

## Review

# Sub-Saharan African (SSA) countries towards economic development: The Snowball model

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**In sub-Saharan African (SSA) countries, economic growth has very little impact on economic development. Based on international models, the study suggest the snowball model starting with open incubators, generating the formalization of the informal economy, followed by industrial districts, organizing the knowledge, know how and finance infrastructure relevant to the development of the formal economy into clusters. The feasibility of the snowball model was checked in Cote d'Ivoire, in three sectors that is, processed fruits and vegetables, processed wood and textiles.**

**Key words:** Sub-Saharan African (SSA) countries, regional development, incubators, industrial districts, clusters, agribusiness snowball, open incubator.

## INTRODUCTION

### Growth versus economic development in SSA countries

GNP annual growth rate of sub-Saharan African (SSA) countries enjoyed higher prices of crude petroleum, minerals and agricultural products and grew from 2.4% in 1999 to 2001 to 3.9% in 2001 to 2004 (World Bank, 2006). But this economic growth has not had any impact on economic development and poverty. The in-come poverty indicator of Millennium Development Goal No. 1 (MDG1), the number of people living on less than US\$1 per day (purchasing power parity, or PPP), did not change from 1990 to 2004 (UNECA, 2006). While the total number of people worldwide living on less than US\$1 per day from 1981 to 2001 declined from 1.45 to 1.1 billion, the number in SSA countries increased from 164 to 314 million (World Bank, 2004). Poverty is expected to decrease in Asia and Latin America, but to increase in Africa and the Middle East.

According to analyses initiated by the International Labour Organization (ILO, 1999, 2007), growth in the extractive mineral and fuel sectors has generated very

few jobs across economies. From 2008 onwards, the world economic crisis generates a slowdown of demand for oil and minerals and cut the revenues of several SSA countries, worsening their economic situation. From an overall current account surplus position of 2.9% of GDP in 2008, the continent will face a deficit of -4% of GDP in 2009. The large surplus of 8.8% of GDP for the group of oil exporters will turn into a deficit of -4% of GDP (ADB, 2009).

This is a direct result of the expected decline in oil revenue. SSA countries will not be spared from the pessimistic world trade outlook for 2009. Exports and imports growth rates are forecast at 3.6 and 10.5% in 2009, respectively compared to 10.6 and 15.2% in 2008. As a result, the impact of the crisis on foreign exchange is expected to be negative.

Having benefited from the recent primary commodity boom, Africa will experience a loss of 45.4% of its exports value in 2009 (ADB, 2009). Losses in export growth rates are not compensated for by decreasing import growth rates in value terms, implying that the trade balance may deteriorate. Exports growth or external support cannot be the only solution. The main objective of this paper is to discuss and suggest a model able to generate sustainable growth of local demand and supply in the local informal and formal economy.

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## Models of regional development

The main models of development discussed in the literature are the Incubator, the Industrial District and the Cluster.

### The incubator model

The United States National Business Incubation Association (NBIA) ([www.nbia.org](http://www.nbia.org)) defines the business incubator as "a dynamic process of business enterprise development, providing, under one roof shared office services, access to equipment, flexible leases, and expandable space". Its main task is to create a dynamic of development in the supported small and medium-sized enterprises (SMEs) by providing management and consulting services as well as relevant material and financial resources. Its wider task is to support macro-economic-related (employment) or micro-economic-related (implementation of technologies) objectives.

In 1956, Massey-Ferguson, the largest industry in Batavia, New York, United States of America, closed down, leaving vacant an 850,000 ft<sup>2</sup> complex of multi-story buildings. The Mancuso family purchased the complex and gave Joe Mancuso the responsibility of creating jobs and making money. Mancuso decided to divide the building in smaller units and rent them to individual businesses that he would nurture by providing shared office services, assistance with raising funds and business consulting. One of his first tenants was a chicken processing company, thus, the origin of the name "incubator" and of a new model of promoting SME development. The first business incubator, Batavia Industrial Park (BIP), was thus, created. BIP reached capacity after five years and created thousands of jobs for the area and appreciable earnings for its owners, its tenants and the city of Batavia. The incubator model supports the development of SMEs as a source of local economic development. In 1979, June Lavelle, in her capacity as Executive Director of the Industrial Council of Northwest Chicago, developed the incubator concept as a model for neighborhood revitalization programs.

In a vacant 350,000 ft<sup>2</sup> facility in northwest Chicago, the Fulton-Carroll Center for Industry (FCCI) became the headquarters for the revitalization of an abandoned industrial neighborhood. As a result of the work of FCCI's support team of successful business people, the vacancy rate of the surrounding neighborhood's commercial property dropped sharply and real estate values have risen. The FCCI incubator fosters local development by creating job opportunities initiated by new entrepreneurs. The United Nations Industrial Development Organization (UNIDO) adopted the incubator model in order to "create a favorable environment for entrepreneurship and the expansion of SMEs in developing countries" (UNIDO,

2002). It has been implemented with many difficulties in SSA countries such as Angola with the INEFOP-PEA Business Incubator in Luanda, in Kenya with the Jomo Kenyatta University of Agriculture and Technology Center for Business Innovation (JKUAT-CBI), and the private incubators Kountry Business Incubator (KeKoBI) and SACOMA (<http://www.busyinternet.com/incubator/>). Nigeria is quite representative of the difficulties encountered by SSA countries in order to implement the incubator model. The Nigerian Incubator System Foundation (TBI) founded in 1993 as a cooperation with UNFSTD, the private sector, the states and the federal government, decided to create three incubators, in Lagos, Nara and Kano. But due to corruption, the Federal government nationalized it in 1995.

The Lagos incubator started only with 11 tenants. South Africa only differs from the other SSA countries and succeeded in implementing the incubator model (Giddings, 2009).

South Africa has 21 incubators supporting entrepreneurs in various sectors: Nine technology incubators (one biotech, one bio-medical, two chemical and five Information and Communication Technologies-ICT), six manufacturing incubators (automotive, wood, stainless steel, base metals, aluminum, platinum), one mining incubator, three agricultural incubators (flowers, biodiesel, essential oils), one construction incubator and one fully private sector. Most are supported by the national government and to a lesser extent by provincial and local governments. The South African Business and Technology Incubator Association (SABTIA) was created by incubator professionals and has since become an organization representing incubators in South Africa. The few hundred entrepreneurs supported by those incubators have a small impact on economic development in South Africa.

