

## Modern Farming in Africa

### DR Congo's cultural factors of failure (1885-2015)

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#### Abstract

The introduction of modern agricultural technology in Africa is an enormous challenge. It will only succeed in the long term. That was the case in all the “industrialized countries” around the planet. And it is specifically true when it comes to revolutionizing agriculture.

Africa still appears to be lagging behind in this area. The volume of agricultural production is largely dependent on the number of producers and farms. The volume of the annual agricultural produce is extremely small in relation to the number of producers and the amount of cultivated land. Clearly the *productivity* and *profit* in this respect are very weak on this continent. Technological progress, translated into substantial gains in productivity, profit and economies of scale are of primary importance if one has the intention to revolutionize agriculture in Africa. *To revolutionize agriculture means to integrate the agricultural society and economy in a dynamic process of increasingly higher numbers, mobilizing the physical effort of the producers, and increasing and diversifying the production to the benefit of the consumers.*

It is the objective of this article to consider on the one hand the cultural reflexes and habits characteristic of rural Africa and on the other hand the demands of the production and reproduction of farming techniques.

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## Introduction

The introduction of modern agricultural technology in Africa is an enormous challenge. It will only succeed in the long term. That was the case in all the “industrialized countries” around the planet. And it is specifically true when it comes to revolutionizing agriculture.

Africa still appears to be lagging behind in this area. The volume of agricultural production is largely dependent on the number of producers and farms. The volume of the annual agricultural produce is extremely small in relation to the number of producers and the amount of cultivated land. Clearly the *productivity* and *profit* in this respect are very weak on this continent. Technological progress, translated into substantial gains in productivity, profit and economies of scale are of primary importance if one has the intention to revolutionize agriculture in Africa. *To revolutionize agriculture means to integrate the agricultural society and economy in a dynamic process of increasingly higher numbers, mobilizing the physical effort of the producers, and increasing and diversifying the production to the benefit of the consumers.*

It is the objective of this article to consider on the one hand the cultural reflexes and habits characteristic of rural Africa and on the other hand the demands of the production and reproduction of farming techniques.

In this respect the following questions can be posed: (i) From what sort of production system did the culture of rural Africa originate as, at the same time, the condition of stability and continuity? (ii) What are on the African continent the objective constraints in the adoption of modern agricultural technology for the culture of the rural populations? (iii) To what extent – and by what means – can the African rural culture adopt the modern technologies characterized by mechanical and scientific knowledge?

This exposition mainly revolves around the historical experience (1885-2015) of the rural area of Congo-Kinshasa. The discussion following the exposition will relate and compare the experience of Congo to other historical experiences inside and outside of Africa.

### **The present exposition contains four sections**

The *first section* examines the traditional forms of agriculture in Congo. It will present both the level of technology and the sociocultural values related to it. The *second section* presents and analyzes the forms of agriculture adopted during the colonial period. It will show how these were organized, how effective they were, and it will show the cultural reasons for their disappearance. The *third section* will examine the historical conditions of

the reappearance in Congo of “modern” agricultural farms and related modes of production. It will explain why all of these until this day remained disparate enclaves in the immense territory of Congo, and why they are not driven by any technological spirit, do not set an example in economic performance, and lack a critical mass for taking agriculture into modernity in the long term. Finally the *fourth and last section* will try to pin down the most important lessons from this experience of Congo and look for future perspectives.

## Section 1:

### Precolonial agriculture: technology and culture

During the last five centuries (from the 16<sup>th</sup> to the 20<sup>th</sup> century), agriculture in Africa is characterized by the predominance – and even – the exclusive production along family lines. The land exploitation is characterized by modest pieces of land, rudimentary technologies, limited production and a complete absence of economies of scale. The boo, the machete, the ax, the fire and the club were the most important agricultural utensils at that time – and they still are in our days on the continent as a whole.

These characteristics are not exclusive for Africa only. On the contrary, they are well known in all agricultural civilizations all over the world and throughout history. They have survived in more or less comparable conditions, like the following:

1. Very low population densities (from 1 to 150 inhabitants per square kilometer).
2. Agricultural land of varied quality, often with a little population density, exploited with very weak human power, but with the necessity of large interventions as a condition to work on these unfavorable lands (dams and canals for drainage and irrigation on marshy lands or deserts), and often with the use of the technique of using natural fallow lands.
3. Individual or family exploitation of less costly lands, giving more revenues in the case of geographical mobility, and maintained by a social group that rarely goes beyond a heterosexual marriage, monogamous or polygamous.
4. Economic neglect and cultural indifference as to scientific knowledge and mechanical artefacts, because of the cost. This cost is estimated in terms of the financial efforts for their acquisition, in terms of time and liberty to sacrifice in learning how to deal with them, but above all in terms of the social uprootedness and the rearrangement of the *meaning of things* to which those are forced who want to master them. This neglect and indifference is still alive, even despite the fact that this scientific knowledge and mechanization have demonstrated their enormous utility and

advantage, among other people or even among the local people in other domains of social life.

