Annex 1: Terms of Reference for the Value Chain and Feasibility Analysis module

Competitive Africa – Terms of Reference for the Value Chain and Feasibility Analysis module

These terms of reference are for the value chain and feasibility analysis module of the research program on Sub-Saharan Africa competitiveness for light manufacturing products.

The objective of the research program is to provide new insights into why industrialization in Sub-Saharan Africa (SSA) in the light manufacturing sector has been slow, while it has grown in countries with similar levels of economic development. The findings of the research are expected to inform the Bank’s policy dialogue and design to foster the emergence of SSA’s light manufacturing sector. Ultimately, the aim is to help Sub-Saharan Africa (SSA) diversify from its over-dependence on unprocessed primary commodities and minerals towards a competitive light manufacturing sector which transforms its current resource-base into higher value added products that are consumed and eventually exported.

The research program entails five different and complementary analytical modules which will be conducted in parallel:

1) **Investment climate benchmarking** that will compare the costs and risks of doing business in the selected countries, drawing mostly on recent research and surveys (e.g. Doing Business and the World Bank’s enterprise surveys). The key dimensions to be benchmarked include political and macroeconomic risks, labor and capital costs, energy and transportation costs as well as fiscal and regulatory costs.

2) **Product and entrepreneur mapping** that record what kinds of simple manufactured products are produced by what kind of firms and entrepreneurs. This activity will involve market research to identify what kinds of simple manufactured products are *only imported*, *only produced by African firms* and *both imported and produced locally*. Their quality, price, markets where sold and country of origin will be recorded to shed light on the products that African firms produce competitively. This will also show who these firms compete with in the local market for simple products.

3) **Quantitative entrepreneur surveys** that will cover formal and informal firms; large and small firms; and firms with indigenous African owners and those whose owners are from ethnic minorities. About 250 firms will be sampled in each country. The objective is to collect statistics on the factors that enable firm owners to produce new, more and better products and flourish in the same investment climate within a country as well as across countries and industries. This module is intended to highlight the contribution of factors other than those in the investment climate assessments. An example is the presence of social networks that bridge information and coordination gaps.

4) **Qualitative entrepreneur surveys** that will cover formal and informal firms; large and small firms; firms with indigenous African owners and those whose owners are from...
ethnic minorities. The objective is to understand what factors enable certain types of firm owners to produce new, more and better products and flourish relative to indigenous African firm owners in the same investment climate. The firm specific narratives will shed deeper insights into the source of coordination and information failures that disadvantage African firms and constrain industrial development in Africa.

5) Value Chain and Feasibility Analyses that will complement the modules above by providing a complete microeconomic framework within which to assess, for each selected product, the relative performance and potential of countries in terms of productivity and costs as well as to identify the main factors causing low productivity and high costs. Value Chain and Feasibility Analyses will in particular highlight the critical importance of industry specific factors (e.g. product market regulations and market failures) which tend to be overlooked by traditional cross-cutting approaches. More specifically, the objectives of the value chain and feasibility analysis module are:

- **Benchmark the competitiveness (productivity and costs) of a selected group of African countries against Asian competitors (namely China and Vietnam) in a representative sample of simple light manufacturing value chains.**
- **Review the detailed breakdown of costs and productivity for each product and identify the main reasons for the productivity and costs gaps (e.g. policy and infrastructure issues, market failures and/or lack of social and human capital) – to be done on a pro forma basis for the products not being produced.**
- **Identify the most important and common constraints for each and across the sample of products**
- **Generate insights into the possible practical solutions to addressing a critical mass of the identified constraints (case studies of successes).**

The work should proceed in two phases, with the first phase being carried out for Ethiopia, Vietnam and China and the second phase to be carried out in Zambia, and Tanzania. Phase 1 will be divided into two sub-phases (details provided in the following section).

**The analytical phases are discussed below:**

**Selection of products (Phase 1.1)**

The study will focus on five sub-sectors/value chains:

- Apparel
- Processed wood
- Leather goods
- Metallic products
- Agribusiness

The World Bank team has conducted product mapping exercises in Zambia and Ethiopia which generated a long list of more than 300 products in these five sub sectors.
The consultant should first generate a short list of 40 products or so where, on the basis of common sense and common knowledge it is believed that one or several of the three African countries (Ethiopia, Zambia and Tanzania) have a latent comparative advantage in them. The consultant should also identify the products in the five subsectors that are being exported by SMEs in China and Vietnam. The consultant would then generate a refined list of 20 products where, on the basis of basic market analysis and basic feasibility studies (including an understanding on how these products are being produced in China and/or Vietnam), it is strongly believe that Ethiopia has a latent comparative advantage.

