

AfDB Pre-TICAD7 Knowledge Event

Human Capital and Industrial Development in Africa

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We focus on industrial clusters, because most, if not all, manufacturing industries in Africa are clustered for the reasons explained shortly.

Part I

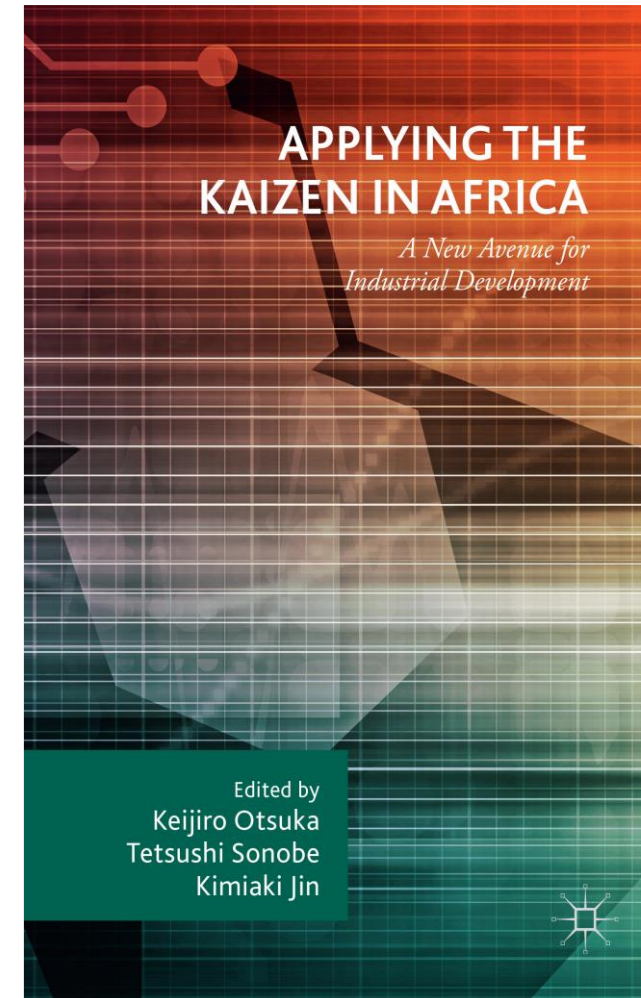
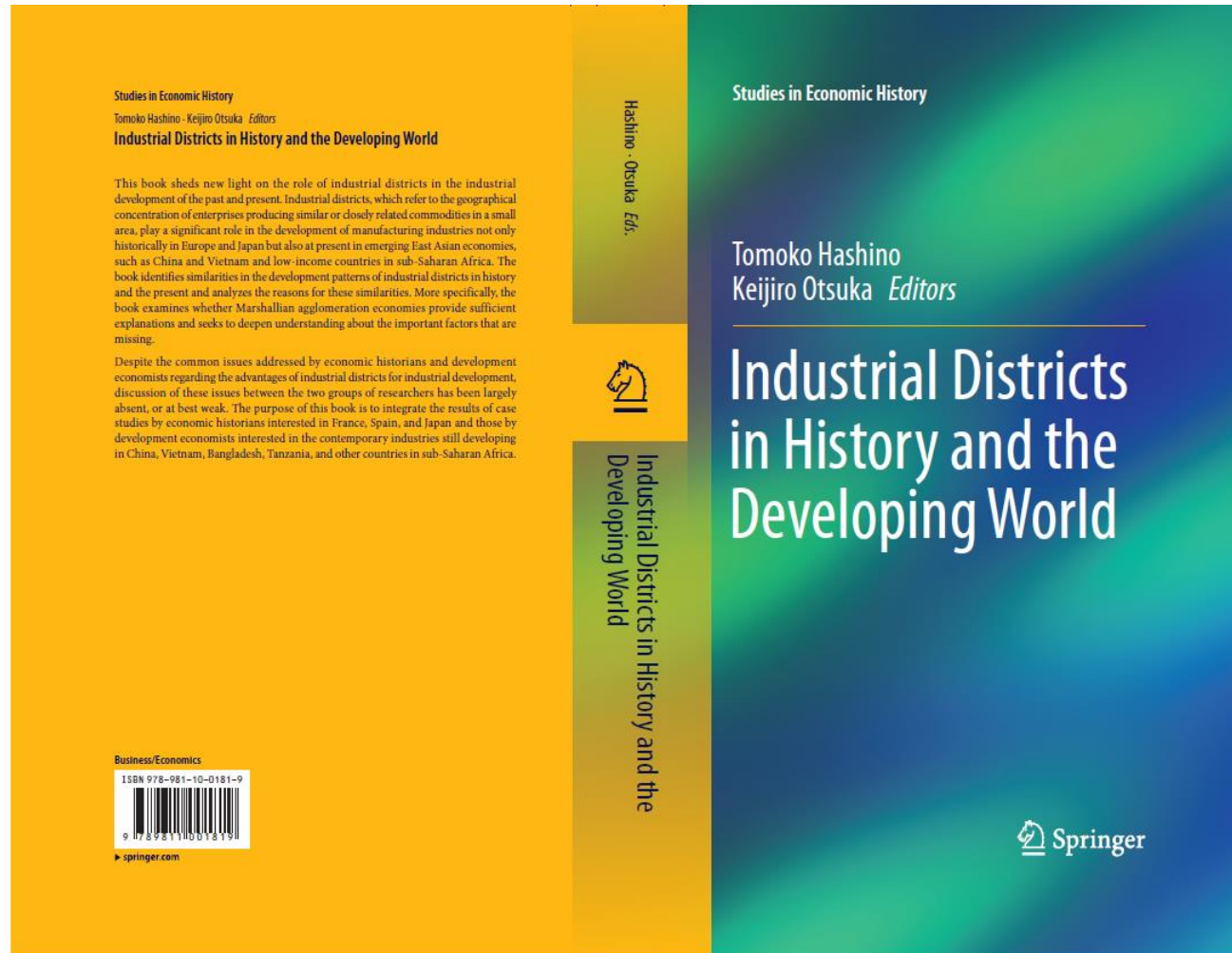
Development Paths of Industrial Clusters

