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Mountains and urbanization in East Africa

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In East Africa, fertility – climatic, agronomic, demographic – first defines the mountains' identity. This fertility has been acquired, built and maintained, while being part of a system of constraints which is specific to the mountainous environment. The concentration of people in these mountainous regions has often been related to logics of identity withdrawal, irredentism or territorial enclosure. Nevertheless, these mountains (e.g. Kilimanjaro, Mount Kenya, etc.) are far from “closed-into-themselves” areas; they have been placed at the heart of space that is integrated and open to world dynamics. Fertility and constraints take their particular meaning – or change them – within a larger context of structural evolution, which takes into account all geographical scales. Mobility of persons, circulation of goods, etc., have put the development of these altitudinal regions under systems of exchange and interaction with other areas, at short or long distances, from the peripheral lowlands to the worldwide market areas. For a long time, policies of development have been based on agrarian and naturalistic models, confining the mountain issue to the specific managerial constraints of these fragile environments, and emphasizing a too exclusive linkage between societies and territories at the local level. Over a given period, those models contributed to the valorization of the production potential of regions but, nowadays, they are not able to give tools to overcome the contradictions of sustainable development. The new forms of territorial competition at different geographical scales give the opportunity to redefine the architecture of relations which determine the originality and the competitiveness of those territories full of natural and human resources. There is the need to rethink the conditions of integration of those areas within a global space where essential resources (information, money, power) flow, in particular through urban expansion and the development of communication and marketing networks. Cities appear as essential constituents of mountain areas' dynamics. Urbanization strengthens the role of mountains as dynamic demographic poles and provides resources to rural areas like new additional jobs, services, information networks and projects. Conversely, in its relation to mountain areas, the city multiplies and exacerbates the competition for access to resources and thus creates a threat to mountain communities and ecosystems.

Mountain specificities and urbanization

The evolution of mountain societies should be referred to the general evolution of the society. Mountain societies are integrated in wider logics, notably urbanization that contribute to the changing status of the mountain itself.

The changing status of the mountain

At the continental scale, East Africa is individualized by a relief of interior highlands, with altitudes above 1,000 metres which form an almost perfect oval, bordered on the eastern side by the coastal plain of Indian Ocean, to the north by the Lake Turkana and the White Nile basin, and on the west by the Congo basin forest (fig. 1). The southern part of those highlands meets the Southern Africa altitudinal plateau. This altitudinal grouping took shape with the collapse of the Great Rift Valley whose two branches (western and eastern) define the morphological unit of complex systems of faults and rifts with a meridian orientation. It is along the two main rifts that the appearance of the mountain is self-evident: either in the form of powerful horsts like Mt. Ruwenzori (5,119 m), or large volcanic isolates such as Mount Kilimanjaro (5,895 m) and its neighbours Mount Meru (4,545 m), Mount Kenya (5,199 m), Mount Elgon (4,321 m) and Mount Karisimbi (4,507 m) which is part

of the Virunga Range.

All of them form the highest mountains in Africa; in the form of the imposing barrier of the escarpments whose peaks dominate the rifts over 3,000 metres of altitude, and whose massive and dissected backsides lie down gradually to 1,000 metres, corresponding to the average uprising of the Precambrian massif. We should also mention less emblematic reliefs with lower altitudes, between 2,000 m and 3,000 m, like secondary volcanic cones or horsts, which reflect the large-scale tectonic movements that affected the region. Altitudinal plateaux, hills, volcanoes, horsts, escarpments form the so-called East African highlands, which provide the bulk of national natural resources and are often the most densely populated areas.

From a scientific point of view, the notion of mountain as a geographical object has no intrinsic value outside an approach that would be purely deterministic. Like all the geographical environments, a mountain is a complex physical reality whose elements (slope, side, massif) when considered each separately at its specific scale can structure the scientific research in a heuristic perspective. The notion can be used as a device (artifice) that allows the basic division of space, without which there is no science and no action. In East Africa, generally the generic term “highlands” is used. It marks the unity of areas which, for long, have been described as “useful”, on the basis of a medium altitude, elsewhere characterizing the medium mountains. However, is altitude enough to make a mountain? Altitude dramatically modifies the basic climatic conditions but altitude is not enough to make a mountain and must be combined with the notion of “slope”, to take into account the mosaics of environment and biodiversity. Then, the big mountains, like Mount Kilimanjaro, Mount Kenya and Mount Ruwenzori, seem to be more “evident”, as they dominate the landscape and as we can easily mark the limit with the plain. Finally, what do we have to select as a mountain which could fit in with our main topic: mountains and urbanization in East Africa? Actually, in using only physical criteria and/or moving beyond the physical evidence –when it exists – we have difficulty in isolating a “mountain factor”, or a mountain specificity which could be subject to a determinist principle of territorial organisation. What is really at stake when we relate urbanization and mountains? The response should consider the changing status of the mountain itself, which should be referred to the general evolution of the society.