Ten products (two products per subsector: one which is already produced in Ethiopia; and another which is not) will then be selected covering all five subsectors listed above for in-depth value chain analysis and/or feasibility studies. The selection of the ten products will be screened and selected according to the following process.

Figure 0.1: The proposed method for product selection is presented in the diagram below.

<table>
<thead>
<tr>
<th>Product Selection and Phased Implementation</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Screening Criteria</th>
<th>Vietnam/China</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ethiopia</strong></td>
<td><strong>Vietnam/China</strong></td>
</tr>
<tr>
<td>• Imports but not necessarily from Vietnam and/or China</td>
<td>• Scale of manufacturing facilities</td>
</tr>
<tr>
<td>• Produced in Vietnam and/or China</td>
<td>• Type of production technologies used</td>
</tr>
<tr>
<td>• Currently produced in Ethiopia</td>
<td>• Less than $100,000 investment required to begin production</td>
</tr>
<tr>
<td>• Currently NOT produced in Ethiopia</td>
<td>• Produced by companies with less than 50 employees</td>
</tr>
<tr>
<td>• Current local production as % of total demand in Ethiopia</td>
<td>• Minimum level of skills &amp; know-how required to begin production</td>
</tr>
<tr>
<td></td>
<td>• Simple supply chain</td>
</tr>
<tr>
<td></td>
<td>• Accessible raw material input</td>
</tr>
<tr>
<td>• Value of import substitution</td>
<td>• Value chain analysis of 5 products produced in Vietnam and/or China, and imported by Ethiopia (but not necessarily from Vietnam and/or China)</td>
</tr>
<tr>
<td>• Potential employment impact</td>
<td>• Value chain analysis of 5 products produced in Vietnam and/or China with potential for production in Ethiopia</td>
</tr>
<tr>
<td>• Affordability</td>
<td><strong>Product Selection (F/S)</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Phase 1.2:</strong> Value Chain Analysis &amp; F/S</td>
</tr>
<tr>
<td>• Existence of supply chain</td>
<td></td>
</tr>
<tr>
<td>• Availability/accessibility of raw material</td>
<td></td>
</tr>
<tr>
<td>• Existence of transferable skill base</td>
<td></td>
</tr>
<tr>
<td>• Able to benefit 10 or more firms</td>
<td></td>
</tr>
<tr>
<td>• No more than 50 employees required</td>
<td></td>
</tr>
<tr>
<td>• Potential domestic and regional demand</td>
<td></td>
</tr>
</tbody>
</table>

The product to be selected will be determined in close collaboration with the World Bank team, the final list will have to be validated by the World Bank. It will be based on the analysis of trade data, manufacturing statistics as well as on the survey of informal production centers/markets which are being carried out separately (product
mapping). The products will be selected to ensure comparability across countries as well as the possibility to investigate quality differences (as reflected by price differences in competitive markets) and the analysis of what it will take for a class of actors (e.g. informal players) to move up the quality ladder (e.g. through feasibility analysis). The selection of ten products should include five products that are not being manufactured in Ethiopia (one in each of the five sub sector) but for which there are strong reasons to believe that it could be produced by small enterprises not relying on large amounts of capital equipment (e.g. no more than 50 employees and $100,000 worth of industrial equipment. Another selection criteria is the size and potential growth of the market for the product (in particular the domestic market) – e.g. there should be scope for more than 10 firms to benefit from the insights that will be generated in phase 1.2 discussed immediately below.

**Phase 1.2: Value Chain Analysis and Feasibility Study (Ethiopia, Vietnam and China)**

Once ten products (two products per sub-sector) have been selected, Phase 1.2 will focus on the value chain analysis (VCA) and feasibility study (F/S). The VCA will be conducted for products currently produced in Ethiopia, but a number of products currently NOT produced in Ethiopia will also be selected where an F/S will be conducted. The F/S will be based on the value chain analysis of selected products conducted in Vietnam and China to determine what factors are ‘missing’ in Ethiopia to determine whether and what types of interventions are required to stimulate/catalyze the development of selected products in the country. The F/S to be conducted will be a part of the 10 products to be analyzed per country.