Purpose is to identify the causes for success and failure of cluster-based industrial development.

More than 20 case studies of development of industrial clusters in Asia and Africa



We also paid attention to cluster's historical development and the role of *Kaizen*



Preamble

- Our research team conducted a large number of case studies of the development of industrial clusters in Japan (2), China (4), Taiwan (2), Vietnam (2), Bangladesh (2), Pakistan (1), Ghana (1), Ethiopia (3), Kenya (2), and Tanzania (2).
- Major Finding: We found more similarities than dissimilarities in the pattern of cluster-based industrial development in different industries in different countries.

What is Industrial Cluster?

Definition

Geographical concentration of enterprises producing similar and closely related products in a relatively small area (e.g., assemblers and part-suppliers).

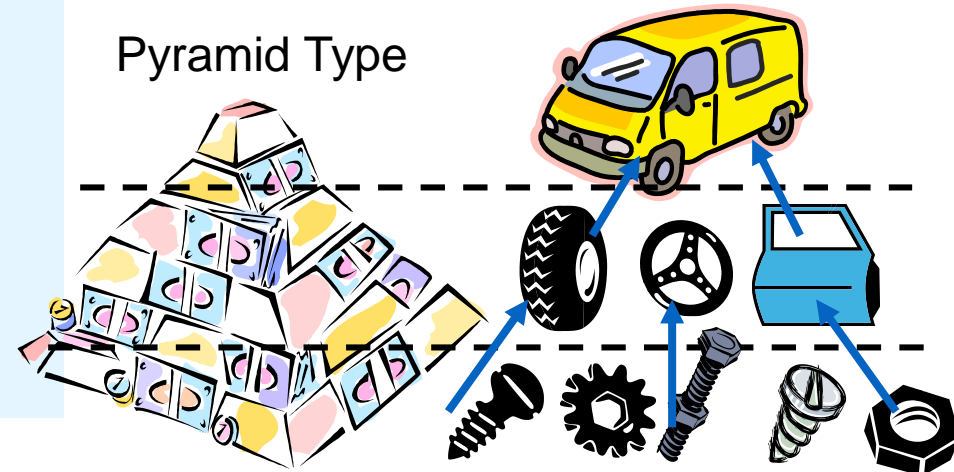
Type 1

- Cluster that characterized by the dominance of SMEs.