It goes without saying that slave systems (or even feudal systems) in history are characterized by inhuman rigor in the exploitation of slave labor. These are systems in which the *masters* are not bothered by this sort of financial worries nor cultural scruples: the masters impose their will on the people who live under their yoke. More than any other economic system these are focused on a high level of performance, whatever the nature of the agricultural lands, favorable or unfavorable, generous or sterile. Economical neglect and cultural indifference as to scientific knowledge and mechanical artefacts are the peculiar characteristics of agricultural societies of *free people*.

Societies of free people in general rely on less costly agricultural technology in effort and in financial investment, and, on top of that, with more revenue. The farmers in this case rely on rudimentary utensils and technology: boo, machete, ax, fire and club; irrigation, drainage, burning, natural fallow land, rotation and mixed crops... This is to practice of extensive agriculture all over the world and through the ages (nomadic or seminomadic) and it is principally justified by an economic concern, which commonly is called *rational*.

Congo Kinshasa and the rest of the African continent have not been an exception to that rule. Many scientific authors – like Esther Boserup (1957), A.V. Chayanov (1966) and M.C. Ganih (1815) – have extensively described the link between rudimentary agricultural technology on the one side and on the other side an acceptable level of productivity and revenue of the land. The monographs are numerous, from all times and over all places in the world, that testify to these conditions of agriculture.

On the basis of these objective technical conditions of more produce and of minimizing hardship, different forms of social organization have been built. Among those forms the existence of a socioeconomic system can be named that his characterized by *strong socialization of consumption*. This is the system of *lifelong solidarity*. This is the most general system and the Congolese rural areas.

This solidarity is *permanent* and *institutionalized*. It functions as an insurance against all risks. It makes it possible for the local community – and for each of its members individually without distinction – to effectively face the risks of the volatility and incalculability of the performance of technology in agriculture. Actually, despite constant scientific and technological progress, the economic and technical performance of this agricultural system still is exposed to the risks of climate, weather, entomological and soil circumstances... In these agricultural societies the people *produce individually* (or as households). They are constantly busy to reduce the costs of resources and economic efforts to a strict minimum and at the same time guaranteeing an optimal yield. On the other hand, they *collectively*

consume the produce of their activities, clearly in order to reduce the risk that threatens their individual lives and the survival of the group to a strict minimum.

In this way, by being effective and survive from generation to generation, such *lifelong solidarity* around the consumption (and not the production!) should provide the right to consumption of the goods available for every and all individuals, without any conditions.

In order to provide the finishing touch to this juridical settlement ownership of agricultural lands is organized in such a way as to provide easy and costless access for individuals.

Clearly this is a form of *land property* uniting the following characteristics:

1. *collective* for all residents,
2. *inclusive* for each individual and all groups of individuals coming from elsewhere,
3. *extended* to the defunct ancestors of the territory, who are proclaimed to be co-owners with the living and protecting spirits,
4. *imprescriptibly* belonging to the local community throughout history “from eternity”,
5. and finally *inalienable*

Practically some consequences follow from this, of which the most important are:

1. Nobody can without disapproval of the living and severe sanctions from the defunct ancestors forbid access to the land and its produce to any individual or group of individuals within the community;
2. Nobody can without disapproval of the living and severe sanctions of the defunct ancestors do away with the collective ownership of land property (by selling or giving), under what pretext ever, not even squander the common stock for consumption;
3. Nobody can without disapproval of the living and exemplary sanctions of the spirits of the ancestors definitely take a private share, part of the totality of collectively owned agricultural lands or even a part of the common stock for consumption.

It is this socioeconomic system – built around the agricultural exploitation of the land and the collective consumption of its produce – which African thinkers and responsible politicians have called “*African socialism*”. Around this traditional system, and in order to maintain it as a specific character trait of the identity of the African peoples, political ideologies have been built on this continent, after the proclamation of independence.

These ideologies nevertheless envisaged a technological revolution in the methods of agriculture, within the framework of strategies and efforts targeting at the conquest of *industrial civilization*. Independent Africa in this way dreamt of reaching out in its turn to gigantic industrial mass production, in vast combinations of lands, thanks to enormous machinery, even under circumstances of enormous heat and many tensions. But at the same time Africa seemed not to be ready to meet the demands on a purely cultural level, after the example of continental China which had the courage to do so by effectuating a long

and challenging cultural revolution under the leadership of Mao Ze Dong (1964-1978), or like Japan in the era of the Ming Revolution/restoration (since 1868) or like Japan after the capitulation, which adapted to the technological superpower of the United States after the massacre of Hiroshima and Nagasaki.

This is due to the cultural prescriptions and prohibitions on land ownership and the common stock for consumption, which the majority of the rural communities of the continent have turned into *key values of civilization*, into sacred principles of what often appeared as part of the collective identities of Africa. These cultural prescriptions and prohibitions are not compatible with the exigencies of the application and use of “modern” agricultural technologies, how easy and productive they ever may be or promise to be. Quite the contrary, these technologies are an invitation to violate the sacred values of the African territories, by many aspects of the demands of their adoption and use. Certainly they are considered to be powerful and desirable improvements of the agricultural system of production; nevertheless they do not fit in the general social system.