The first element to be considered is demography. Studies on ancient societies in East Africa – before colonization – took advantage of mountainous environment, in ways highly contrasting: some of them are ethnographic bastions, pockets of very high rural densities and specific farming and pastoralist systems (Bart 2006). Elsewhere, like the hinterland of the eastern branch of the Great Rift Valley, which knew only a small human influence until the 19th century, settlement has remained diffuse for long. We must add that high densities were related to strong management structures facilitating the accumulation process. Thus, at that time, the highlands of the Great lakes kingdoms (Rwanda, Burundi, Buganda) and the foothills of the biggest mountains acquired an identity on their own. These ethno-demographic pockets and these political structures supported the development process, transforming the “refuge-mountain” into a dominant and active mountain (Bart *et al.* 2001).

The second element to be considered refers to the agricultural resources enhancement, based on the very specific quality of soils and climate. Especially during the second phase of colonial domination and the early ages of the independent states, this process of development led to a general densification of the highlands, without any distinction between their different categories. However we have to point out that the colonial project has been based on very strict spatial partition and specialization: either horizontal at national scale (Native reserves, White Highlands), or vertical at local scale within the mountain by institutionalizing the naming of altitudinal levels: agricultural foothills, forest reserves and trekking alpine zones. At that time, it was agriculture, and then the altitudinal level between 1,000 m. and 2,000 m., which contributed the most to an economy mainly based on the export of agricultural commodities such as coffee, tea and pyrethrum. In that way, the foothills of the big mountains did not differ from the other highlands.

Agricultural chains were organized in a strict division of labour, with certain opacity between their various segments like production, processing and marketing. 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. This process has been marked by huge administrative constraints and the strict control of the producers. In some countries like Rwanda and Burundi, one can speak of confinement of farmers, as, elsewhere, it is the mobility which was put under control even if, following the development of education and civil employment, migration started from rural zones to the main cities. Generally the other small and medium towns could be considered as appendixes of rural areas. In conclusion, we must say the mountains and, more broadly, the east African highlands were given their status because of the agricultural production activity, during a period roughly from 1930 to 1980.

The third element to be taken into account refers to the liberalization of the economy in a context of the emergence of a more and more globalized world to the detriment of the national level of states which, through the implementation of the structural adjustment programs, have lost most of their means of intervention. The crisis of the colonial commodity chains, reflected in the collapse of the markets, is undermining the domestic economy and reinforcing the internal blockages of the production systems due to the demographic saturation of the regions and to the arising land conflicts. Producers engage in new crops which benefit from mountainous physical advantages: horticulture such as tomatoes, onions, potatoes, peas and 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 water resources becomes sensitive. Pressure is growing on the forest too, especially on the upper mountain slopes where local population is looking for complementary resources (grazing and bee-keeping) and where illicit crops like *miraa* (khat) are grown. From another angle, tourism becomes a structuring activity: the most emblematic mountains are more and more seen as a natural world heritage relevant to the UN Agenda 21. Then, population dynamics, collapse of traditional benefits from agriculture (colonial commodities), opening of new markets, economic liberalization, urban income insecurity and structural adjustment policies have radically changed environmental management conditions, on the one hand, and, on the other, economic accumulation structures like those of social identity. In East Africa, highlands and mountain areas are today vested with forces, whose stakes' determinants marginalize the very notion of rural life and undermine their acquired and maintained fertility around which their uniqueness was built. Then, the characters of the mountain itself (*stricto sensu*) have been distorted.

This new but heterogeneous and contradictory status of the mountain creates a clearer distinction than before between medium altitudinal highlands and the very mountains. The high mountain, which generally in East Africa is an isolated unit (horst or volcano), is characterized by a wider range of altitudinal levels, which lead to more complex, complementary or contradictory, interactions. Between conservation and exploitation of scarce resources (water, biomass, biodiversity, and space itself), the main East African mountains hold a special place in the big issues of the local, national and global societies. Then, in our urban vs mountain perspective, we do not consider the whole highlands but only these big mountains, the complex systems of which cannot work without being connected to other actors, other areas, near and far. This results in the speeding-up of the urbanization process, which reinforces the mountains as population poles often more important than those of the narrow coastal fringe (Bart 2006). The city is where the mountain opens to a multi-scalar dimension.