We focus on Type 1, because it is common in developing countries.

Type 2

- Pyramidal type in which there are one assembler, many sub-contractors, and so many sub-sub-contractors (e.g., Toyota).



Why is industrial cluster so important?

- Clustering is the key to successful industrial development because of agglomeration economies:
 1. **Information spillovers**
(typically imitation)
 2. **Specialization and division of labor among enterprises**
(low transaction costs due to proximity of transacting partners)
 3. **Development of skilled labor markets**
(engineers, designers, and others usually through poaching)
 4. **Availability of useful human resources for innovations** (engineers, designers, traders, etc.)
- If an enterprise is located outside the cluster, it will find it difficult to learn from other enterprises, to sell/buy parts and recruit workers with desired skills.

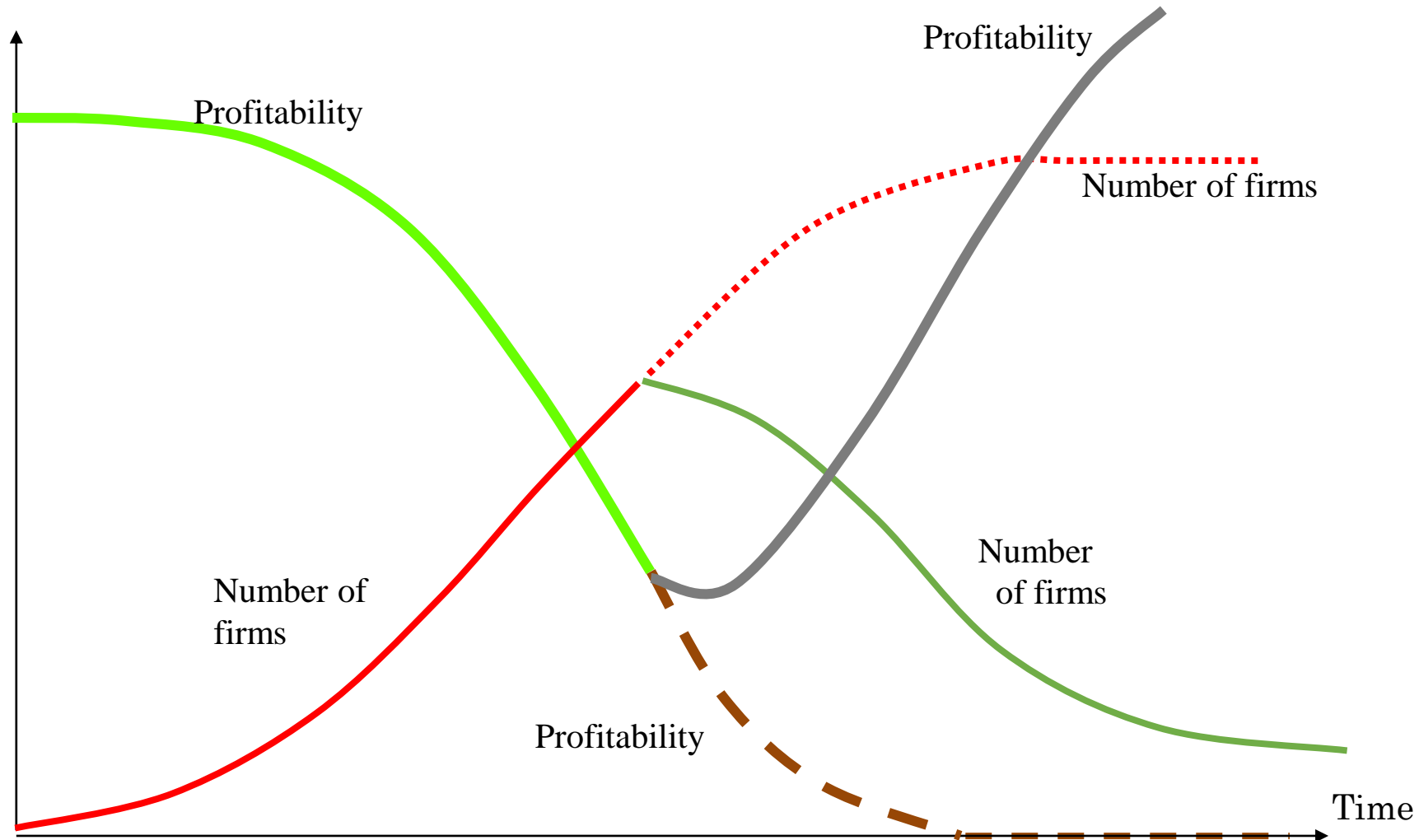
How is the cluster formed?