In the next section a summary of the struggle in Congo Kinshasa on these issues is provided.

## **Section 2:**

### **Colonial agriculture: technologies and culture (1885-1975)**

The colonial powers of Europe were firmly convinced to increase the agricultural production in their African colonies. In the beginning especially (19<sup>th</sup> century), they organized innumerable razzias, raids, and bloodbaths. After many attempts on African soil, of which they had little knowledge, finally they decided that the technological and social approaches of traditional agriculture on that continent testified of good common sense and even were “in a certain way rational, economically speaking”. The European colonists in the end especially discovered (i) the economic concern for a reduction of efforts and costs, (ii) the collective concern to protect the environment, especially by means of the use of simple and cheap technology (natural fallowness, turning of the soil, crop rotation and mixed plantation), (iii) the existence of several *windows of opportunity* that were not fully used.

There were several *windows of opportunity*. Thanks to these the systems of agriculture could “breathe”, adapt themselves to the demographic changes, to crises and calamities.

In order to avoid costly investments and to provide themselves with sufficiently large margins of profit, the European colonists in their turn made use of these *windows*:

1. Plowing and crop rotation on one parcel of land, as long as an acceptable level of produce was guaranteed.
2. Prohibition of activities leading to rapid soil degradation, like for example the practice of slash and burn, the overexploitation of fallow lands, the use of lands that were especially exposed to erosion, or overexposure to sunlight leading to dissection, or the seeping away of nutrients into the subsoil.
3. Protection against insects, birds or predators and animals causing damage in general.
4. Genetic improvement of crops and seeds.
5. Adaptation of the agricultural calendar as to soil conditions, meteorological conditions and climate.
6. Confiscation of certain “free” or “unoccupied” territories, especially the most fertile lands for the enrichment of the European colonists.
7. Obligation of the indigenous to pay taxes in money – and creation of commerce in industrial consumer goods in the rural areas. Here the objective was to force the indigenous farmers to enter the money economy as an incentive to maximize their production.
8. Geographical relocation of the agricultural fields of the indigenous in order to make them benefit with less costs from the mechanization of the hard work on the countryside or benefit from the most useful technologies (labor and harrowing, spreading of anti-pesticides, turning of the soil and uniform crop rotation).
9. Finally, reinforcement and general application of the administrative violence and pressure on the indigenous farmers to be engaged in the production to the extreme physiological limit of their powers (and often beyond that!).

In order to benefit from the gains in productivity, the Belgian colonial administration in Congo Kinshasa (1885-1960) did not stint from any means to exploit these “*windows of opportunity*”. It notably maintained three sociotechnical means of agricultural exploitation: the *traditional mode*; the *semi-traditional* mode called “paysannat”; the mode of *modern farming*.

#### **(i) The mode of traditional agricultural land use**

This mode resides with the nuclear family. It is characterized by small and geographically dispersed fields, by crude utensils and rudimentary technology. But it benefits from a positive window of opportunities, by remaining open to modern techniques and improved inputs. Actually, without revolutionizing the social order or changing the core values of civilization, this mode of production has been able to benefit from advanced plowing techniques and crop rotation. It succeeded in using the meteorological circumstances to adjust the



agricultural calendars to the weather constraints limiting the production. Above all that this traditional familial form of agriculture benefited from improved seeds, improved techniques of planting, weeding, plant separation, as well as composting techniques and the spreading of chemical fungicides and pesticides.

From 1928 onwards the colonial system installed several “Stations”, the *National Institute of Agronomic Studies* of Congo (INÉAC) and the *Agronomic Centers of the University of Leuven in Congo* (CADULAC). In the end these “Stations” of research and meteorological observation have been installed all over the immense territory of Congo. On top of that a powerful service for the dissemination of the scientific and technical results of these “Stations” and “Centers” was installed. For the rural communities it mobilized thousands of civil servants from the colonial administration and the traditional chiefdoms besides hundreds of scientists and technicians. Periodically the agricultural production was controlled, followed and evaluated and summary reports were produced for the high colonial authorities.

But these windows of opportunities have been used on a very small scale, almost exclusively in the rural communities in the vicinity of the agronomic or urban centers. They have almost exclusively been used for the benefit of commercial agriculture, focused on rent, like cotton, tea, coffee, rubber, élaeis, quinquina, or pyrethrum.

Finally the traditional mode of agricultural production was left to the weak hands of the older generation and the elderly, the widows and the unmarried adolescents who were considered too young (14-16 years).

This first mode of agricultural exploitation of the land was not very profitable, but it constituted a large part of the total agricultural production of Congo. The products were obtained, conserved, spread and consumed mostly for the subsistence of the rural communities. But as the penetration of the extension services in the rural areas proceeded a network of infrastructures for transport was created. As a consequence an increasing portion of the traditional agricultural production was transported to the urban consumption markets, to the industries and factories of the cities and to foreign markets.