### The industrial district model

Becattini (1990) conceptualizes the industrial district, defining it as: "a socio-territorial entity which is characterized by the active presence of both a community of people and a population of firms in one naturally and historically bounded area". In the district, community and firms tend to merge. In Italy, the industrial district model first appeared in the 1970s. Industrial districts in the textile industry in Carpi and Prato, the furniture industry in Brianza and Cascina, and the footwear industry in Vigevano opened new markets in Europe and Japan for the Italian industry (Brusco, 1982).

National and local authorities built a network of support centers specialized in research, technological transfer, management or international marketing. Today, industrial districts in textiles, ceramic tiles, food processing, furniture and agricultural machinery tools are concentrated in northern and central Italy (Paniccia, 1998).

The industrial district model requires flexible specialization, deepening division of labor between firms, differentiation of enterprises by process or products (Rabellotti, 1995; Schmitz, 1995; Rabellotti and Schmitz, 1999), inter-firm cooperation and mutual trust, as well as a positive industrial atmosphere (European Commission, 2002). The main driver of an industrial district is the local and national support policy which can be defined as “a set of humanly devised behavioral rules that govern and shape the interaction of human beings, in part by helping them form expectations of what other people will do” (Nugent and Lin, 1996).

### The cluster model

The cluster model (Porter, 1998) is a “geographic concentration of an array of linked, competitive firms that have close buy-sell relationships, utilize common technologies, share customers, or share a labor pool that provides them with a competitive advantage”. The cluster model gains competitive strength due to its better access to trained and experienced employees, suppliers, specialized information and public goods, as well as from motivating forces of local competition and customer demand (Rosenfeld, 1996; Enright, 2000; Saxenian, 1994). In their research on successful cluster development practices in the United States and Italy, Christensen et al. (2002) emphasize the business generator aspect of the cluster.

Lissoni (2001) argues that authorities and institutions should facilitate collaboration and networking, but Porter does not endorse this view on the grounds that such networking would lead to a reduction in competition. An example of bottom-up development is the Silicon Valley, the first United States cluster model, which was initiated by private parties. Frederick Terman, Professor and Provost of Stanford University, proposed the leasing of Stanford's lands for use as an office park, the Stanford Industrial Park (SIP). Leases were limited to high-tech companies. Its first tenant was Varian Associates, founded by Stanford alumni in the 1930s to build military radar components. Terman also found venture capital for civilian technology start-ups. One of the major success stories was Hewlett Packard, which was founded by Stanford graduates William Hewlett and David Packard. Networks were generated autonomously in both regions, Silicon Valley and SIP (Saxenian, 1994; Segel, 1985).

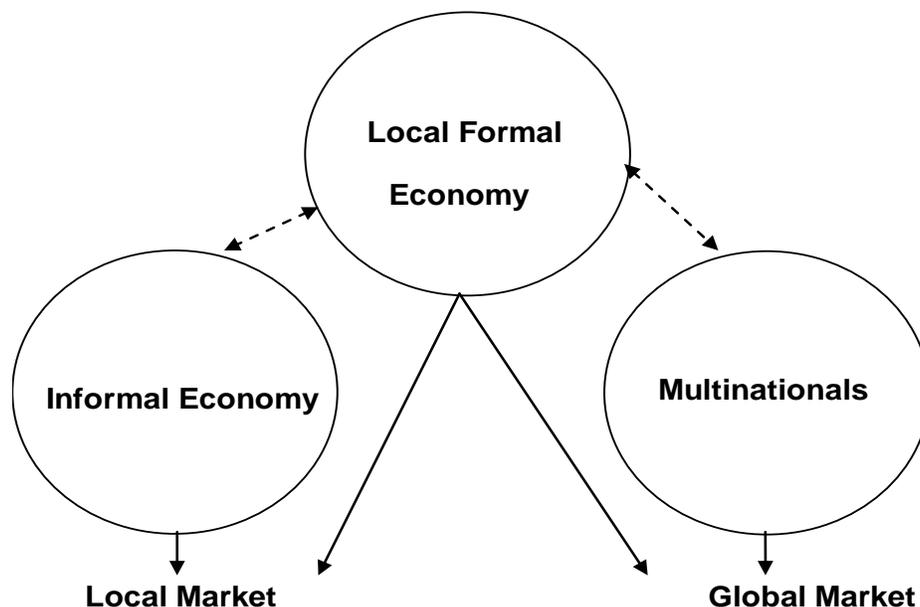
In most European Union (EU) countries, the clustering process was the initiative of governments. The EU Expert Group's final report enterprise clusters and networks surveyed 59 traditional clusters and 25 science-based clusters (European Commission, 2007). According to the report, in the member states, policies towards cluster development are generally issued by national governments with the co-operation of regional or local governments. National authorities focus on designing

and coordinating cluster policies to create the general framework conditions and developing R and D programs. In certain countries such as Belgium and Spain, cluster policy is strictly a regional government initiative. Regions in these two countries enjoy autonomous authority in this field and develop their own approaches and instruments. In Germany, projects such as EXIST and BioRegio are the result of the Federal Government's cluster policy, a top-down approach (Colovic-Lamotte and Tayanagi, 2004). Regional governments have been required to share with the Federal Government the provision of financial support to spin-off companies from universities. The Finnish Government also encourages the development of industrial clusters. Finland's best-known cluster, "Networking", located at Turku and Oulu, specialized in telecommunications and involves companies such as Nokia and ABB (TEKES, 2005). The best examples of functioning clusters in SSA countries are in South Africa.

The South African Petro Chemical cluster around Sasol near Witbank, is one of the most successful clusters. In this cluster various supporting industries and downstream linkages were created, manufacturing products like: solvents such as alcohol, ketones, tar products, sulphur, ammonia, krypton/xenon, nitrogen and oxygen, feedstock, fuels like petrol, diesel, gas and paraffin (Nortjé, 1998). These and other by-products are used in the production of paint, fertilizers, plastics and plastic products, washing detergents and feedstock. The cluster's motor vehicle industry around East London and Uitenhage in the Eastern Cape already produces 40% of the country's output of vehicles, components, like motor spares and platinum exhausts, services and 10% of the chemical, pharmaceutical and petroleum industries (Nortjé, 1998).

McCormick (1999) differentiates between “groundwork clusters”, “industrializing clusters” and “complex industrial clusters”. Based on this classification, Kleynhans (2003) opines that even those successful clusters cannot be classified as complex industrial clusters. They tend to be smaller and less developed than their counterparts in Western countries.