1. Pioneering entrepreneurs initiate new business by producing imitation of imported products.
2. Pioneers were traders if production is simple but marketing is difficult (e.g., garment), whereas they were engineers if production is complicated but marketing is easy (e.g. machinery)
3. Pioneers earn sizable profit, even though they produce low-quality products for domestic markets.
4. High profit attracts a swarm of followers, who are often spin-offs.
5. In this way, the cluster is formed **almost without exception** in which SMEs use the same materials and machines, produce the same products, and sell them at the same domestic markets.

Two Types of industrial clusters

1. Survival cluster: Sizable entrepreneurial profit →
Entry of imitators (particularly spinoffs) →
Formation of industrial cluster with a large number of
small enterprises producing low-quality products →
Declining prices and profits → Stagnation
(Many clusters in low-income countries are this type.)
2. Dynamic cluster: **Declining prices and profits** →
INNOVATIONS, leading to (1) quality improvement,
(2) increasing profit, (3) firm size expansion, (4) exit
of non-innovative enterprises, and (5) initiation of
export to developed countries
(Many clusters in Asia are this type.)

Figure 1. An Illustration of Development Patterns of Industrial Clusters



Key to success is multi-faceted innovations

- a) First of all, in order to restore the profitability, the quality of products must be improved by employing engineers, designers, and skilled workers and by using high-quality materials and parts.
- b) Since consumers do not immediately perceive the quality improvement, innovative enterprises must convey the quality information by establishing brand names, opening own retail stores, and sending own sales agents to the markets.
- c) Innovative enterprises should embark on exports, expand production, absorb non-innovative enterprises, control quality of products, and manage a large number of workers.