Food crops and products from rent seeking were equally transported to these markets, bringing five important advantages: cheap food for the businesses in the urban centers, the mines, the building sites and workshops; providing the colonial factories with low-cost basic materials; providing low-cost agricultural inputs for the industrial metropolises and Western foreign markets; enriching the colonial metropole and contribute to the trade reserves of the colony; increasingly involve the colonized population and economic exchange, and ameliorate its level of income, of existence and its fiscal contribution to the colony.



## (ii) The semi-traditional mode called “Paysannat”

This second mode of agriculture was meant to be “transitory” by the Belgian colonial system. It was meant as a transition between the traditional mode of agriculture (with little technology) and the developed form of technology of *modern farming* (capitalist). It was installed and imposed on the indigenous farmers since 1923 with the concern to improve their technical performance. But it was not meant and designed to replace the traditional system of land use. It was itself once more based on the usual units of production and on the residential groups as unity of consumption.

Nevertheless, the “paysannat” aimed at pushing this traditional mode of agriculture to its extreme physical and technical limits – but without risking rebellion, nor disturbing the internal equilibria, and even less changing the core values and cultural identity.

The objective was to increase and diversify the agricultural production “*by a soft pedagogy*”. In the end all the *windows of opportunity* of the traditional agricultural system should be explored and exploited. In the same vein all modern agricultural technologies compatible to the cultural values and the socioeconomic equilibria of the rural areas of Congo were mobilized and applied in the mode of agricultural production called *paysannat*.

Among others it is marked by the following characteristics:

1. The reorganization of the individual fields, each a surface of a half hectare, aligned with each other on one plot (or strip of land) several kilometers long. This arrangement facilitated certain activities that could be executed collectively. Mechanical work and the spreading of pesticides became possible for little costs on the dozens of little parcels neighboring each other. Only one big tractor was required and one airplane for spreading fungicides and insecticides. In addition, the protection of particular crops against heavy winds was possible with little cost for big stretches of land: a large hedge was built at the side of the plot against the devastating winds. Also the struggle against erosion was more effective on the lands thus organized.
2. Introduction of improved plants and seeds and of the possibility of standardization by spreading information on their quantitative and qualitative performance.
3. The use of all *windows of opportunity* derived from scientific experimentation and application of advanced agricultural technologies: more advantageous agricultural calendars, study and choice of the soil, rotation and mixing of crops, hybridization, selection and use of improved seeds, struggle against erosion, plant protection, introduction of new plants and new varieties, reduction of postharvest losses, dissemination and introduction of innovations, etc.

With rigorous discipline the colonial system imposed the *paysannat* on all able adults in certain targeted regions of the country. Especially the regions preferred for rent cultivation were selected for this system. In addition many forms of rent cultivation were introduced besides the usual subsistence cultivation (like cotton, coffee, tea, pyrethrum, élaeis, sisal).

Over the whole country the agricultural production effectively increased uninterruptedly until independence in June 1960. The revenues of the farmers increased substantially but far less than the total agricultural production and far less than the total of revenues from the agricultural sector. The volume of rural exports and taxes followed this line.

The *paysannat* was the most important innovation of the colonial period within the traditional agricultural system of the country. More than any other it has contributed to the expansion of commerce of agricultural products inside and outside the country. It has also enlarged the fiscal base within the rural population, it increased the rural savings and the industrial activities of the country, it augmented and diversified the revenues from exports and in this way contributed to the monetary and financial stability of Congo.

With the *paysannat* almost all the *windows of opportunity* of the traditional system of agriculture were exploited effectively by the use of modern technologies. The highest limits of this were often reached in regions with dense agriculture like the mountainous Kivu. So now and then it occurred to the rural population in general and especially to the new category of farmers that entered the scene as a consequence of the *paysannat* that it was attractive to invest money and effort in the improvement of their inherited lands. This little group of farmers was encouraged and supported by the colonial administration, while at the same time maintaining the social equilibria in the communities to which they belonged.

In the name of solidarity of interests *agricultural cooperatives* and “*unions of producers*” appeared principally grouped around the *farmers* as their core. These organizations joined the traditional organizations of rural Congo, but did not substitute them. They didn't constitute a serious threat and even less did they replace them on the level of cultural values and worldview. In fact it was always the traditional mode of production that mainly furnished the manpower to the factories and the food supplies to the cities. It was this mode of production that principally fed the tax system (imposed individually on the inhabitants). Its culture kept dominating the interpersonal relations even in the nontraditional city centers of the country.

The scientific and technical improvements integrated in the traditional system principally thanks to the *paysannat* seemed to lose their momentum by constantly being confronted by the unsurmountable barrier of the sociocultural values related to lifelong solidarity and collective ownership of the land. By and large even the most courageous

farmers did not have more social and economic status than the most important notables of the traditional world of the land.

In no way a *capitalist agricultural farm* could become part of the traditional mode of production of the land.