In the 80s and early 90s, the government of Uganda ran a number of state enterprises and projects including those engaged in the production of fish nets (Uganda Fishnet Manufacturers), fish trawling (the Sino-Ugandan Fisheries Joint Venture with the Chinese), fish processing, three fish distribution centers, and a fleet of fish trucks (Uganda Fisheries Industries Limited) and the supply of fishing inputs (EEC funded Artisanal Fisheries Rehabilitation Project). Many of these state outfits ran into management and financial trouble prior to their closure or privatization (Kiggundu, 2007). According to Kiggundu, the key point is that despite this long history of public investments in the fisheries, no attention was paid to the need to build and support local systems for learning and innovation. This role is not limited to enforcing regulation and standards of performance. It



**Figure 1.** The current and potential links between the three economies in SSA Countries.

includes funding research, facilitating innovation, and arranging the provision of technical assistance. The Ugandan case underlines the vital role of public efforts in providing overall leadership and co-ordination of systemic learning, institutional change and continued interaction with the various players in order to ensure that combined efforts bring about the required knowledge flows.

The production of leather shoes in Ethiopia dates from the late 1930s when Armenian merchants founded two shoe factories in Addis Ababa. These factories nurtured a number of shoemakers, who opened their own factories in Addis Ababa and trained their workers. Today, the neighbourhood of Merkato, a huge marketplace in the city, swarms with shoemakers, wholesale shops dealing in leather, soles, and shoe accessories, and shoe retail stores (Adeya, 2006). Sonobe et al. (2007) selected randomly a sample of 100 large, medium and small firms in this cluster in order to analyze its development.

Eighteen enterprises only in the sample were managed by second-generation entrepreneurs. The fact that the majority of the enterprises were new also indicates that only a small number of enterprises could survive in the face of intense market competition.

Van der Loop (2003) selected also in Merkato 42 enterprises composed of different footwear manufacturers and shops, such as large, medium and small-scale footwear producers, as well as shoe shops. He found that horizontal linkages, or cooperation among similar types of enterprises, are rather weakly developed among footwear enterprises. Seventy percent of the sampled firms do not undertake any joint purchase of raw materials with similar firms. In general terms, footwear

enterprises have rather weak vertical linkages. A minority of enterprises (29%) sometimes works jointly with other footwear enterprises in the form of receiving contracts or giving contracts, in particular capacity. The remaining enterprises do not work jointly at all, due to various reasons: they want to operate independently (47%), they do not have the trust (23%), there is no need for it (18%), or they are not aware of the possibility of joint work (12%). The first two reasons given (totalling 70%) are both pointing to a lack of trust in each other. The lack of trust among entrepreneurs seems to be an overriding argument.

In Kenya, McCormick (2001) found that firms belonging to the textiles cluster undertake "production process", while other activities such as design, procurement, and marketing are undertaken by firms located in developed countries. Those firms operate at the lower level of the garment chain.

#### **Adaptation of the models to the economic environment of SSA countries**

Within any SSA country, three parallel economies live side by side, the informal, the formal and the international oriented economy (Figure 1). The informal economy employs more than 80% of the manpower in thousands of SMEs supplying basic products and services to the local market, from farming products, food, furniture, shoes, clothes, to transportation or trade. The majority of those small businesses have been launched by people that cannot find jobs otherwise (Rosa, 2006). They are poverty and subsistence driven and mainly

want to earn just enough to live (Frese and De Kruijff, 2000; Olomi et al., 2002; Rutashobya, 1995; Toroka and Wenga, 1997). The greater the poverty, the more necessity that occurs in the business (Reynolds et al. 2001; Rosa, 2009).

This is confirmed by Mitchell's research (2001) on entrepreneurship in South Africa: 38.7% open a business for survival purposes and 20.2% because they were unemployed and did not find any other job.

Nearly all of the poorest interviewed by Olomi et al. (2002) in his research appeared "trapped" by their incapacity to find the time to earn a sufficient surplus to invest in a new business. Evolution from economic necessity appears to be rare (Olomi et al., 2002). It is still unknown when and how entrepreneurs decide to grow and what triggers the desire to grow (Dunkelberg and Cooper, 1982; Kolvereid, 1992; Kolvereid and Bullvag 1996; Kurantko et al., 1997).

The issue is how to support those thousands of SMEs in order to achieve motivation which characterizes business entrepreneurship (Schumpeter, 1934; Davidsson, 1989; 1991). The formal local economy consists of firms of different size working in agriculture, industry, trade and many other services, such as banking, construction and telecommunications. Formal local firms mainly supply the needs of the local wealthier population and partially supply the needs of the international customer (mainly exporters of agribusiness products). They are beyond the level of subsistence, but they require infrastructural support such as relevant research, technological transfer, education and training services in order to grow.

The multinationals and the international firms, supply the needs of the local and the international market. Some firms produce and sell mass products to local customers (soft drinks, ice cream) or high-end products to the wealthier population (cell phones, computers). Others buy coffee, cocoa, crude oil, minerals or rubber in SSA countries.

### **The incubator versus the open incubator and SMEs in the informal and formal economy**

The management and the experts in an incubator support 20 to 30 SMEs. A SSA country has a limited number of experts and so, can open very few incubators. Support to thousands of SMEs from the informal and the formal economy is required in order to generate economic development of sectors or regions. The "closed" incubator cannot support thousands of SME's but the "Open" incubator can. The study propose make available the services of incubators to thousands of scattered SMEs in the informal and formal economy in a specific region and creating regional open incubators (Figure 2). In this way, the limited number of experts will serve a larger number of SMEs.

In order to overcome both problems, that is, the lack of

business knowledge of informal SMEs on the one hand and the limited available number of experts, on the other, the study propose to establish a network of students who would be responsible for presenting the SMEs' requests and reporting on their business progress to the managers and experts of the open incubator as the final project of their studies. One student can support 5 SMEs, and 100 students, 500 SMEs.

The students would thus acquire experience, some might even become employees or partners in the SME they support. Students specializing in business management, agriculture or any technical field could be a part of this supporting student network. Their task would be to support the SMEs in improving their business efficiency and pass subsistence level. Each incubator will have its own specialization and will support SMEs related to it. The objective will be to create the critical mass of SMEs required in order to generate economic growth in the different economic sectors.

The proposed open incubator model can support the formalization process of thousands of firms. The board of the open incubators, in order to be integrated in the sector and the region, will represent the different economic forces, local authorities' suppliers of research, education, technological transfer, finance, management and marketing services. Hereafter is presented (Figures 3 and 4) the case of poultry and vegetable sectors in which SMEs could be supported by the open incubator upstream and downstream of the production of chicken, eggs and vegetables.