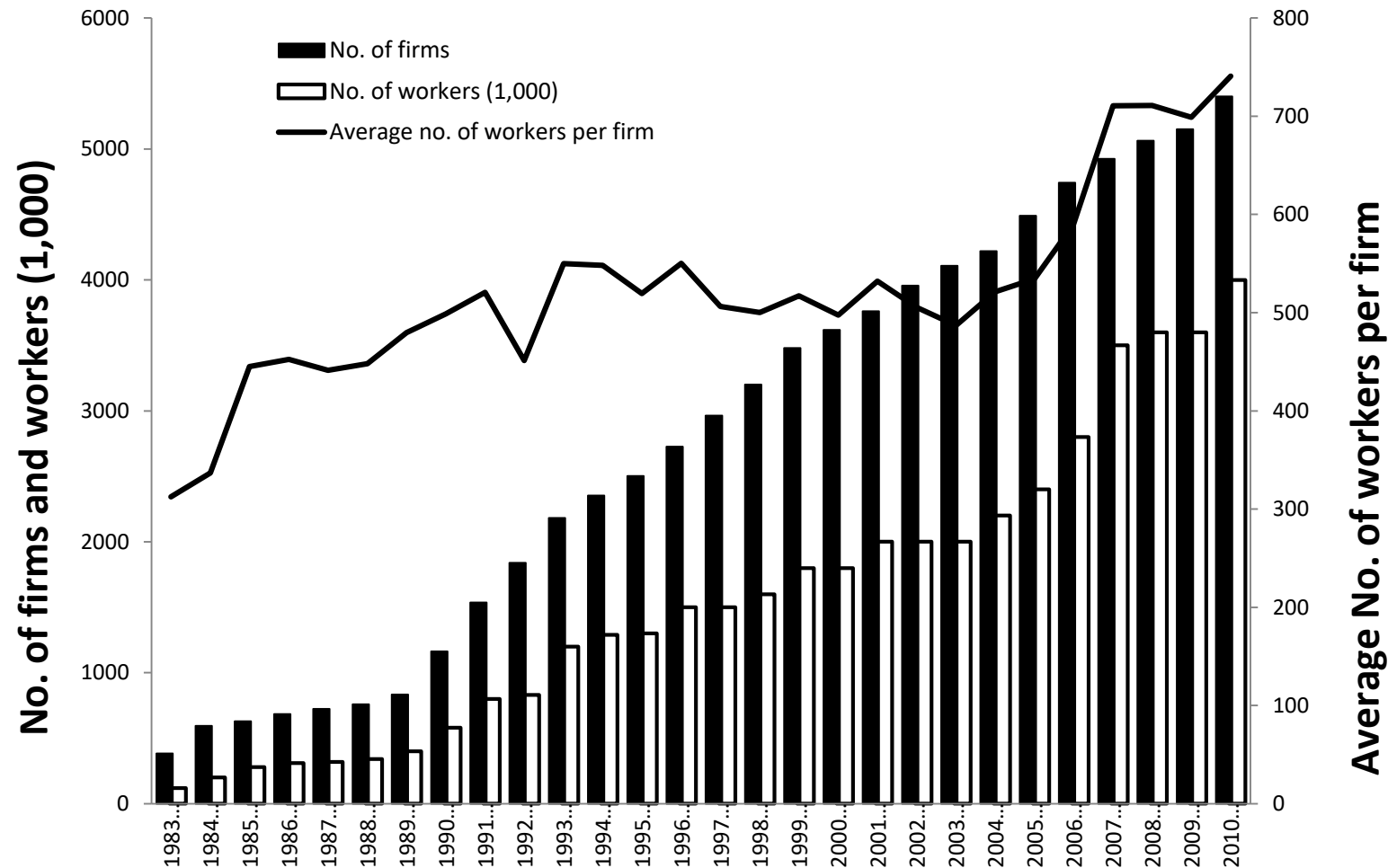
It is clear that “management” is critically important for multi-faceted innovations.

Determinants of multi-faceted innovations

- Education as only educated entrepreneurs can carry out such complicated multi-faceted innovations
- Experience of work at foreign companies
- Attitude to “learn from abroad”

“Learning from abroad” is the essence of East Asian model of development: Recognition of this is generally weak in South Asia and sub-Saharan Africa (SSA).

Lessons from the development of the garment industry in Bangladesh



Lessons from Bangladesh (continued)

- Learning from abroad: Daewoo company in Korea trained 130 young Bangladeshi who graduated from universities in Korea for 8 months about production, management, and marketing in 1979.
- In a few years, 130 workers quitted and initiated new garment companies and trading houses.
- Because of the intensive training, the quality of products was high from the beginning and they were all exported.
- Recognizing the importance of training, managers and workers in Bangladesh continued to learn from abroad.
- No Daewoo-type training afterwards: Training in Korea was **a mistake** of Daewoo but extremely profitable investment for the economy as a whole.
- *Thus, there is need for the governments or international organizations to offer intensive training programs. Establishment of Ethiopian Kaizen Institute for training of Ethiopian consultants is superb idea.*

Imitation, Innovation, and Industrial Policy

1. The major question is how to transform “survival clusters” to “dynamic clusters” by stimulating multi-faceted innovations.
2. Imitation weakens incentives to innovate because private benefit of innovation is smaller than its social benefit.
3. Producer cooperatives or associations collectively attempt to internalize the benefits of innovations in dynamic clusters by undertaking marketing research, looking for appropriate new technologies, procuring improved inputs, and controlling the quality of products produced within a cluster.
4. Support of the government for producer cooperatives is effective and useful.