### **(iii) Capitalist agricultural farms**

Historically speaking this form of production should rightly be named with a specific name in Belgian Congo; it was baptized “*European agriculture*”. This form of production – in our days known as “agribusiness” – was reserved exclusively for the settlers, almost exclusively Belgian.

Contrary to what one might spontaneously expect from this form of production, it was not characterized by an integral and exhaustive application of the most advanced technologies of production, conservation, stock keeping, handling of the harvest..., nor by an exceptional drive for productivity and diversification..., and even less by the institutionalization of a higher level of salaries and social performance to the benefit of the indigenous agricultural workers.

On the contrary, these modern farms were designed to exploit to the maximum the human and natural potential of the colony (they are exceptionally abundant!), such as to obtain for the lowest-cost the maximum of production and of taxes that the colonial administration could expect and at the same time a profitable margin for the settlers-investors. In fact in a situation of abundant natural resources and manpower capitalist profits do not require supplementary investments and turn their back to the increase of productivity. Actually the modern farms relied only in a limited sense on scientific knowledge and advanced technologies. They were rent seeking in a double sense: the land was abundantly available and infinitely varied and the colonial manpower was even more abundant and very cheap.

The *modern farm* wanted to be an agricultural mode of production diametrically opposed to the indigenous culture and cultivation. It presented itself as *a model of rationality*, a showcase of “superior” civilization that the settlers pretended to bring. ***But its perception by the indigenous population was quite the opposite.*** It was resented by all the Congolese and considered to be the most barbarous and cruel form of colonial coercion (miserable salaries paid as a compensation for grave restrictions on liberty, pressures and oppression, inhuman treatment, unhealthy work..., everything to serve the accumulation of riches which didn’t sound meaningful in any way to the cultural ears of the indigenous population).

As a consequence, immediately after independence 30 June 1960 this third form of exploitation as well as the second one of the *paysannat* were condemned to disappear.

The disappearance of the *paysannat* was spontaneous and immediate as “illegitimate” form of agricultural exploitation. Its illegitimacy was derived from the use of coercion, the imposition of compulsory cultivation with bad payment and all the other colonial demands that were “humanly unbearable”. It is for those reasons that the majority of compulsory cultivations – mostly long-lasting like cotton, coffee and tea – were struck by an important lowering of production since the beginning of the 1960 decennium.

As far as the so-called “modern” and “European” farms were concerned, they proved to be more resilient to the almost unanimous cultural rejection of their technical and social system of exploitation. In fact, the white farmers-investors didn’t succeed in staying long in a country that was rapidly stumbling into political troubles, secessions, civil wars, political murders and interventions of the secret services and of armies from external powers. Some leading indigenous politicians came to replace them with exceptional courage and put their parents and political clients over there. The few *modern farms* that miraculously stayed in the hands of a small minority of European settlers finally were wrested from them in November 1973 after a political decision on the nationalization-privatization of small and medium-sized enterprises.

In the end the agricultural farms that were managed according to modern technological norms stopped in 1975 and were dismantled and liquidated. Their treasures, infrastructures and equipment, the network for the commercialization of their products were robbed and dismantled. The little salaried Congolese who until then had stayed on their posts were dispersed without much ado. In the majority of cases they didn’t receive their unpaid salaries, and were not compensated.

This was under the regime of Mobutu. When under diplomatic pressure – even under the hardly hidden menace of retaliation – the political regime of Mobutu in March 1975 decided to return these farms to their external owners. These settler-owners only received an empty shell.

The disappearance of thousands of modern farms was an enormous economic loss for the country.

It still became much worse. To this immense economic loss a heavy debt was added towards the former settlers. It entailed almost half of the financial transactions of the country (estimated at 14, 5 billion of US dollars before their erasure of 80% in June 2010). And to the misfortune of the country this debt was to be paid in American dollars of which the exchange rate to the national currency of Congo Kinshasa has constantly raised between 1975 and 2010.

What conclusions can be drawn as to the evolution of Congolese agriculture under the three modes of agricultural production in the colonial period (1885-1960)?

1. The scientific and technological innovations were focused on the use of *windows of opportunity* within the traditional mode of agricultural production and this on the level of all three modes of agricultural production. However, these three modes of agricultural production benefited in different ways from these innovations: the capitalist farm was the first to benefit, followed by the *paysannat*, the traditional mode of agricultural production was third;
2. The *core values* of the traditional rural society were not challenged. The scientific and technological innovations, even if they were imposed by severe administrative coercion, didn't reach a sufficient critical mass to destroy these values. Clearly they didn't succeed in replacing the hoe by the animal or the tractor, the individual agricultural work by collective work, the collective ownership by private ownership of the agricultural lands, lifelong distributive solidarity by individual consumption. So *the cultural limit imposed on the scientific and technological innovations was not shaken in the rural areas*;
3. The two modes of production installed under Belgian colonialism – the *paysannat* and the *capitalist farm* – have progressively been destroyed after the independence of the country in June 1960, when the administrative coercion that imposed them before 1960 couldn't be continued.