Urban dynamics

At a world level, East Africa is an under-urbanized region, even if the proportion of the population residing in cities is increasing. As the urbanization rate in Sub Saharan Africa as a whole increased from 28% in 1990 to almost 50% in 2010, in East Africa this rate did exceed 21% in 2010, with significant differences between countries: 10% in Burundi, 14% in Uganda, 26% in Tanzania and

45% in Kenya for example. However, this region records the highest urbanization growth. Due to a critical mass of population, a sustained population growth, high rural densities and low urbanization rates, these historical population centres have a huge potential of urbanization. This increase in population has first affected the capitals, intensifying the urban concentration, which has long been assumed to characterize the developing countries. Since the 1990s, the growth of major cities slows down and follows the natural population growth, as small and medium towns take over. The urbanization of population leads to the urbanization of space, through the promotion of rural centres to the rank of towns and through the demographic swelling of existing medium towns or cities (Calas 2007). But also by the fact that, under high population pressure, scattered rural settlements lead to intensive building of houses in the countryside, which is an original phenomenon. In some countries like Tanzania and Rwanda, the policy of “villagisation” sped up the process. This process contributes to urban densification without erasing the old contrasts in the distribution of settlements. Historically, towns and cities – and settlements in general – are concentrated, as a sprawling archipelago, along the Indian Ocean coast and in the highlands. This urban seedling took place within the topographical aspect of the region. The fault lines, like escarpments and foothills of the highest mountains, are the first localization of the cities (Calas 2007). This is particularly the case of medium cities like Arusha, Moshi, Mbeya and Morogoro in Tanzania, Nyeri, Embu and Kitale in Kenya, Mbale in Uganda at the foothills of the big volcanoes, or Nairobi, Nakuru and Muranga located at the foot of the escarpments in a position of topographical thresholds. Recent densification and reclassification urban processes confirm the privilege of these localizations and strengthen the role of mountains and highlands in general as population pockets, often bigger than those of the coastal fringe (Bart 2006).

The analysis of that phenomenon must be based on the notion of urban systems and networks, taking into account the articulation of different geographical scales. Of course, the political, industrial and commercial (import-export) functions of the national capitals are by far the main factors of the urban concentration. The stratum of secondary cities is less stable than all major cities (Harre *et al.* 2010): the old administrative functions are not sufficient to ensure the urban growth. It is the “interface cities”, well located along the main roads, opened not only to the national space but furthermore to a regional and trans-border area, which bear the greatest growth. They are especially cities located at the foothills of the main mountains: in Tanzania, along the Arusha-Taveta axis, at the foot of Mounts Meru and Kilimanjaro and close to the Kenyan border. The intensity of relations and population accumulations led to the emergence of an “agro-metropolitan” axis (Calas 2006). In the same way, in southern Tanzania, at the foot of the Uporoto Mountains, Mbeya town combines its two positions as an interface with the mountain and as a stopover on one of the most important cross-border road axis, at the crossroads of Eastern, Southern and Central Africa. Other medium towns, with a national dimension, have smaller but remarkable dynamics. This is the case of cities around Mount Kenya or the main towns at the foot of Mount Elgon on both sides of the Kenya-Uganda border.

If we focus on processes, like urbanization, more than on the geographical objects (town, countryside) and, although it is quite difficult to define the break between urban and rural systems, we have to integrate the level 3 and 4 of the urban hierarchy, like small mountainous towns, markets and business centres, in the general urban dynamics. These two levels are the expression of an urbanity firmly rooted in the countryside and, as such, give the rural areas a new dimension, more cultural than economical, that of openness to the world through the multiplication of media (television, mobile, internet), the densification of interpersonal relationships or the dissemination of new ideas, “globalized”.

In East Africa, the relation between mountains and cities hinges on several levels and several distances. The city appears as a place of articulation between these various and hierarchical levels, and of the differential integration of the mountains into major international flows and networks. Mountainous systems cannot work without the multiple connections to other actors, other areas, near and far. For the concerned population, the mountain becomes one element among others on the

basis of which they build their personal trajectories and manage their socio-economical investments.

New architectures of mountain and urban linkages: three case studies in Tanzania and in Uganda

The rural-urban integration processes will be questioned through three examples: Moshi and Mount Kilimanjaro (northern Tanzania), Mbale and Mount Elgon (Uganda) and Mbeya and Uporoto Mountains (southern Tanzania). We will try to identify different modes of integration through various approaches, which may point out how small and intermediate urban centres play a crucial role in territorial development. Moreover, as those mountains are situated in border areas and/or rangeland axes or even along fault lines between highly contrasting areas, it also brings some regional integration stakes into play.

Urbanizing piedmont rural areas in Northern Tanzania

In this northern part of Tanzania, the two highest mountains, Mount Kilimanjaro and Mount Meru (fig. 4), are in the heart of very dense rural areas, mainly situated on the south-eastward slopes of those volcanoes between the 800 m. and 2,000 m. altitude contour lines.

On those very fertile and humid “terroirs”, high rural population densities are associated with complex farming systems. For example, according to the 2012 census, 4 rural wards of the southern slopes of Mount Kilimanjaro have more than 1,000 inh./sq. km population densities: Machame Narumu, Mengwe, Mwika Kazkazini and Kilema Kati. Those “coffee-banana belt” areas have been for long the fulcrum of the Chagga system on Mount Kilimanjaro and of the Wa-Arusha one on Mount Meru.