Part II

Strategy for Development of Industrial Clusters

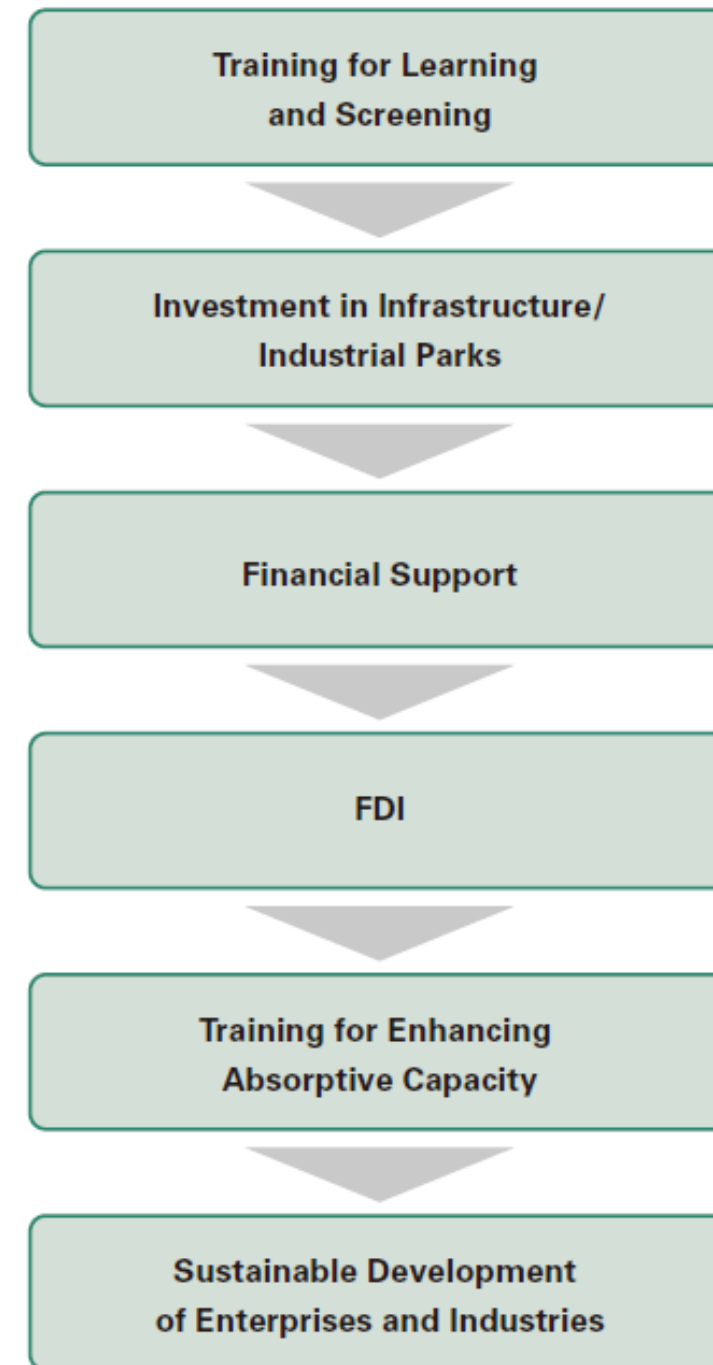
Purpose here is to highlight the importance of investment in human capital of entrepreneurs for the development of industrial clusters.

“Training-Infrastructure-Finance (TIF) Strategy for Industrial Development in Sub-Saharan Africa”

A Report of the **Research Group** on Strategic Support
for Industrial Development in Sub-Saharan Africa
(SSA) Facilitated by JICA Research Institute.

https://www.jica.go.jp/jica-ri/ja/publication/other/20171122_01.html

Figure 1. A Recommended
Logical *Sequence* of TIF Strategy for
Industrial Development Policies



II-1. Unique Features of TIF Strategy

1. Focus on the existing and spontaneously developed industrial clusters, e.g., garment, shoe, weaving, metal processing, and food processing clusters, etc. **We found many survival industrial clusters in SSA.**
2. Invest in human capital in general and managerial human capital of entrepreneurs (owners and managers of enterprises) in particular.
3. Invest in infrastructure, particularly the establishment of industrial parks.
4. Financially support competent entrepreneurs.
5. Attract FDI, as foreign enterprises bring about advanced technology and management know-how.
6. Invest in training to enhance absorptive capacity of local entrepreneurs.

We propose *sequential* support from 2 to 6 to realize industrial development.