The fall of the agricultural production was important and heavy after 1960. Apart from the food producing agriculture in the vicinity of the big cities the agriculture in the interior was literally destroyed: with the millions its "hands" migrated to the urban centers, its networks for the commercialization of the products were broken down, the roads for transport were mostly demolished, its warehouses and equipment were used in different ways or destroyed, etc.

The Congolese agricultural economy thus had to be reinvented, facing the same cultural barrier, confronted on the one side by the demands of advanced agricultural technologies and from the other side by the traditional social bonds of the rural areas and the core values of its civilization.

### **Section 3:**

#### **Post-colonial agriculture: technology and culture (1975-2015)**

In the course of 25 years of independence an almost complete breakdown occurred of the two forms of agricultural production created during the colonization. The diffuse culture of Congo put an end to the *paysannat* first and to the *modern agricultural farms* next. The

centers of agricultural research as well as the public services for the dissemination of seeds and agricultural technologies at their best reduced their activity and outreach; at the worst they disappeared. Even the cooperatives and the diverse coalitions of rural producers which prospered during the colonial period, were gradually dissolved.

The economy of the country by and large lost its agricultural sector. This sector shrank from 35% from the gross national product of the country in 1958 to 16% in 1977. Huge obstacles were created for the provision of the Congolese industries with basic agricultural products, for the consumption of the urban populations of agricultural products, and also for the agricultural exports of the country.

The time came that the country was dependent on food imports.

Internally the Congolese economy was only based on the narrow base of traditional agricultural production. But these were now without the advantage of the *windows of opportunity*, used in former times thanks to the scientific and technological innovations. The traditional agricultural mode of production that returned in full force was – that should be underlined once more – strongly at the service of *lifelong solidarity* and internal consumption within the clans instead of being research and market and individual profit oriented. In the traditional mode of production *subsistence* agriculture prevailed instead of commerce.

More concretely, the Congolese economy lost the great technical and economic innovations from the time of the colonization, notably what belonged to the crop cultivation for rent, textile fibers, tea, bark, pyrethrum, coffee, cocoa, sisal, vegetable oil, palm kernels,... but also cereals, vegetables and tubers.

### **(i) The return of the “modern” farm**

The economic crisis of the country reached its peak between 1976 and 2002. By then progressively and timidly there was a return to *modern farming*. In different provinces and especially in the rural periphery of the principal urban centers a form of agriculture came into being on lands that were usually encroached upon by the cadastre of the cities, consisting of market gardens and large private “modern” farms. But this movement back to the past remained very timid for a long time. In fact, it took them a long time to get results in terms of quantity and diversity of products and get them on the markets of the country that were already submerged by the imports of agricultural products and food.

In the interior of the country the vast stretches of land that formerly were used by modern agricultural farms returned to the state of wilderness and forest and savanna. On top of that, the infrastructure like roads, railways, waterways that in former times were maintained for navigation, the buildings and ports and stations, the transfer stations and cooling chambers for the agricultural products that were to be transported fresh to the



markets, the cars and trucks for such cooling transports, all these facilities were dismantled or abandoned.

This return of the “modern” farm takes place in a country that has lost all its infrastructure and equipment, but also the formation of a complete generation of technicians. This return to the past is in its infant stage but even more, it doesn’t make a real difference. These farms behave like the *latifundia* type of land ownership. These farms look more like ground speculations at the periphery of the cities than veritable agricultural production units. Their economic impact is even less due to the fact that their owners in great majority consist of high functionaries and important traders from the cities, who exploit their farms as second residences, picnic places or picturesque vacation sites, more than veritable units of production.

Until today the few modern farms that have returned didn’t change anything to the internal economic imbalance due to the backdrop of the agricultural sector nor to the food insecurity and the dependence on imports. Chicken, eggs, turkeys, ducks, meat, vegetables, fruits onions, pepper, tomatoes, beans, rice, maize, wheat, rye continue to be imported into the country in increasing quantities and in always different forms. The small market garden production in the urban peripheries is negligible in quantity. It doesn’t succeed in satisfying an increasing urban demand and even less in serving the markets in the interior of the country. Towards the interior there is no infrastructure nor proper transport nor adequate means for conservation of quality. Finally the interior doesn’t have enough purchasing power either.

Thus it becomes understandable that in the short and middle term the *modern farm* that is returning isn’t really rooted in the country: not sociologically, nor technologically, and even less culturally speaking. It doesn’t have a real impact in the context of relative abundance of agricultural land (30 inhabitants on average per square kilometer, with very rare focal points of rural density of 100 inhabitants per square kilometer besides vast stretches of uninhabited lands). It doesn’t solve anybody’s economical and financial problems in a country where 71% of the population lives below the poverty line (1,25 \$US per day), and where unemployment strikes 80% of the able population.

## **(ii) The emergence of *modern agricultural villages***

Moreover a type of *modern agricultural villages* is appearing in the country (since 1990). The cases are still rare and limited to the periphery to the West of Kinshasa in the region of Mampu and Kadim. The Congolese settlers live and work there by the dozens near their farms, on waste land that is profusely reforested, which they have bought cheaply from the



state and from which they pay taxes by selling the embers coming from their respective concessions.