### **The Snowball model, from open incubators to industrial districts and clusters**

Specialized open incubators will open the ground for the development of existing and new institutions and organizations, supplying technological and managerial knowledge. In such a way, the open incubators could be transformed into industrial districts.

In order to become a cluster, an industrial district needs, an economic driver able to generate synergic development. National or local authorities can be the economic driver and decide to generate for example an agricultural cluster around main activities such as meat, fish, crops, wood, rubber, and minerals (Figure 5). Upstream, they will promote/ support activities such as: seeds, feeding, processing equipment, post harvest and refrigerating equipment. Specializations downstream such as processed food, cosmetics and chemicals will be generated. The infrastructural activities such as research, education and finance will grow according to the evolution of the cluster. Large local and international firms, working in the SSA countries could be the co-partner of national authorities and also play the role of economic driver. Nestlé, as a basic philosophy decentralizes its production in order to adapt the products to customer

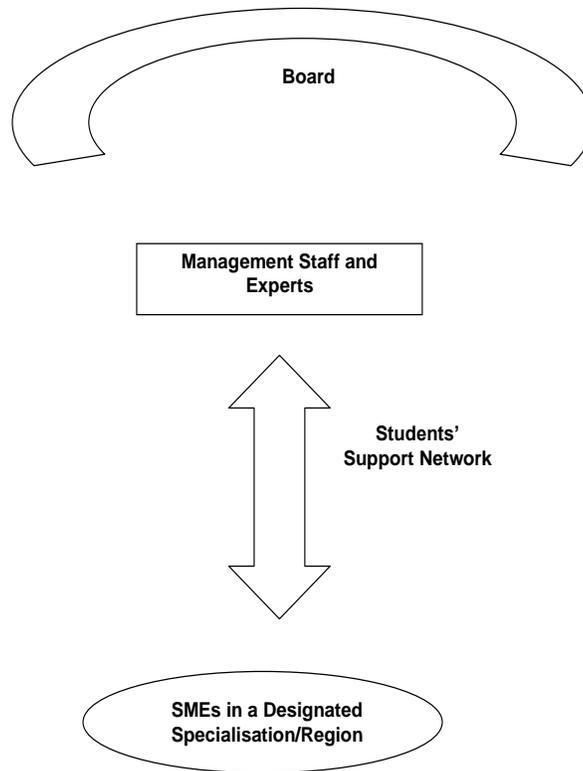


Figure 2. The open incubator model.

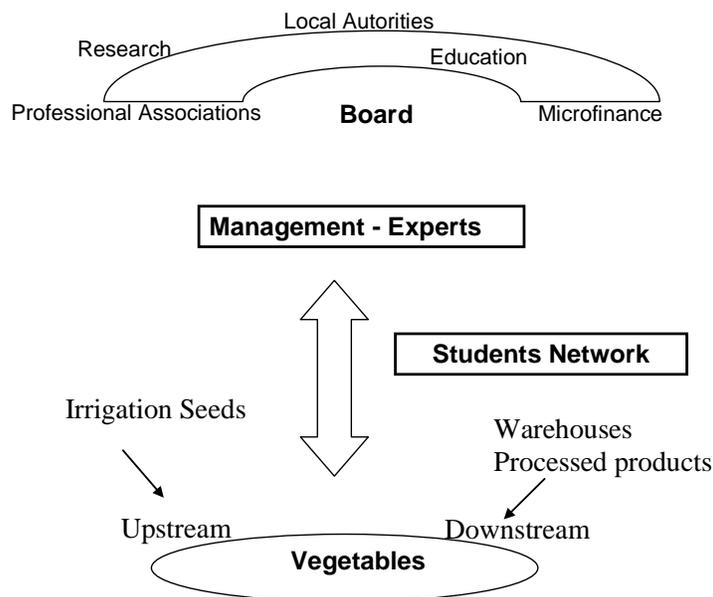


Figure 3. Open incubator in vegetables.

taste in each country (www.nestle.com). Nestlé has 95 plants in Europe, 74 in North America, and five only in Africa. Its production is limited to basic Nescafé, Maggi soups using starch from cassava. The other products are

imported. Nestlé do not invest more in Africa because of better business opportunities in other regions. Nestlé has the relevant technologies in order to process cassava, coconuts or maize and to sell to the local market in SSA

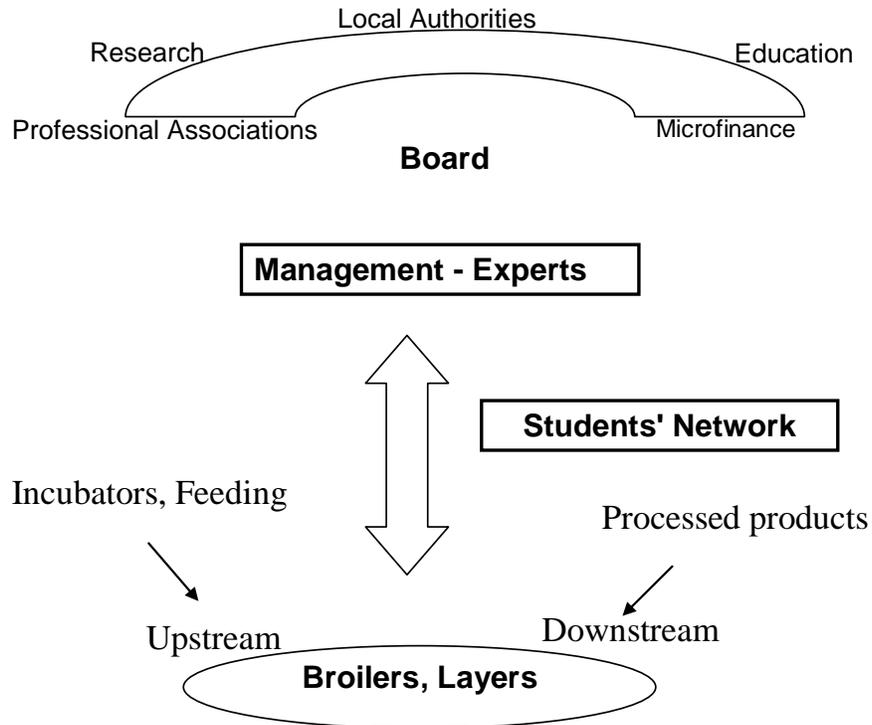


Figure 4. Open incubator in poultry.