II-2. Justifications

- Private enterprises do not have strong incentives to provide training because of the labor turnover. Also entrepreneurs are ignorant of the value of training.
- The rate of return to investment in infrastructure, including industrial parks, is bound to be low, if there are few promising entrepreneurs. → Training of entrepreneurs (i.e., investment in their human capital) should precede infrastructure investment.
- Training is useful not only for improving the ability of entrepreneurs but also for identifying promising and non-promising entrepreneurs. → Targeted support for promising entrepreneurs by admitting them to industrial parks and providing them financial support becomes feasible only after the training.
- The TIF approach is likely to play a role in attracting FDI by establishing favorable investment climates.
- In order to learn from FDI, further investments in human capital of entrepreneurs and workers are required so as to enhance their absorptive capacity.

II-3. Basic Ideas for TIF Strategy

1. Focus on the development of labor-intensive industrial clusters, e.g., textile, garment, shoes, metal processing, simple machineries, and food processing. This is consistent with miraculous development of East Asia, which follows the flying geese pattern of development.
2. Emphasize the importance of learning from abroad or imitation by training, exchange programs, and visiting foreign companies. This is exactly what Japan has been doing since the Meiji era and what other high-performing Asian countries have been doing in the postwar periods.
3. Develop potential of promising entrepreneurs, who are likely to be highly educated. Managerial human capital is found to be the most critical missing factor in developing countries according to the recent studies in development economics (Bloom et al. 2013, 2016; Sonobe and Otsuka 2011, 2014).

II-4. We Recommend *Kaizen* but what is it?

- *Kaizen* is a human friendly management philosophy and know-how that brings about continuous, participatory, incremental, and low-budget improvement of quality, productivity, cost, delivery, safety, morale, and environment.
- *Kaizen* is a collection of ideas and insights that a large number of managers and workers have created and refined through observations and experiments carried out over several decades in Japan and other parts of the world.
- *Kaizen* is designed to keep workplace clean and tidy and to find out problems and solutions by all. Some well-known examples are 5S (sort, set in order, shine, standardize, and sustain), Mudadori (elimination of wasteful activities), and TQC (total quality control).

See *Applying Kaizen in Africa: A New Avenue for Industrial Development*, edited by K. Otsuka, K. Jin, and T. Sonobe, published last week. This is free access book.