The two agricultural villages look like embryos of cities transplanted to the open field. The collective infrastructure has been built with the financial assistance of bilateral cooperations. It entails a few hundreds of houses for the farmers, a center of mechanization providing big agricultural machines, a fuel deposit, storage facilities for the conservation of agricultural products, a commercial center, a hut for visitors passing by, a support center for the commercialization of the agricultural products from these villages,...

This mode of production comes quite close to what can be observed since decennia in the countries of eastern Africa and in Australia that was a long time ago colonized by England (Kenya, Tanzania, Zambia, Malawi, Zimbabwe, Botswana, etc.). It is in its infant stage in Congo Kinshasa. But as a nursery for the middle class of the country it doesn't seem to attract the attention of the authorities, nor from the financial system or the banks.

### **(iii) The apparition of a privileged form of agribusiness**

In 2010 the government of the country launched an ambitious program to create twenty *agro-industrial parks* all over the country in the form of gigantic farms with modern infrastructures, equipment and material. They are gigantic units of agricultural production. They use mechanization, selected inputs for high productivity, proven scientific technologies. They realize a diversified production from vegetables and fresh fruit to cereals and wheat, delivering large quantities of products on the urban and rural markets in different stages of processing. Grain, different vegetables and natural fruits, poultry and meat, different sorts of flour, meat products etc.

These immense agro-industrial complexes are supposed to reach the following objectives:

1. Reinforce the internal agricultural production forces, bring them to the level of the consumptive needs which constantly increase;
2. Check the long-term evolution and increase and continuous diversification of agricultural and food imports, reinforce the financial balance of the country and watch over the exchange reserves on which the stability of the national currency depends;
3. Take the productivity and the economic scale of the agricultural and food production to the next level, reduce the prices of these products on the internal market where the purchasing power is extremely weak;
4. Combat mass poverty and assure food security all over the country, but at the same time create thousands of new permanent and better paid jobs in those agro-industrial parks and in the hundreds of enterprises created upstream and downstream;

5. Turn the agro-industry into the privileged and most important activity of the complete production apparatus of the country and the most important strategic focus of agricultural and industrial development of the country.

At a distance of 200 km to the west of Kinshasa a prototype of these parks has been installed since August 2014, on a surface of 8000 hectares, still to be expanded. It is meant for the production of 15,000 to 25,000 tons of corn two times per year, 2000 tons of fresh vegetables tons of pork meat per week. The existence of this argo-industrial park in the locality of *Bukangalongo* is justified by the concern to feed the population of the city and province of Kinshasa (8 millions) and to deliver its numerous agricultural inputs and products.

But the special context of Congo Kinshasa promises unexpected problems. An economy that is open and dependent on external forces to an extent rarely met and which is managed in a neoliberal climate without restriction cannot without difficulties and risks cope with such argo-industrial units of production.

At the horizon the following problems appear:

1. Conflicts over the lands where these complexes will be located.
2. Massive impoverishment of all the population of millions of Congolese farmers and their communities who are living from the traditional agriculture characterized by exhaustion, weak productivity and profits, small pieces of land and without improved inputs or improved seeds.
3. A sudden agrarian reform to the benefit of big agricultural and food producing companies from outside the country which confiscate agricultural land, production and revenues to the benefit of external economic and social actors.
4. Incapacity of the domestic financial markets of Congo (which is very limited and infinitely fragmented: almost US\$3 billion in 2015 divided among 20 locations) to finance – in volume, in diversity and sufficiently smooth – a meaningful part of the heavy investments necessary to create and operate the diverse Argo industrial parks on a territory so vast.
5. The risk for Congo to miss what seems to be the last opportunity to base its interior development on its own resources: resources in agricultural land and water. By investing its resources in a “modern” mode of production comparable to the exploitation of its minerals, its forests, its deposits of oil and gas, the land runs the risk of compromising the most important material assets for development left.

**In conclusion**, Congo Kinshasa has an abundance of agricultural lands, millions of jobless youth, to a large extent educated, and, paradoxically an immense and ever-growing need for

agricultural products and food. However, its principal mode of agricultural production is still archaic in terms of technology and it doesn't perform well in economic terms.

The *modern* production units are presently (2015) consisting of about 100 *privately owned big farms* in majority situated in the urban peripheries. These farms are of a size in between the big *latifundia type* of land ownership and the production units with a large unexploited potential. In addition a tentative start is made in the country with *modern agricultural villages*. Those are only to be seen in the geographical periphery of Kinshasa city. They contain a few hundreds of *farmers of a new type* on a site that is prepared and equipped in advance. Although in the proximity there are many commercial markets and although these apprentice farmers are living in the proximity of their individual farms, they nevertheless do not have a proper source of funding, nor a well-organized and equipped network for the commercialization of their produce, nor for the rather eroded network for the provision of inputs. They do not benefit from any special attention from the side of the authorities except for the material facilities at the site.