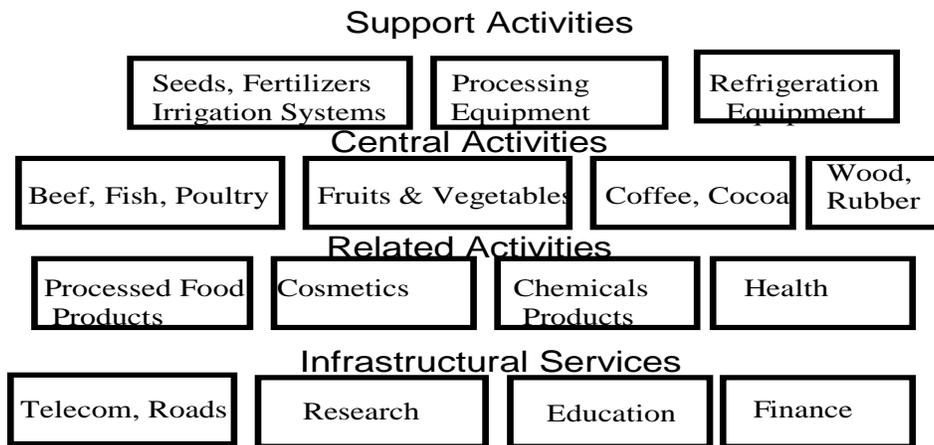
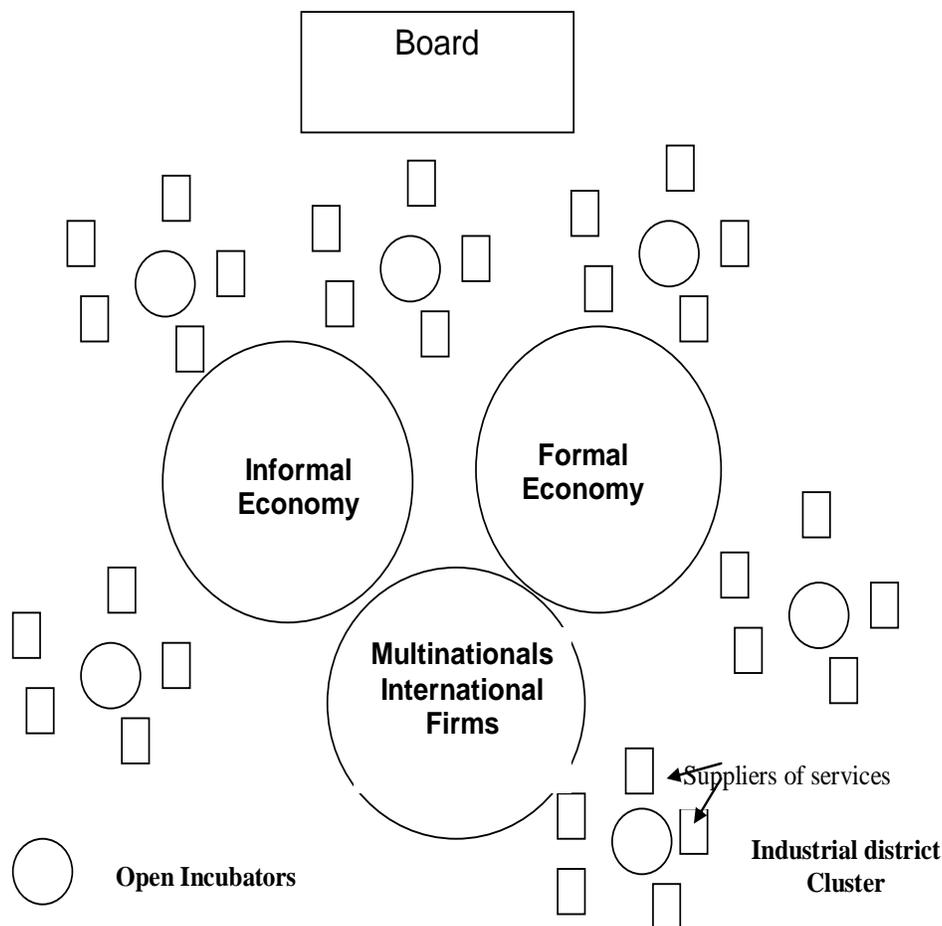


Figure 5. SSA cluster in agribusiness.

countries. But the market is limited due to low level of income of consumers. Coca Cola has also plants in SSA countries and sells soft drinks, but produces no local drinks based on coconuts, coffee or cocoa for similar reasons as Nestlé. Michelin imports from SSA countries rubber but does not produce tires in any SSA country.

The reasons are that most customers are in developed countries and that the industry is capital intensive. But if it is feasible to produce tires in China and even in a small

country like Israel, it should be possible to do so in SSA countries. Better business opportunities exist in other countries than SSA countries. In order to convince companies as Nestlé, Coca Cola or Michelin to be an economic driver in the development of clusters, the economy of SSA countries has to be more attractive than others. The economic development of SSA countries requires a snowball approach (Figure 6). Open incubators help to formalize a part of the informal economy and



**Figure 6.** The snowball model towards SSA Industrialization.

to strengthen the SMEs in the formal economy. Open incubators can lay the foundation for the creation of industrial districts. Support services initiated by local authorities around each open incubator transfer the relevant knowledge to SMEs in order to achieve sustainable economic growth. This positive development in the economy will attract large local and international companies to invest in a growing economy and to be economic drivers in the development of clusters. Hereafter, the study presents the results of a research launched in three sectors in Cote d'Ivoire, in order to check the feasibility of the Snowball model starting from open incubators to clusters initiated and generated by national authorities and large local firms.

#### **Implementation of the Snowball model in Cote d'Ivoire**

The IMF last report (IMF, 2009) suggests a poverty reduction strategy for Cote d'Ivoire. But 0.07% of the financial support only is allocated to SMEs, 0.7% to the

private sector and 0, 8% to human capital. This report is based on secondary official Ivorian information sources such as: the national planning committee, Comité National de Pilotage du Redéploiement de l'Administration (CNPRA), the Ministry of Agriculture and Animal Resources, or Ministry of Economy and Finance, or international sources such as UNDP or UEMOA. The report uses a macro economic top down approach and does not deal with the basic problem of the integration of the informal economy, mainly composed by SMEs. The progressive model discussed and proposed here is bottom up oriented and based on a cooperation between the national and international authorities and the economic forces: farmers, growers, cooperatives, traders, large and small local or international firms, service suppliers, professional associations and research centers. The interviewed representatives of national authorities, the Ministry of Industry and SMEs and of the Ministry of Planning requested us to concentrate our research on the sectors contributing to both agriculture and the industry. The study selected the following sectors in order to check the feasibility of the Snowball Model:

Fruit and vegetable processing (pineapple, mango, and other exotic fruits): southeast region. Main city – Abidjan. Textiles (cotton, jute, silk): northeast region. Main city – Bouaké. Wood processing and products (plywood, peeled veneers, windows, doors, furniture): southwest region. Main city - San Pedro. In each sector, the study interviewed large local and international firms, local authorities, and professional organizations in order to ascertain their capabilities for contributing to the development of the open incubators, the industrial districts and the clusters. The study used a questionnaire divided into three sections:

Section I: Firm's / organization's activities.