It is anticipated that Phases 1.1 and 1.2 will be completed by the end of August so that findings can be incorporated into a pilot project design focused on Ethiopia to be delivered to the World Bank Board.

**Phase 2.0: Value Chain Analysis and Feasibility Study (Zambia and Tanzania)**

Based on findings and lessons learned from Phase 1.2, the project team is expected to undertake a VCA and F/S for the selected products in Zambia and Tanzania. The implementation of this field activity is expected to be undertaken after August when a pilot project design for Ethiopia has been successfully completed and delivered to the WB Board.

Products to be benchmarked in Zambia and Tanzania (Phase 2.0) will be determined after to the final product selection in Phase 1.1. It is expected that not all ten products will be worth studying for Zambia and Tanzania – e.g. Zambia does not have a latent comparative advantage for most apparel products. Leading candidates for the value chains include:

- Apparel: knit polo shirts, trousers, blouse, dresses and suits
- Processed wood: chairs, tables and doors
- Leather goods: shoes, belts and bags
- Metallic products: window frames, handles, fence, stove, gates, roof tops, pans, cans
- Agribusiness: juice, canned food, milk, local bread
1) Identification of the main cost and quality drivers along the value chains and hypothesis formulation as to the main constraints to be investigated

This phase will be done based on the review and synthesis of existing reports (e.g. the “Developing Competitive Value Chains” report done for Ethiopia in 2006 which covers knit polo shirts, shoes and roses) complemented by expert interviews (including industry leaders).

It will include:

- A basic description of the product value chains in each country in terms of value added, domestic market, imports/exports, employment and type of players (e.g. informal, controlled by the State, foreign). It will highlight linkages between type of players and their development path over time.
- The cost breakdown of the selected products. The first step is to do a breakdown of the value added for each critical step along the value chain. The second step is to show for each of these steps, the breakdown between input, labor, capital and other costs.
- The quality drivers of the selected products. Understanding quality drivers will also be essential as it greatly influences the capacity of countries to compete and move up the value chain. Quality drivers will include – the quality of key inputs and services at each step of the value chain, the quality of the processing as well as the quality of delivery and marketing (e.g. time to market).
- Specific work plan to complete the phases discussed below in a way which will update and complement previous work (this should be discussed and agreed upon during an all day meeting with the World Bank team and its external advisors).

2) Benchmarking of productivity

The productivity benchmarking should encompass the efficiency dimension (e.g. the number of trousers assembled per eight hours of work or the capacity utilization of the machines) as well as the quality dimension (e.g. quality differences as measured by price differences in competitive markets). The productivity analysis should also benchmark the quality and efficiency at which inputs are processed - inputs (including energy) typically account for more than 70% of total product cost. Benchmark performance within and across the selected countries, differentiating between the main types of players (e.g. informal, formal SMEs, State controlled firms and large domestic or foreign exporters). It will be particularly important to obtain good estimates from the best practice firms.

Explain the productivity differences at the operational level – determining the relative importance of the factors listed below for each of the main category of players:
• Scale
• Capital intensity (adjusting for different relative costs of labor and capital)
• Technology
• Capacity utilization
• Energy efficiency
• Waste levels
• Theft
• Excess workers
• Organization of functions and tasks (taking into account different cultural/firm contexts)
• Labor skills/trainability/motivation
• Supplier relations (backward/forward linkages) – including price and quality issues with key inputs and services
• Quality issues with the end product – as revealed by price differences in competitive markets. Quality will entail the capacity to meet the standards imposed by the market as well as the capacity to deliver the product in the right quantity at the right time.
• Management skills

Establishing factors in the external environment which have directly limited the capacity of managers/owners to increase productivity – e.g. lack of knowledge of improvement opportunities, lack of access to solution providers, poor electricity, poor transport infrastructure, labor market regulations (e.g. provisions against night work, multi-tasking and piece rate compensation), difficult access to input and output markets and poor access to finance. These factors will be obtained through in-depth interviews with managers.