Finally, some 20 immense *agro industrial parks* are in the process of being installed in several regions of the country. They are equipped with heavy and well performing technology for modern production, storage and processing of the agricultural and food produce. They are meant to supply the households (mostly urban), the urban industries in the neighborhood and to augment the agricultural exports of the country. For several reasons these *agro-industrial parks* seem to open promising economic and technological perspectives for the country.

All these new modes of agricultural production are far from having proven their economic effectivity, nor their adaptability to the *cultural ecology* that still dominates Congo with the *core civilizational values* characterizing the traditional mode of agricultural production. In a context of unvariable abundance of agricultural lands and resources, these new forms didn't even make a start to use the niches available for the increase of productivity, of the *windows of opportunity* suitable to this traditional mode of production.

So Congo seems to be far from admitting to be compelled to take away the cultural obstacles of the traditional rural community in relation to technological progress. However, there are important opportunities for agricultural progress, starting with the rarely used *windows of opportunity*. In fact, no move can be made in such a situation, because each socioeconomic revolution is experienced as cultural suicide and as an intolerable collective identity crisis! This is a characteristic of all preindustrial societies: the same technological package is transferred from generation to generation, contrary to industrial societies, where just one generation incessantly renews its technical utensils and methods.

Universal economic history, however, teaches that in general it is in an unavoidable crisis that preindustrial peoples, their back to the wall and their bodies in defense, agree to change their utensils and production methods (A. Toynbee). We only need to memorize the overpopulation and the deprivation of land, or the lasting deprivation of manual labor (servile or salaried), or the ecological crisis characterized by the loss of agricultural lands (due to permanent inundations, or irreversible desertification, or radical or temporary climate change). Evidently the list of possible calamities is not complete. But it has to be admitted in general that *preindustrial societies make progress via setbacks* (Marshall Sahlins, 1973).

#### Section 4:

#### The Congolese agricultural experience: lessons and perspectives

Congo Kinshasa has known different forms of modern agriculture. But the country has not yet succeeded to introduce a modern and effective form of agricultural production, which is in line with the social cultural demands of *lifelong solidarity*, or which defies this value. The traditional familial form of agricultural production is in line with the local culture. But it is characterized by a weak technological effectivity which keeps the country far below the economic demands for survival and progress in the contemporary world.

In a confused way the population and the leaders seem to feel the necessity to solve the problem of the technical systems of agricultural production in this country. But the central matter of the conformity of the production system with the cultural demands has not yet found an elite that can put this matter on the table **to its own benefit**, explicitly and straightforwardly, in all its implications. The technical means of production are not culturally neutral and the disturbing effects they can have on the complete social system should not be indifferent to the people.

The agricultural question takes vision, political courage and coherent action.

*All the recent creations of modern production systems didn't take root sufficiently yet and are not of a sufficient scope to have an impact on the core civilizational values that are vaguely shared in the Congolese society.* Nor the system of big private agricultural farms, similar to the latifundia type of Latin America, nor the more recent system of *modern agricultural villages*, which didn't yet bring into the open their consequences for the social norms, its technological exigencies and the extent of their possible performance, nor finally the system – even more recent than the others – of *agro-industrial parks*, deserves to be replicated throughout the country. It is not yet clear what sociocultural perspectives may open up for the country.

There is much reason to believe that the debate is yet to come about the technological question in the rural areas of Congo in close relationship to the new society to be built in the name of *development*. Without knowing people always adopted their *civilizational values* during the long night of time. Generation after generation they identified with these values which gave meaning to their existence and justification to their actions. It is necessary to search for a hidden side of the inner life of the peoples under the scientific and profane debates about the progress of science and technology in the life of these same peoples. It is all about a struggle *for meaning*. This is a historic struggle they have to conduct at every moment of their turbulent lives. They do this silently – and without concession – on the level of each life and each commitment.

The adoption of a technological package that replaces another that has been forged over a long time, that has accompanied and reproduced the people and their culture, is not a profane and harmless matter in the eyes of those people. For them it is charged emotionally with the force of a rupture and impact on their collective regeneration. No people on this planet seems to have left without resistance or complaint, the agricultural civilization to replace it with the industrial civilization, the hoe with the harnessed horse, the harnessed horse with the agricultural machine.

Congolese agriculture possesses vast stretches of uncultivated agricultural lands, numerous *windows of opportunity* that are not yet used and millions jobless hands. But it is marking time, in the face of famine that may bury multitudes. Deep in its heart Congo is waiting challenges that are too existential and too heavy to make her capitulate – and, at the same time, waiting for a political and moral leadership that finds the reasons for its justification in the people.

In fact, one day the country will capitulate. *Congo will adopt modern agricultural technologies which are already within the reach of all peoples, but of which the costs, the moral demands and the sociocultural constraints are disgusting to her until nausea*. But the drama lies in the fact that today's Congo, to which mass scale poverty and hunger leave no time to waste, seems firmly decided to take all her time "to wait and see".

Bondo (Province of Kisumu, Kenya), 24 November 2015

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