on their land are rare, but their role is very important. Other jobs are created around these sites, as independent “guides” job for young men. These small producers have completely abandoned the production of coffee and now depend on tourism revenues (Dascon, 2006, 2009). Other producers have directly developed an offer of “cultural tourism” based on the lifestyles of the Chagga peasantry. This seems particularly interesting to incorporate this activity into the value chain analysis of the coffee sector. Coffee is now a widely mobilized marketing emblem, which demonstrates its attractiveness to foreigners (Western in particular). For small producers, the objective is to welcome visitors to their homes to show them the Chagga specific expertise, organization of the habitat, gastronomy, etc. Their strategies are manifold to bring tourists to them. They do not operate on a “captive” audience. This is the case of “Mamba and Marangu Cultural Tourism”, initiated in 1990 and supported by a community of 4 people, and supported by the government program for the TTC. In general, local tours-operators integrate them into their tours. Other profiles of Cultural Tourism community exist around Marangu. For all of them, the relation to coffee seems relatively ambiguous. On one hand, it is at the heart of their tourism offer: they show the farm and the various productions, they extensively emphasize on coffee (the most important in their speech), on traditional technics to roast and dry it and then the grilling, grinding, etc. But on the other hand, most of them have completely abandoned their coffee trees and no one expects something about coffee production.
- 52 Among those who control the land (property), the most important sign of tourism development is the number of different hotels/lodges that have been built over the last fifteen years (Mountain Resort in 2003, Banana Lodges in 2000, Babylon Lodges in 1998, etc.). They are usually of high standing. They work with tour operators in Arusha, which are not necessarily Tanzanians. These hotels/lodges are the main destination for foreign tourists. But they also work with local or national tourism in the form of business seminars (a growing activity in the Kilimanjaro region) and family celebrations receptions of the affluent (weddings, birthdays, etc.). In general, the owner does not live on site and continues its business in Arusha or Dar (or abroad). He left his siblings care to run the business. Incomes from tourism supplements return

directly into the daily life of his own farm-based family, following a strict patrimonial logic. The development of tourist business for creating new resources is very important in the case of large resorts. But it also allows people to continue to manage the farm. Some of these investors continue to be important coffee producers.

### When the coffee sector captures the urban trend toward tourism: the countryside invites itself in the city

- 53 Moshi town is experiencing an original and important dynamic: that of the proliferation of coffee shops. In 1994, the first coffee shop opened in the city centre near the bus station and the market. The “Coffee Shop” sells about 30.000 packets of coffee per year, mainly to tourists. Its director-manager, a lady, played an important role in promoting coffee to the tourists. Noting that in her shop several tourists bought Masai cloth bags and coffee distinctly, she somehow “invented” in 1996 “Maasai” packaging to the delight of the tourists today. She went straight to meet the “mama”(married women) communities which produce tissue, so that they organized production directly for coffee sachets. This pioneering structure is now developing commercial relationships with cultural tourism structures in Machame. Therefore, the small coffee producers are progressively integrated into a dynamic that associates them with tour operators located in town, Moshi, and in rural areas.



KNCU coffee bar in Moshi

- 54 There are now a dozen coffee shops in Moshi town. This number is remarkable, considering that local people do not practically consume coffee. The coffee package is designed for tourists and upper class that does business (business class). The owners of coffee shops are not always Chagga. These are primarily investors who are launching their first Moshi Coffee Shop, before going to other places like Arusha, Dar es Salaam and Zanzibar. This is a phenomenon indicative of the “modern” image the business

attributes to coffee in Tanzania today. It also shows that, beyond the production itself, coffee is a global challenge for the country and the private sector.