Section II: Present and planned activities with SMEs.

Section III: Barriers to the development of SMEs.

### **Support infrastructure**

The study interviewed organizations offering three kinds of support—technical, financial, and marketing. They included Fonds de Développement et de Formation Professionnelle (FDFP), the Chamber of Commerce and Industry and FIDI (a fund for SMEs). The study collected information also about the research centers (CNRA).

### **Fonds de Développement et de Formation Professionnelle (FDFP)**

The FDFP is a public training organization funded by the employees in the public and private sector. Membership is compulsory for the public sector and state owned industries: the membership fee amounts to 0.5% of the total wage bill plus an additional tax for on-going vocational training (1.5%) (AfDB/OECD, 2008). The FDFP also administers other funding earmarked for vocational training entrusted to it. Its tasks relate to financing, monitoring and evaluation of in-service training plans and projects. The FDFP provides in-service training with the support of partners. The FDFP hardly works with the informal economy and SMEs because they are not able to pay for their membership fee. But it is able and ready to launch training programs for SMEs if initiated by national or local authorities.

### **Fonds Ivoirien de Développement et d'Investissement (FIDI)**

The FIDI is a fund for the development of and investment in SMEs. This fund works mainly with very small enterprises. The main bottleneck of its activities is the lack of business knowledge of its potential beneficiaries and the difficulty they encounter to invest the loan into the planned direction. Oftentimes, the

survival needs are stronger and loans fund current basic needs and even the marriage of relatives.

### **Chamber of commerce and industry**

All the firms in the formal sector are members of the Chamber of Commerce and Industry. Today the chamber supports its members through international exhibitions, training programs and specialized services such as warehousing and the weighing of coffee at the port of Abidjan. But this organization is capable and ready to launch, in cooperation with the local and national authorities any development program supporting the different economic sectors. They can contact at any time all the few thousand formal companies in Côte d'Ivoire.

### **CNRA**

Centre National de Recherche Agronomique de Côte d'Ivoire (CNRA), (website) support the agriculture related research activities in Côte d'Ivoire, created in 1998, CNRA has representations all around the country. The cotton research center is in Bouaké, close to the selected textile firms and employs 9 research workers. The fruit research center in Bimberesso employs 10 research workers. Its main activity is on banana and pineapple. The forest and environment research center in Abidjan employs 8 people and is mainly working of the management of forest and forest seedlings production.

The firms we interviewed in the three selected sectors did not benefit of any of the research work implemented by their respective research center. The researchers work in a closed environment and have very few contacts with growers or firms.

### **Snowball model in Abidjan-Thiassalé (Southeast) – Fruit and vegetable processing**

In this area, we interviewed, one dominant international company, SAFCO (juices) at Thiassalé and one medium-sized company, Confipral (juices and jam) at Abidjan. SAFCO, a leader in pineapple juice, is owned by foreign investors, who have production units in other developing countries and lead the marketing process using their own marketing infrastructure, mainly in Europe. SAFCO exports pineapple juice in bulk (thousands of liters), because there are no packaging services in the region (Figure 7).

This company utilizes only 50% of its production capacity. The reason is the lack of efficient and reliable supply networks of raw materials. In parallel, at the growers' level, more than 50% of the fruit is wasted and the rest sold or processed. This situation opens opportunities for SMEs, able to supply upstream fruits

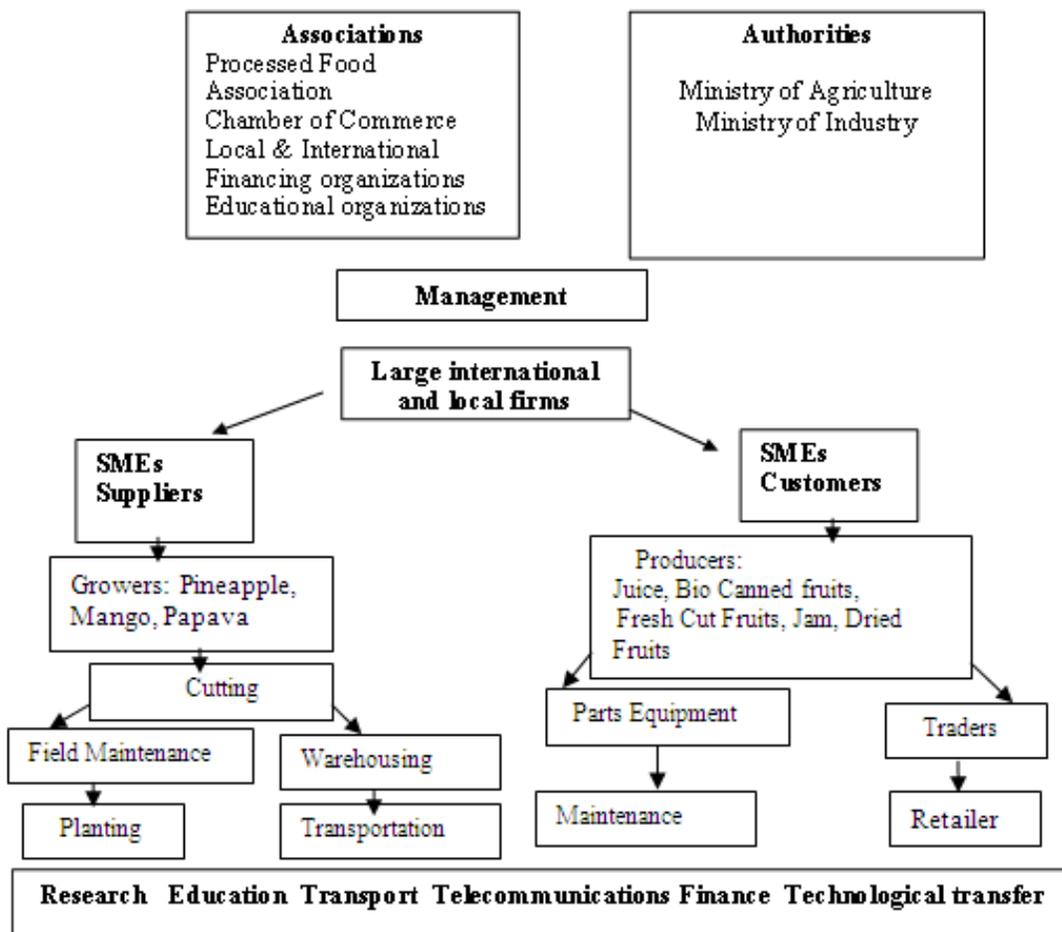


Figure 7. Process model in Abidjan District - Fruit and vegetable processing.

and vegetables to processing companies, and downstream if able to transport and sell the processed fruit.