3) **Benchmarking of key costs (in parallel with benchmarking of productivity)**

Benchmark the main unit costs within and across countries, differentiating between informal players, local best practice and relevant international good practice players. The starting point of the analysis will be the results from the investment climate benchmarking (module 1 discussed above) being conducted by the World Bank team.

a. Total cost of one hour of labor – differentiating between low skilled, technical and professional staff.
b. Total cost of one piece of equipment – differentiating between different quality levels
c. Cost of one unit of input
d. Logistics costs
e. Power costs
f. Financing costs
g. Regulatory/fiscal costs

Explain the differences within and across countries for the main cost categories trying to get at the root causes for the differences (e.g. government policies).

4) Synthesizing the results to establish the main constraints to improved economic performance along the value chains differentiating by type of players

The analysis will draw from the results of the previous steps as well as from the results from the other analytical modules discussed at the beginning of these terms of reference. The main constraints will be established by estimating their relative impact on productivity and costs. Such analysis will entail to establish the pro forma costs of producing goods which may not be produced (at all or at a given quality level) in certain countries among our selection and/or by certain types of players (e.g. feasibility studies). The list of constraints to consider include (non exhaustive):

- Political risks increasing the cost of financing
- Macroeconomic instability (including FX volatility) increasing the cost of financing
- Regulatory uncertainty increasing the cost of financing
- Governance and judiciary issues increasing the cost of financing
- Trade barriers (tariff and non tariff) increasing the cost of key inputs and services
- Poor physical transport infrastructure (roads and ports)
- Competition issues in transport sectors
- Lack of critical mass leading to high transport costs and infrequent service
- Licensing restrictions constraining new entrants – e.g. restrictions on FDI
- Labor market regulations increasing the cost of labor and/or affecting productivity – e.g. constraints on the hiring of skilled foreign labor, high labor related taxes, high minimum wage, constraints on adopting performance based compensation, difficulties with hiring and firing
- Limited pool of skilled labor
- Capital market regulations increasing the cost of financing
- Red tape and fiscal issues leading to high administrative costs
- Evasion of regulations and taxes by certain players leading to a non-level playing field
• Policy/competition issues in key related industries
• Mismanagement by the government of key assets and companies
• Government subsidies slowing down the adoption of good practices in key companies
• Lack of critical mass leading to high input costs and/or missing links along the value chain
• Lack of market information
• Lack of information on production techniques
• Lack of information on suppliers
• Lack of trust – social capital

a) Constraints affecting small informal indigenous players:
Informal players are in business despite very low productivity because of regulatory/fiscal evasion (e.g. access to illegal raw materials) and very low quality products for which there is no competition from imports. Analyze what is preventing them to increase quality, from forming associations to benefit from economies of scale, from linking up with formal players and markets and from becoming formal.

Look in particular at human capital factors (e.g. the level of workers’ and owners’ skills, their level and access to knowledge on inputs, processing and markets) and social capital factors (e.g. the level to which they can rely on business mentors, business sponsors and business partners).

b) Constraints affecting formal players (distinguish between domestic and foreign):
Policy issues in key related industries leading to low quality and/or high cost of key inputs and services:
• Poor natural resource management lead to low quality and/or high cost of key inputs
• Policy issues in key related/supporting industries (e.g. transportation, power, banking) lead to low quality and/or high cost of key services

Labor market issues (e.g. skill pool, regulations) lead to low productivity and relatively high labor costs
Lack of critical mass and coordination issues explain absence or high cost of key infrastructure and services along the value chain
Low productivity and high cost formal players remain in business because of trade and FDI protection, and/or government subsidies.

c) Constraints preventing investments from leading international companies:
High business costs due to policy and infrastructure issues as well as lack of critical mass and/or missing links along the value chains (most of which should have been covered as part of the constraints to the existing formal sector discussed just above)
High business risks due to political, macroeconomic, regulatory uncertainty as well as judiciary issues.

5) Developing recommendations

Development of recommendations (inspired by solutions put in place by good practice countries) – for example:
- Increasing the human and social capital among the indigenous informal sector while reducing the regulatory burden of becoming formal, helping small firms link up with large firms and export markets
- Resolving a critical mass of investment climate issues and building critical mass through special economic zones

Pro-active engagement with leading international companies.