Rural-urban linkages: general trends

Each of those two high population 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 core-periphery relationship where the core is urban and the periphery is rural. Moreover in this spatial model, the impact of the “imported” urbanization was mainly to move the core downward from highlands to lowlands. It is noticeable that the first German base in Mount Kilimanjaro was Old Moshi (about 1,400 m. high), before Moshi was created in the lowlands (800 m.) a few years later, when the railway from Tanga reached the region (1911). It means that, in the first stage of urbanization, most of the rural population was living in highlands and the urban development started in lowlands, attracting some population flows downward. The geography of those high mountains influenced the growing up-down complementarities and flows, which may be considered as common in most mountains, in terms of altitude, physical and human characteristics. But it signifies also that a new phenomenon started then: formerly, the core (highest population densities, agriculture production) was on the mountain slopes and the periphery in dry and quite empty lowlands (*pori*, which means bush), then the core started to slide down the slopes. As quoted by Marc Côte about Algeria, the main impact of the urbanization of those mountains was a reversal of spatial organization (“*espace retourné*”), to the detriment of the mountains, in favour of the lowlands. In fact, we can deduce that urbanization started in the periphery of the rural core.

Since the colonial period, the rapid development of road transport and the growing flows and mobility of goods and persons led to the increase in the number of marketing places along the main roads. In this part of Northern Tanzania, extending over 100 kilometres from the Eastern slopes of Mount Kilimanjaro (Himo), to the Southern piedmont (Moshi) and to Mount Meru (Arusha), the main road axis 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 is nowadays carrying a heavy traffic of trucks and buses, and tourist vehicles as well, so that 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 may access to the international road. In fact, the previous spatial backwash scheme is gradually replaced by a linear model, with more and more small and medium urban centres and market places, each of them being both a local or regional polarizing centre (depending on its size) and a roadside linear built-up area which is highly involved in large-scale (international) business. Even the two main towns, Moshi and Arusha, combine both polarizing structures around such central hot spots as the main bus station and market and, off the city centre, along the highway with transit traffic, many new shops and modern buildings, which may be considered as strong symbols of the extraversion of the mountain.

As an example, it is very important to study the population growth along this southern piedmont highway of Mount Kilimanjaro, with a growing number of urban centres scattered along the road. According to census population data (1978-2002), we can notice two main trends:

Firstly, an important growth of the two main cities: Arusha's population was 55,000 in 1978, 270,000 in 2002 (nearly x 5), Moshi had 52,000 in 1978, 143,000 in 2002 (less than x 3). The two cities were quite the same size thirty years ago, while now Arusha's population is twice that of Moshi's. In fact, Arusha benefited from a good situation and more important activities (tourism, East African Community headquarters, ICTR - International Criminal Tribunal for Rwanda etc.).

Secondly, emergence of new small towns, most of them along the highway, especially near junctions with local roads leading to the mountains: one good example is Hai, situated on the highway Moshi-Arusha, which is a new district small town (17,000 inh. in 2002). Others are Usa River (13,000 inh.), Hedaru (14,000 inh.), Himo (9,000 inh.), Sanya Juu (6,000 inh.) and Kwasadala (2,000 inh.). Most of those localities provide market facilities, services to farmers and sometimes to tourists, banks, shops, petrol stations and car repair workshops.

Moshi town and Moshi rural: urban, rural, peri-urban, peri-rural, urban-rural continuum?

In the Kilimanjaro Region, Moshi is by far the most important town. Situated in the lowlands (800 m-900 m) on the southern piedmont of the "roof of Africa", this urban territory is the core of a very densely populated rural territory, extending northward as far as the coffee-banana belt (1,300-1,600 m), westward along Arusha road and eastward along Dar es Salaam road. According to population census data (2012), Moshi Urban District (184,292) is the main town of the three Mount Kilimanjaro districts (Moshi Rural, Hai and Rombo), which have a total population of more than 938,233 inhabitants. The total population (including Moshi Urban) was then estimated at 1,122,525.

Fundamentally, Mount Kilimanjaro is an agricultural region. Chagga smallholders have for long been involved in mixed farming systems, integrating a wide range of food crops (maize, banana, beans, etc.) and cash crops (mainly Arabica coffee) which they grow mainly in the 1,000 m-2,000 m altitude belt (coffee-banana belt). The Chagga intensive agricultural model is a form of agro-forestry, which extends across the planes, in a great number of small plots scattered along the mountain slopes. This kind of farming partly depends upon wooded shelter for coffee and banana production, and upon a network of irrigation furrows covering the south slope highlands, where the highest population densities can be found. Moreover, the presence of stabled breeding (mainly cattle), allows for speculating on the dairy market.

In the Mount Kilimanjaro area, the heart of the rural identity is on the mountain. The plain is an open extension of land where the eye skims across a wide expanse of seasonal crops and far into the horizon and the Maasai routes. The dry lowlands were for long reserved for whatever was temporary and may be considered as a periphery, in terms of rural identity and agricultural production as well.