SAFCO expressed its interest in cooperating and even in creating joint ventures with SMEs specialized in the supply of fruits and vegetables, transportation, packaging, and processing based on fruit juice/fruit extracts (jam, ice cream). SAFCO cannot improve the range of its products in order to enter the second generation with bio products and fresh cut packaged products. The main reasons are a lack of growers able to produce bio fruits and the large investment required for a "clean" room. The second generation of products requires SMEs or joint ventures between existing companies specialized in the construction of "clean" rooms and aseptic packaging (for fresh cut products) and SME growers specialized in bio fruits (bio products).

CONFIPRAL, a family-owned company emphasized the importance of the local and regional markets that can be developed, if a network of SMEs supports it upstream by providing transportation of raw materials; and downstream by providing marketing services in order to

supply the local and sub regional demand. Research centers (ITT), educational and training programs (FDFP), transfer of technologies and extension services, Agence Nationale d'Appui au Développement Rural (ANADER) exist in this agribusiness sector, but they have to improve their knowledge in bio culture for example in order to transform the open incubator in fruit and vegetable processing into an industrial district and a cluster.

### Snowball model in Bouaké district - Textiles

The study interviewed the dominant state-owned producer of cotton fabric, Ivoire Coton; the largest international private producer of cotton spinning and fabric, Cotivo and CIDT (Compagnie Ivoirienne pour le Développement des Textiles); two medium-sized private producers of cotton and silk spinning, and two cooperatives specializing in textile products, Women's Clothing Cooperative and Printed Arts Cooperative (Figure 8). Knowledge regarding local and international

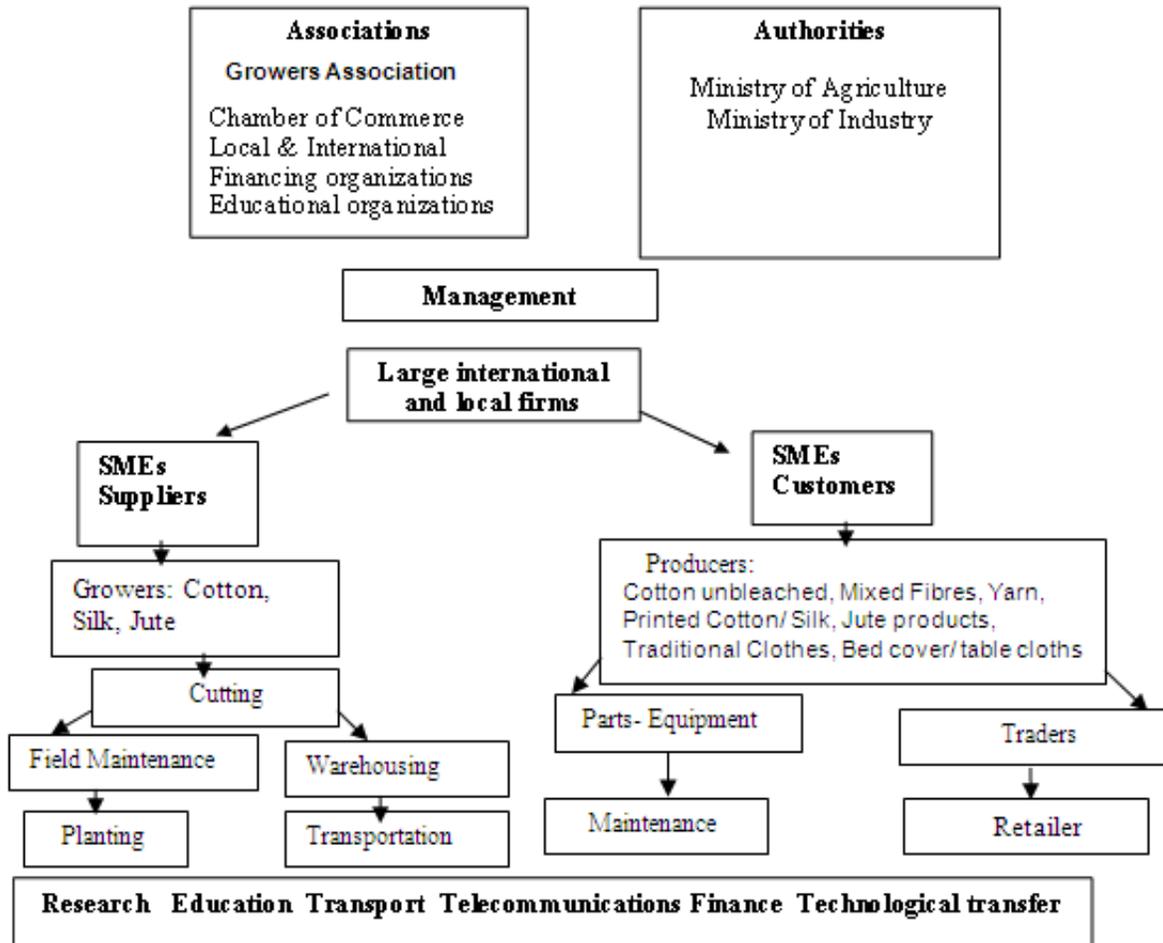


Figure 8. Process Model in Bouaké in the textile sector.

markets is very limited in both private and state-owned firms.

In privately owned firms, market knowledge is in the hands of the owners and not the managers. In state-owned companies, the business focus is on production, and the managers depend on the marketing experience of large traders. Diversification has occurred in four main spheres: cotton spinning, printed textiles, jute bags, and silk spinning. Export is mainly oriented to Asian markets (Taiwan, Thailand, and Indonesia). The competitive advantage based on local raw materials and low-cost labor is eroded by international competition from other developing countries from Asia and North Africa. Unbleached textiles are no longer profitable. North African countries compete not only on the European market but also in the Ivorian market. At the beginning of the season, North African companies concentrate their activity in the European markets. At the end of the season, they cut their prices and sell their product in the Ivorian market below even the cost of production of local companies. Challenger, a local producer of clothing (jeans), puts pressure on Cotivo to reduce the price of its

cotton fabric, which in turn pushes down Cotivo's profits (that today have become losses).