Before the training in Dar es Salaam



After training

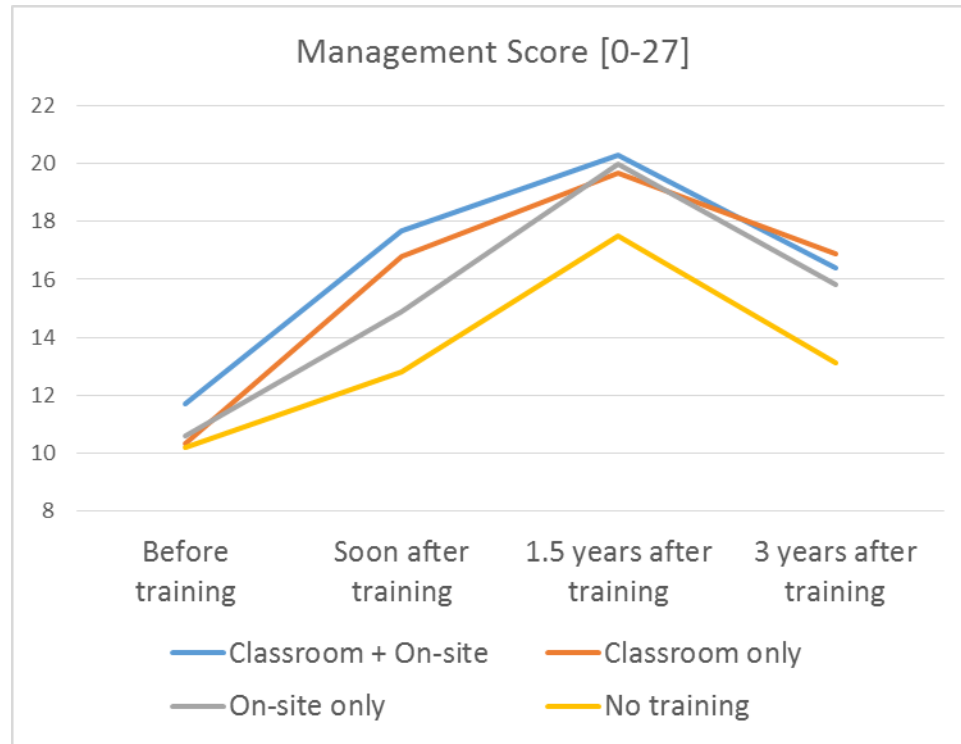


Some Success Stories such as

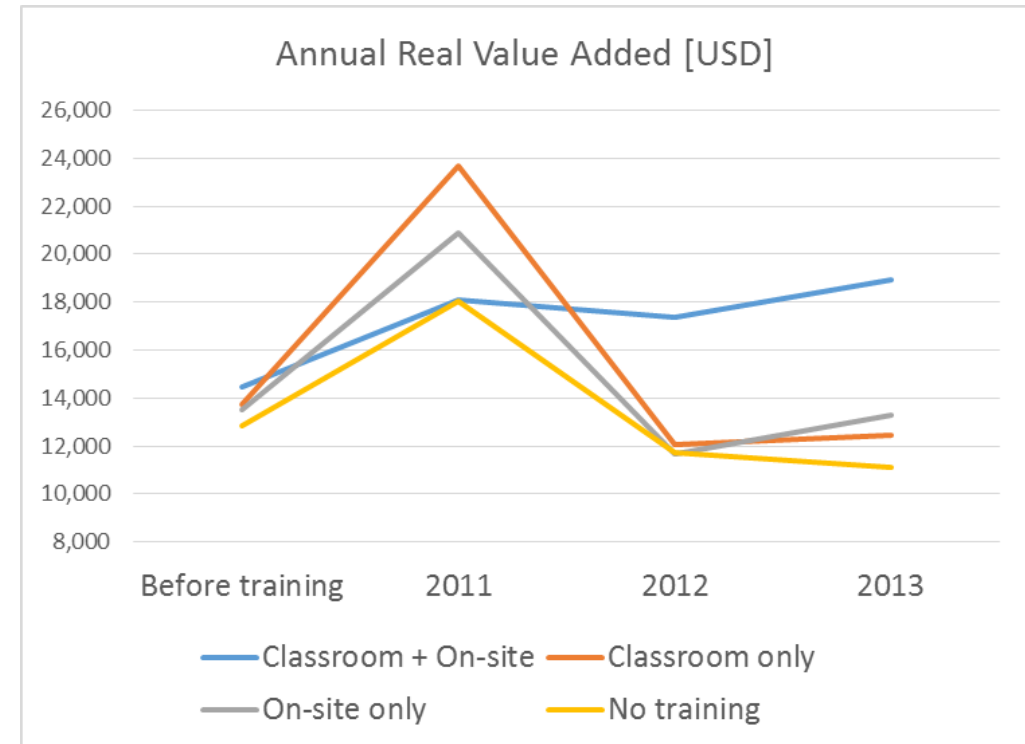
Cherie Blair, the founder of CBFW and the wife of the former UK prime minister Tony Blair, observed how Rose Makoyola, a participant in the GRIPS/World Bank training program, benefited from *Kaizen* (1 July 2013)



Figure 2 Results of RCT of *Kaizen* management training in Tanzania in terms of the adoption of number of improved management practices and value added



Kaizen score continues to rise for a while, even among enterprises which did not take any training, and then declined as enterprises abandon less useful management methods.



Enterprises which took both classroom training and on-site training continue to improve their performance.

III-2. Investment in Industrial Parks

- In the existing survival clusters, enterprises are small and non-profitable, because they just imitate with each other.
- The establishment of industrial parks is likely to fail to invite domestic enterprises to the parks, unless there are many growing profitable enterprises looking for larger spaces. That is why we need **T** in the first place.
- In order to take advantage of agglomeration economies, we recommend to construct industrial parks for growing enterprises.

Conclusions

- Investment in human capital of entrepreneurs is the prerequisite for industrial development in SSA.
- This is exactly what Japan and other high-performing countries in Asia have done.
- If deviated, we are sure that there will be no successful industrialization in SSA.

Thank you very much for your attention!