The mountain generated Chagga elite, are based in a rural territory: Christian Churches, mainly

Catholic and Lutheran, played and still play an important role in enhancing this identity through education. Moreover, most of Mount Kilimanjaro's progress can be attributed to coffee cultivation and exportation, with the support of cooperatives (KNCU, Kilimanjaro Native Cooperative Union), and trade. The Chagga are famous for their business ability, so that Mount Kilimanjaro is an open mountain, especially open to towns. Moshi town population growth has much to do with rural dynamics, even though the city could be considered as a periphery for rural settlers.

This urban area is mainly characterized by some centrality indicators. Which are they in such a medium town? As in most of them, they are linked to some specific functions of urban power, especially administration (Region, District) and economic activities (banks, central market, supermarkets, travel and tourism agencies). One of the most significant symbols of Moshi urban power over rural areas is the KNCU building, close to the main roundabout of the city centre, as cited in the KNCU website: "Established in 1929, KNCU is Africa's oldest cooperative, farming the volcanic soils on the slopes of Kilimanjaro, the continent's highest mountain. Coffee is the most important cash crop produced by the cooperative's members, usually inter cropped with bananas. KNCU collects coffee from 96 village societies, representing over 150,000 small-scale farmers. Kilimanjaro is known as one of Africa's finest coffees."

One of the main functions of this urban territory is to be the heart of the regional transport system, which is the meeting point of mobility. Mobility may be considered as a way of life in the Mount Kilimanjaro area, so that most families have several life spaces, in town, in shamba, "un pied dedans, un pied dehors" (one foot inside, one foot outside) (Chaléard and Dubresson 1989), some of them too outside the Kilimanjaro Region (Dar es Salaam, Mwanza, Nairobi, or elsewhere). In fact, the main central place is Moshi coach station, close to the main shopping area. Many families, staying either in urban or rural areas, move every day either from the countryside to town, or from town to the countryside, and rely on both urban (trade, wage, etc.) and rural (coffee, banana, fruit and vegetables) income. The diversification of activities leads to a strong integration of urban and rural activities in a geographical context of high population densities and road improvements.

Are the mobility spaces shaping a rural-urban identity and territory? They could be referred to as *daladala* transport network, which seems to be a good indicator of a wide area, not only an urban fringe (close to town), but stretching along the main and local roads as far as *daladala* favouring commuting. What can be pointed out is that high rural population densities and a dense transport network contribute to shape a wide rural-urban area, with urbanity and rurality gradients which depend not only on distance from city centres but also on accessibility to the small market places which line the piedmont international highway.

Such a rural-urban and urban-rural mobility is based within geographical and historical contexts. First, the mountain is the coffee production zone and, in the history of Kilimanjaro, it is noticeable that the main development impulse initially came from coffee that is from the mountain countryside; the town growing influence is more recent. Secondly, those rural areas have some social structures scattered all over, which may be attractive too, even for some urban dwellers: for instance, Machame Hospital and Secondary School, College of African Wildlife Management in Mweka, Kibosho Secondary School etc.

Thirdly, the mountain *kihamba* remains for most Chagga the main landmark of their identity, producing the best bananas. Even those who have emigrated still own at least a little plot there. Above all, the mountain *kihamba* is the strongest symbol of family life, from birth (placenta in the family garden) to death (grave). Therefore, when considering those areas where rural and urban aspects interfere, especially along the roads, it may be obvious to analyse the spatial dynamics not only from the town as a central place, using the classical sequence urban-periurban-rural, but to also have in mind that the centrality may belong to the mountain, using another analysis reference: rural-"perirural"-urban.

Due to very high densities, some scientists (Brient 2007: 401) propose to study this type of rural-urban spaces as continuums, which are fundamentally quickly changing spaces, with strong

densification processes, which may be pointed out through landscape evaluation transect studies, in order to try to identify landscape gradients.

Market system and territorial integration in Uporoto Mountains (Tanzania)

The Mbeya region located in the south-west of Tanzania is mainly comprised of highlands. Mbeya municipality, about 850 km from Dar es Salaam, is the regional administrative centre, and accounted for 385,279 inhabitants in 2012 (table below).

	1948	1957	1967	1978	1988	2002	2012
Population	3179	6932	12 479	76 606	152 844	266 422	385 279
Annual growth rate		9.1	6	17.9	3.1	4	3,8

Table 2. *Population growth in Mbeya (1948-2012). Source URT 2003-2012.*

The region (fig. 5) is bordered in the south-east by Malawi and in the south-west by Zambia. It is divided into 8 districts. The area has a heterogeneous ethnic composition: Nyakyusa, Ndali, Nyiha, Nyamwanga, Safwa, Malila, Wanji, Bungu, Sangu, Wanda and Sichela. The original inhabitants of Mbeya municipality were Safwa, but today the more numerous are the Nyakyusa, who come from the surrounding districts of Rungwe and Kyela. The moderate climate and the rainy season (from November to May for the Mbeya municipality) are influenced by altitude. The volcanic soils are fertile and allow good crops.