- 55 The rise of the actors of the coffee sector in the tourism economy is a strong trend that is just beginning. As such, it is significant that, in 2010, KNCU itself has opened the Union Coffee Shop, in a symbolic and historical building in Moshi. This structure employs 19 people and allows them to sell 60 kg of coffee per day (250 customers in average). This is a new market for the cooperative, so for small producers. KNCU plans to open two similar bars in Moshi, next to the University and to the Coffee Board where one can find the most modern business of the city. The opening of other coffee shops is also planned in Arusha and Dar es Salaam. KNCU differs from other coffee shops in its historical legitimacy and the fact that it delivers exactly the same coffee as the one it exports. A “Tourism Department” has been created in 2012 to organize “Coffee Tours” and to bring tourists from the city to small farmers in rural areas.

### **Beyond the rural-urban divide, new areas of mobility structure the spatial organization**

- 56 The last decade shows a net increase of medium and long-distance mobility due to a high degree of interest in the development of tourism activities, which are related to identity development. In this area, urban-rural interconnections have been multiplied, through a greater valorisation of rural handicraft production in the city and the construction of hotels owned by Chagga people. The tarmac road, which now connects the main road downstream to Marangu and to the gate of the National Park of Kilimanjaro, is a symbol of the reconfiguration of the urban/rural relationships under areas of mobility.



Bodaboda and Touk-touk in Sanya Juu

- 57 Mobility is facilitated by the improvement of communications infrastructure (tarmac road), as well as of the diversity of the means of transport (bicycle, motorcycle, boda boda, bus...), as reflected by the importance of bus stations in urban centres. The use of mobile phone, Internet... also contributes to build new relationships with the external environment: rural people are now connected to the city and to the world.
- 58 There are many types of mobility, from short to long distances, related to tourism activities. We can focus on the youth mobility. Generally, the children follow their school curriculum in the nearby regional cities, Moshi or Arusha. They stay there for several months and come back only for holidays. Continuing education is often related to tourism (*National College of Tourism (NCT)*, Arusha for example); then the choice of a school is linked to the interest in intensifying tourism activities in the country of origin.
- 59 Young adults try to find job opportunities in town. The activities in connection with trekking in Kilimanjaro Mountain are especially attractive, although they request a physical commitment and remain low income-generating. These potential jobs are the source of diversified types of mobility between towns and countryside. Two main cases can be distinguished:
- During the tourist season (June/Oct., Dec./Feb.) rural-urban movements are frequent, several times a week according to the needs of the trekking agencies.
  - During the off-season, when the climbers are very few, many young adults return to their village of origin (*urban/rural* mobility) because it is too expensive to live in town.
- 60 This *rural/urban* mobility can also involve women going to town, looking for low-skilled work in hotels and restaurants. Contrary to the young men, the women have a more regular return trip between city (Moshi) and country (Marangu area) to join the family unit.
- 61 In some families, one of the children (a son) may supervise the proper management of the farm. He may stay on-site but sometimes he lives far away, in Dar es Salaam for example. Thus, the survey shows that children residing in Dar es Salaam or abroad have started to build new hosting infrastructure in the countryside, for the needs of the national and international tourism industry. The standing of these buildings is directly correlated to the capacity of investment; so that small and cheap bungalows stand along high-standing lodges.
- 62 Whatever the types of mobility, the permanence of family ties, or even their revitalization through the current construction of the new systems of resources, design a space of solidarity, which is quite difficult to be caught.

## Conclusion

- 63 All these dynamics and movements show that urbanity and civility are deeply rooted in the countryside, which in turn takes on a new economic and cultural dimension, opening it to the world through the new technologies of information and communication, the increase in interpersonal exchanges, the information dissemination, etc. The interaction between these multiple places (economic activities or social investment), is proper to each individual or collective trajectory and allows everyone to design his or her own reference area or territory. Each territorial project must associate urban and rural means, resources and attributes. It is not relevant to

separate the urban and the rural approaches. The historical time has produced specific spatial differentiations, rankings, distances, etc. which have been objectified as such by the model of development. It may be assumed that we are in a transitional time if not a breaking time. We see how it is difficult to qualify the areas of movement, of mobility, between rural and urban locations, and to redefine the nature of the relations between places, the reference area and its multi-scalar dimensions. These investment locations or these contradictory convergence areas of diverse trajectories are integrated in a global space which is structured around multiple and hierarchized centralities. The very nature of this global space must be investigated, given the fact that the identity of spaces is challenged by numerous trends, such as the depletion of natural resources, the closure/opening of the territories, the land blockages and the reorganization of national economies.