SMEs can develop new design for the local and sub regional markets of clothes (traditional clothing) and textile products (bed covers, tablecloths, curtains). In addition, jute products have a large domestic market in the packaging sector (coffee, cocoa), as well as potential markets in neighbouring countries. Numerous SMEs could derive economic advantages in these two fields.

### SMEs could produce or repair spare parts for textiles equipment

The interviewed firms expressed their interest to train and support SMEs willing to enter the textiles products market. In the textile sector, there is no similar support infrastructure as in agro business. They have to be created by local and national authorities in order to develop the open incubators into Industrial Districts and Clusters.

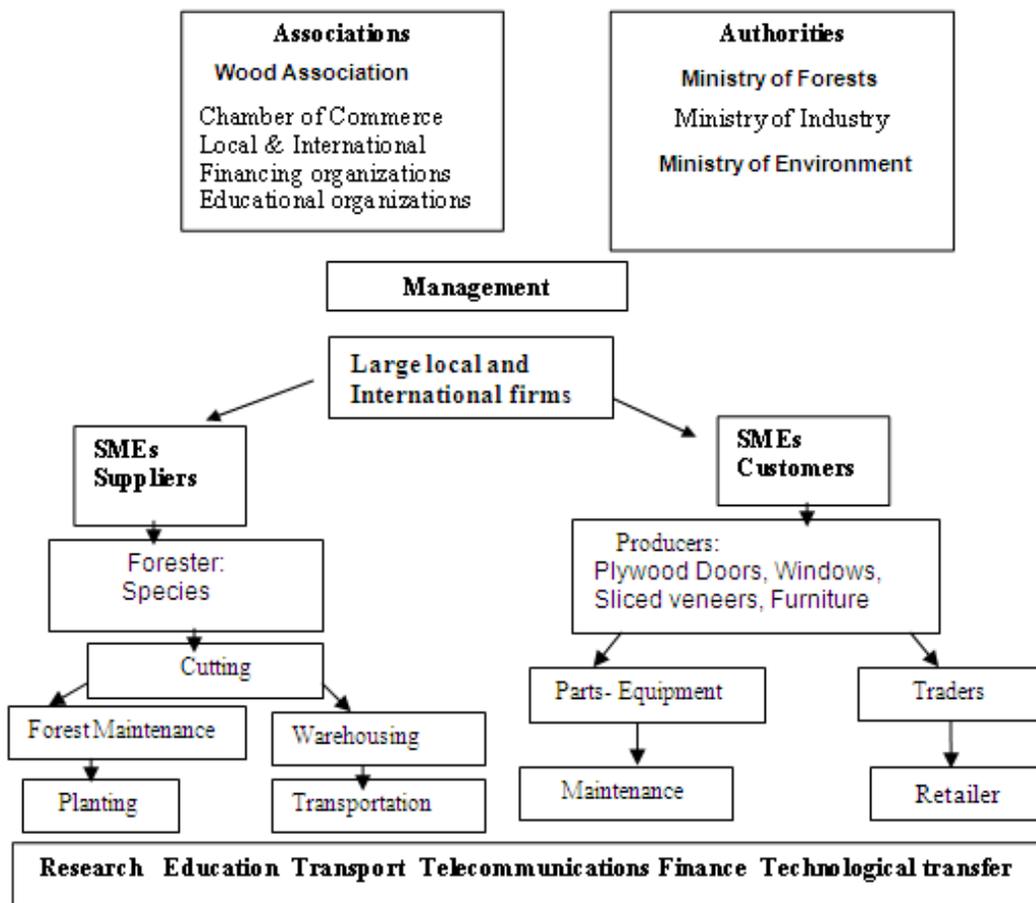


Figure 9. Process model in San Pedro District in the wood sector.

### Snowball model in San Pedro district: Wood processing

The study interviewed Thanry, the dominant private producer of plywood and sliced veneers, and IGD, a medium-sized firm (Figure 9). Villagers cut trees in order to clear arable land and plant corn for their own consumption. Large timber companies cut trees in order to supply raw material for the international market. The deforestation process creates environmental and economic problems. Wood is more expensive due to higher local taxes. There is room for the creation of SMEs that would maintain forests through planning and cutting trees at the right time. Both companies interviewed produce peeled veneer, sliced veneer, plywood and basic wood products, all at a low level of added value. The end customers are unknown to the companies. They use traders to sell the products. The few tentative attempts at diversification, such as the production of curtains and wooden swimming pool and sauna appliances, have failed. Few SMEs cooperate with these companies downstream, because the local customer cannot afford dried wood products.

The wood sector is threatened by the prospect of de-industrialization due to the limited wood supply and the high taxes levied in Cote d'Ivoire as compared to countries such as Guinea. However, large firms such as Thanry or IGD are willing to support the development of SMEs by providing them with their experience and even the opportunity to use their equipment to produce new products based on dried wood such as doors, windows or furniture. These products are mainly made today of wood, which is not dried enough and therefore, have a shorter shelf life. While the wood sector needs to diversify, the fact that the market knowledge available to the large companies is limited hampers the identification of business potential.

As in agro business, the wood sector has no similar support infrastructure. It has to be created by local and national authorities in order to develop open incubators into Industrial Districts and Clusters. A process model starting with an open incubator in San Pedro will act as a bridge between large companies and SMEs by improving the transfer of technical and marketing knowledge between the large firms and themselves and between local, sub-regional and international markets.

## CONCLUSION

In the three selected sectors of Côte d'Ivoire, the large local and international companies interviewed expressed their willingness to cooperate with national and local authorities, in order to create open incubators supporting SMEs upstream and downstream of their business activities. This attitude is positive for their long term business interest and for the economic development of the sector. Those open incubators could improve the contribution of the informal economy to the development of the selected sectors.

The proposed process model starting with numerous specialized and regional open incubators can be the starting point for the development of a critical mass of SMEs in each sector, thereby ensuring sustainable growth. Local and national authorities could use part of the IMF support and taxes collected from this new economy, in order to invest in infrastructural services and develop industrial districts which will attract large local and international enterprises to joint efforts in order to generate clusters.

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