The interweaving of rural and urban dimensions

The different types of cultivation depend on the altitude. For example, from Mbeya to Tukuyu to the Lake Nyassa/Malawi border, the cultivation transect presents some tropical, temperate and equatorial crops. The main food crops are maize, beans, cowpeas, Irish potatoes, sweet potatoes, wheat, vegetables and fruits. The main cash crops include coffee, sunflowers, bananas, tea, cocoa, pyrethrum and planted trees. Livestock are constituted of pigs, cows, sheep, goats and local chicken. Except for the private companies involved in cash crops like tea, coffee, cocoa and pyrethrum, most of the farming systems are small production units, organized as poly-cultivation. The complementarities of the mountains allow an intensive system, flexible in space and time, to this familial peasant agriculture. The traditional cash crops such as coffee, tea, cocoa and pyrethrum had integrated for years the mountain agriculture to the economy, but the recent development of market gardening modifies their integration into the market. We observe the settlement of a new socio-economic system based on multi-territorialities and multi-activity. In addition, the conditions leading to the mountain's opening up bring to the fore questions about the contribution of the mountain to the process of regional integration.

Mbeya City is a busy commercial centre linked to Dar es Salaam and to southern African countries by both the Tanzania-Zambia highway and the Tanzania-Zambia railway (TAZARA). The city provides services and caters for the four Southern Highland Regions (Ruvuma, Iringa, Mbeya and Rukwa). The trans-border location gives Mbeya the position of "business gateway to the neighbouring land-locked countries of Zambia, Malawi, Zimbabwe, as well as the south-eastern part of the Democratic Republic of Congo" (Foecken *et al.* 2004: 39). Mbeya is a very relevant field to question the process of regional integration beyond the borders of regional organizations such as the East African Community (Kenya, Tanzania, Uganda, Burundi and Rwanda). Actually, this area is well linked with other territories regardless of the membership of any kind of regional organisation. The geographical challenge is to articulate the topologic metrics of the network to the topographic metrics of the territories. The increase in mobility and exchanges infringes the borders and contributes to the construction of new multi-territorialities. On another scale, the city also acts as an outlet for part of the local agriculture. It plays the role of a collection centre for local products, but this role is also played by other collection centres in the mountain (Tukuyu, Kiwira etc.).

The mountain is not only a rural land, because for a long time, the town has been a part of the

mountain. These relations have connected the countryside to the towns. Commercial crops such as coffee are old and have been part of the development of mountain areas. The recent phenomenon has been an increase in the rate of urbanization. In addition to this increased urbanization rate, there is an expansion of market gardening. These facts are observed in most African countries. Decentralization is not totally effective in Tanzania but the role of the medium cities has become more crucial. There is a real network of urban places that have a hierarchical structure. The role of the transport infrastructure is a determinant to linking the town to the rural market places. Urbanization is essential to the development of the rural area, to social transformations and to the modernization of the agriculture and participates in the opening of the mountain and in the setup of a new socio-economic model formed by the urban and the rural. The spatial continuity is understood as a “continuum”, implying that there are no borders between the urban and the rural areas.

The physical tensions are a result of the depletion of the so-called “natural resources” because of increased human pressure on land. The mountain area used to have high density, but because of demographic evolution, we question the issue of the saturation of land. Furthermore, there is a multiplication of land use types and some contradictions between the development policies and the conservatory policies. The competition of uses, the treatment of the resources and the land as commodities can cause tensions and threaten the resources and the mountain’s socio-economic model.

Interdependence between Uporoto Mountains and urban system

At a regional scale, the densification of urban units and agricultural specializations contribute to the intensification of urban-rural interdependencies. Uporoto Mountains provide Dar es Salaam, which is the main market ahead of Dodoma and other urban centres, with potatoes, bananas and, to a lesser extent, garlic, maize and cabbage. Morogoro, Mwanza, Moshi and Arusha are also important market places, which can export to Kenya and to Uganda. Zambian, Congolese and Malawi businessmen and women get supplies in Uyole too, which is the main collection and redistribution centre. The exchange system is based on diverse agricultural chains and on the hierarchical network of nodes. On the mountain, the periodical rural markets are the first heterogeneous level. Uyole and Mbalizi hubs are the upper level, and at the highest level is the big market-city. Nevertheless, this view is too schematic and does not take into account the complex interdependencies. Ndaga, Ntokela and Swaya villages, which are potatoe cultivating areas, are directly linked to Dar es Salaam. It means the network nodes are not necessarily urban nodes; they are exchange places consolidated with their producing function. Uporoto Mountains are a supplying area among others in Tanzania. Banana producing areas, for instance, are located in the Uporoto Mountains but in Uluguru Mountains and in Mounts Kilimanjaro and Meru too, even in the Kagera region in the north-western part of Tanzania. It is the same for other crops in other regions. These areas are complementary but also competitive.