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## ABSTRACTS

This paper emphasizes on the rural-urban linkages on the southern side of Mount Kilimanjaro, in Northern Tanzania. This example is quite remarkable in terms of recent urban development in a high rural density mountain area. Mt Kilimanjaro countryside, usually known as Chagga land, is in fact one of the most dynamic rural agro-pastoral systems in East Africa, with very high population densities scattered mainly on the fertile volcanic soils of 1000-2000 meters altitude slopes of the mountain. The growth of the main town, Moshi, now about 200,000 people, first originated from a rural development based on coffee cultivation and exportation. The sprawling urban development has created a kind of rural-urban continuum, based on high densities, both rural and urban, and strong rural/urban linkages and mobilities.

Since the 2000s, some changes seem to occur: in the new context of globalization, symbolized by the development of international tourism and capitalistic business, are the traditional rural/urban linkages becoming different? We guess that, more and more, some "discontinuum" break logics take over from the former urban-rural continuum. On the one hand, a growing tendency of de-agrarianisation and livelihood diversification can be observed. On the other hand, there are clear indications of agricultural intensification and extensification. However, for many households subsistence production is still more important than cash crop production and not all

households succeed in connecting to the booming crops in the areas under study. Rural people make an effort to diversify their livelihoods as much as possible in order to reduce vulnerability for shocks and insecurities. Agricultural diversification (crop differentiation), non-agricultural activities, multi-locality and household's resettlement are just some key examples of these rural livelihood strategies.

Cet article met l'accent sur les relations rural-urbain dans la partie sud du Mont Kilimandjaro dans le nord de la Tanzanie. Cet exemple est particulièrement significatif du développement urbain récent dans une zone montagneuse densément peuplée. La campagne du Kilimandjaro, connu comme le pays Chagga, porte un des systèmes agro-pastoraux les plus dynamiques de l'Afrique de l'Est, avec de très importantes densités humaines dispersées sur les sols volcaniques fertiles des versants de la montagne, entre 1000 et 2000 mètres d'altitude. La croissance de la principale ville, Moshi, environ 200 000 habitants, s'est à l'origine appuyée sur la culture et l'exportation du café. L'expansion urbaine a créé une sorte de continuum rural-urbain, à partir des fortes densités et des mobilités pendulaires entre la ville et la campagne.

Depuis les années 2000, de nombreux changements ont apparu : dans un nouveau contexte de globalisation, symbolisé par le développement du tourisme international et des affaires, les liens traditionnels entre la ville et la campagne sont-ils devenus différents ? Nous faisons l'hypothèse que de plus en plus des logiques de discontinuité s'imposent au sein du continuum. D'un côté, une tendance à la désagrarianisation et à la diversification des moyens d'existence peut être observée. D'un autre, il y a des signes clairs d'intensification et d'extensification. Cependant, pour beaucoup de ménages, la production de subsistance est toujours plus importante que la production commerciale et tous les ménages ne peuvent pas forcément bénéficier du boom des cultures. La population rurale fait un effort pour diversifier leurs sources de revenus autant que possible pour réduire leur vulnérabilité aux aléas. La diversification des cultures, les activités non agricoles, la multilocalité et la relocalisation des ménages sont quelques exemples de ces stratégies rurales.

## INDEX

**Keywords:** East African Mountains, agricultural changes, livelihood diversification, Rural-Urban dynamics, territorial development

**Mots-clés:** montagnes d'Afrique de l'Est, changement agricoles, diversification des moyens d'existences, dynamiques rural-urbain, développement territorial

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