Mountain means a concentration of various crops in the same area. Environmental conditions are favourable and the different altitudinal stages offer complementary advantages for temperate and tropical crops. Uporoto Mountains are densely populated, which leads to agricultural intensification. Then, the old colonial commodities had already introduced dramatic changes in the traditional farming systems. The historical demographical and environmental factors contribute to the integration of the Uporoto with an urban system, especially as Mbeya is located on the Dar es Salaam–Zambia/Malawi/DRC corridor and is the gateway for the landlocked neighbouring countries. Within the mountain, the lack of good transport infrastructures does not facilitate the access to the market and is responsible for low prices. The isolated villages could also be integrated into the market but at a higher cost as they are in a weak position in the business transactions.

Commercial, logistics and services functions of the urban centres depend mainly on agriculture. The mountain has been integrated in exchange systems for a long time; these systems are based on urban centres and production areas. Nowadays the markets’ network becomes denser and the areas are

more and more specialized to increase their attractiveness. The way the actors of the exchange system exploit the complementarities between the different altitudinal stages can generate some economies of scale. At this time, Uporoto Mountains are fully integrated in a regional system, which is nothing but the sum of its different elements (countryside, mountain, city and market). The weight of this altitudinal regional periphery within the general economy of Tanzania becomes more important.

Small and medium towns, decentralization and services to the farmers in the Mount Elgon (Uganda)

The construction of local territories and the changing of city / countryside relations in Uganda are to be treated alongside the process of decentralization and liberalization of economies which started off in the early 1990s (Green 2008). Much competence was attributed to local governments, made up of elected councillors and key sectors of territorial development: health, education, modernization of agriculture, water and sanitation and road construction. This process has contributed in reinforcing the hierarchical network of small urban centres, in the heart of a very densely populated region, such as Mount Elgon at the border with Kenya. Enquiries were carried out in the region notably in Mbale, Bududa and Kapchorwa, on the role of this urban network in the supply of services in agricultural development.

Creation of new districts and urban network

Mount Elgon is one of the most densely populated regions in Uganda (fig. 2). The districts of Mbale, Bududa, Manafwa and Sironko have 1,113,000 inhabitants and Kapchorwa and Bukwa 190,000 inhabitants. The average density is 264 inhabitants/km². The density figures are higher in the Mbale region than in Kapchorwa, which is more mountainous and of a higher altitude: it can be as high as 800 to 1,000 inhabitants per km². The annual growth rate stands at 3.5% per year. Population increase is particularly dense on the foothills around Mbale, as a result of the migration of inhabitants coming from the mountainous zone (François 2006).

The process of decentralization and the emergence of new development actors is a characteristic of the Mount Elgon region. Decentralized authorities are partitioned into five pyramidal levels (village, parish, sub-county, county, and district). The district is the largest territorial unit; its functions are the most diversified and it possesses the highest resources. Since 2000, five new districts have been created.

The creation of new districts has contributed to the modification of the supply network in the Mount Elgon region. Thus, in the cities or the rural towns where the headquarters of districts were found, or even in lower level subdivisions, services were installed in sectors which came under the competence of the decentralized authorities. New development operators have been operating: NGOs, businessmen, peasant organizations and associations. In the Mbale region, especially in the densely populated regions of Manafwa and Bududa, the creation of new districts has drawn the inhabitants closer to services.

The decentralization process is apparent in diverse contexts. There are many differences between cities which have long been district headquarters like Mbale and Kapchorwa, and those which are more recent. Mbale, with a population of 70,000 inhabitants and having the status of a municipal council as a result of its dense population, is a crossroad city, particularly active with a very large market, many banks, diverse businesses and a few industries. Important NGOs are represented. As concerns the academic and social plan, the town presents the highest, best quality and diverse number of establishments within this region.

In Kapchorwa, with only 12,000 inhabitants, business is more limited and the urban network is less dense with suburbs spread out on the slopes of Mount Elgon. But as a result of its old status as a district headquarters since independence in 1962, the installation of administrative services has been facilitated. Its influence within the region is materializing and visible through the recent installation

of increasing number of commercial activities along the road. As a result of their infrastructures and the level of their activities, these two towns have a more urbanized system as compared to the newer district headquarters created to reinforce the urban framework within a country where the majority of the population lives in rural areas (Mukwaya: 2008). The new headquarters have been accorded city status administratively but portray more of countryside features. They have a limited capacity to face problems due to inadequate local infrastructures and to a lack of human and financial means. Bududa, for example, having a population of 20,000 inhabitants has limited infrastructure to provide services to a dispersed population.

Support to the modernization of the agricultural sector: old and new actors in urban area

The functions attributed to local governments do not correspond to the means they possess. This situation reduces their capacity to meet up with the challenges that they face in the development of their territory. This is the case in the agricultural domain, which employs 85% of the Ugandan population. An agricultural modernization program was conceived by the authorities. It aims at making the Ugandan agriculture go beyond simple subsistence to commercial agriculture with high value-added products. As a consequence of the decrease in coffee cultivation, caused by the liberalization of the sector and the fall in prices, most farmers have drifted to market gardening. The maize, banana and carrot market is rapidly expanding towards diverse destinations, Kampala, North Uganda, South Sudan and Kenya. The proximity of most districts to the Kenyan frontiers encourages the commercialization of foodstuffs. The intermediaries (middlemen) who are quite stable in the communication network benefit considerably in the foodstuff commercialization process.

In order to modernize agriculture, a decentralized agricultural sensitisation system was put in place: the NAADS (National Agriculture Advisory Services Program). It privileges three main axes: facilitating the access to information, knowledge and technology for producers, reinforcing the participation of producers in defining their priorities (creation of Farmers' Groups) and ameliorating the supply of services in agriculture while aiming at the private sector.

But the opportunities offered by these innovative approaches proposed by NAADS are only known and mastered by some of the actors and producers of rural development. Numerous operators intervene to react to the increasing demand of inputs and veterinary products. Their profile is quite heteroclitic: enterprises with national coverage; private operators in Uganda who manage stores of veterinary products in Mbale and Kapchorwa; farmers who have become agents of specialized firms in the sale of inputs; and retired agricultural service employees who have diverted and have opened up businesses in the sale of fertilizers, seeds and pesticides. Nevertheless, supply is still quite uneven in terms of quality as well as quantity. Only some of the farmers benefit from the technical services at the territorial level, a situation which explains the increase in mobility between rural and urban centres. Input suppliers are based in zones of high influence consequently favouring the growth of well strategically located medium-size towns. As a result of the daily inflow into the city centre and the main market, the population of Mbale triples during the day from 70,000 to over 200,000 persons.

The development policy of liberalization of the economy has not only favoured the emergence of private operators in the supply of agricultural services; but it has also led to the remarkable evolution and diversification of organizations involved in this domain. The role of big cooperative organizations in the coffee sector, such as the Bugisu Cooperative Union, has been reduced tremendously following the retreat of the state and the decline in coffee production. However, the cooperative societies have not disappeared. Other nation-wide organizations, based in towns, are active in the supply of services in the region. In Kapchorwa for example, the National Union of Farmers in Uganda is represented by a local branch managed by farmers. Quite numerous recent peasant organizations have emerged. They are of unequal sizes and capacities. The liberalization of the economy, the multiplication of small and medium size enterprises within the services sector, the increasing demand for credit for agricultural exploitation caused by the increase and pricing of

exchanges have led to the multiplication of Micro Finance Institutions (MFI) which interact in the region.

NGOs that intervene in the Mbale region possess unequal means and competences. The most important are Ugandan International NGOs such as Heifer International Uganda, a national coverage NGO, which operates in five regions while benefiting from the support of a good number of partners. Other NGOs have poor means and a limited influence. The main activity of NGOs is the protection of the environment and the promotion of food security.

In a context of incomplete decentralization of decision-making, attention is given to “the social dimension of small towns and to the complexity of social networks [...] which often blur the social distinctions between what is rural and what is urban” (Tacoli 1998: 153). Actually, the Mount Elgon case can be seen as a first stage of integration. The urban-rural interactions remain quite sectorial, urban centres playing a classical role, providing, for example, producer services for the rural population. But this acceleration of mobility between multiple territories, between rural and urban areas, trying to build or rebuild social and economic links on regional, national and international scales, should lead to a complete redefinition of social and economical identities and to a reconsideration of the very principles of development, in the long term.

Conclusion

The rural urban divide - the urban and rural “double bias” (Charlery de la Masselière 2005) is characteristic of development in Africa. The African countryside has remained embedded in the heterogeneousness of its own cultures, that are patrimonial and patronizing, for a long time. If towns have maintained their trade characteristics by acting as the intermediary with external markets, these markets have remained out of bounds to small scale farmers confined in their production sphere, which has been considered to be a sector with residual disparities, supposed to be subjected to a rationality that is largely foreign. However, between the reorganization of family agriculture and the rural urban migration, stagnation, self-sufficiency or the simple reproduction of cultural cycles, innovation, social promotion or access to new jobs, individual or collective itineraries have certainly demonstrated the farmers’ ability to transform their production systems in the long run. Then, in the mountainous cash crop growing areas, the peasants have tried to link the town and the countryside from below, by using social promotion as well as investment strategies, which go through the income generated from the crops and by the education of their children. This movement has been politically very contained and has influenced more the rural world’s logics of “exit” than the harmonization of the two spheres. After the 1980s, the movement was also constrained by an urban employment crisis, both in the public and private sectors.

Today, African territories do not escape the general redefining of the socio-political, economic and special framework in which rural and urban actors of more diversified status think about their identity and manage their development. These three examples of East African mountains display both the importance and the variety of rural-urban integration processes in those densely populated areas. Definitely, these mountains are no more peripheral; the strength of rural-urban integration allows them more and more to act as central places at the regional, national even, East-African scale.

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