



Tanzania EPZ Firms and their Potentials in Technology Transfer

Eric Thomas

STIPRO

28-29 June, 2012

The 2th STIPRO Research Workshop

28th-29th June, 2012 Regency Park Hotel

outline



- Introduction and statement of the problem
- Research Questions
- Conceptual Framework
- Methodology
- Findings
- Summary and Conclusion
- Recommendations
- Areas for Further Studies

The 2th STIPRO Research Workshop

28th-29th June, 2012 Regency Park Hotel

Introduction

- After independence, many developing countries, including Tanzania, formulated inwardly focused industrial strategies such as Import Substitution Industrialization
- Also, the economies of these countries were so centralized
- However, by the 1980's import substitution programs failed.
- As a result, many countries resorted to Export Processing Zones (EPZs) as one form of export promotion, to liberalize and jumpstart their economies (Nicola, 2001).

The 2th STIPRO Research Workshop

Introduction cont..



- EPZ is the type of free trade zone set up to promote industrial and commercial export (Johansson and Nilsson, 1997).
- These zones offer incentives such as exemptions from certain taxes and business regulations
- Findings revealed that there is a strong relationship between EPZ and technology transfer in developing countries
- For example, in Korea, the most successful incidence of technology transfer is found in the EPZ.

The 2th STIPRO Research Workshop

28th-29th June, 2012 Regency Park Hotel

Introduction cont..



- In 2002, the Government of Tanzania established EPZ scheme (URT, 2006).
- to attract investment for export-led industrialization
- to create and expand foreign exchange earnings
- to increase employment
- development of skilled labor (Training of local people)
- to encourage transfer of new technology
- to foster linkages of the local economy to the international market
- and promote processing of local raw materials for export (TIF, 2006).

Statement of the problem



- As earlier pointed, one of the EPZs' objectives is to encourage the transfer of the new technology to local firms. Empirical studies (Zakir, 2007, Wang, 2002, Omar and Stoever, 2008) show that, EPZs have worked to other countries such as Mauritius, Korea and Taiwan. However, in Tanzania, little is known. Therefore, this study is a modest attempt in closing this knowledge gap.

Research Questions



- What are the characteristics of Tanzania EPZ firms?
- What is the relationship between EPZs firms and those outside the zones?
- What are the difficulties facing EPZ firms in Tanzania?

The 2th STIPRO Research Workshop

28th-29th June, 2012 Regency Park Hotel

Conceptual Framework

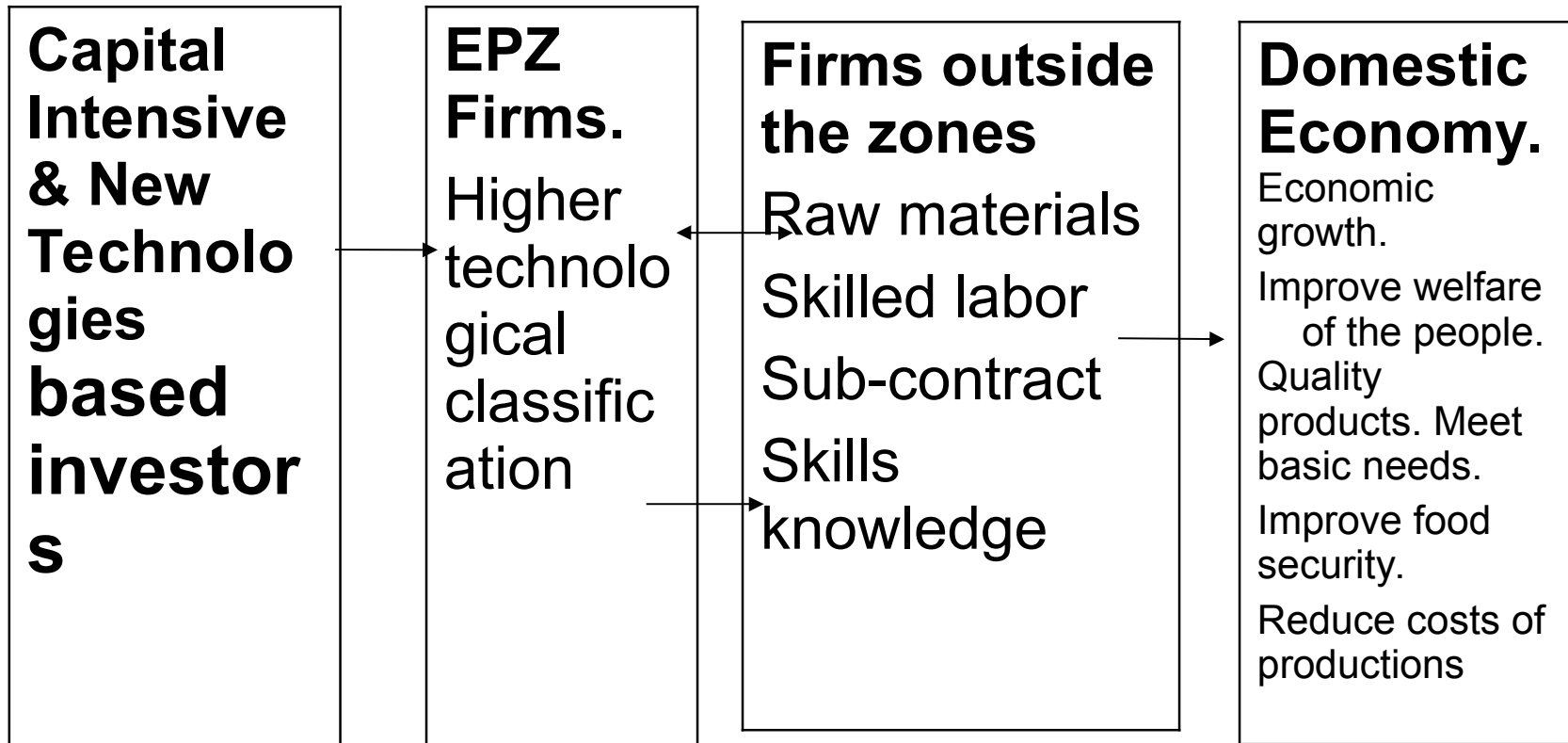


- For EPZ firms to have potential to transfer technology, they must to be in high and intermediate technology sectors
- Also, there must be linkages between EPZ firms, and those outside the zones

The 2th STIPRO Research Workshop

28th-29th June, 2012 Regency Park Hotel

Conceptual Framework Representing Technology Transfer Between EPZ Firms and Non EPZ Firms



Source: Researcher, 2012

The 2th STIPRO Research Workshop

28th-29th June, 2012 Regency Park Hotel

Research design and methodology



- **Research Approach-** qualitative and quantitative.
- **Study Area-** The study was carried out in Dar as Salaam, Morogoro and Arusha
- **Population-** firms operating in Tanzania EPZ
- **Sample Size and Sampling Techniques-** According to EPZA data base, the available operating firms in the zones were forty (40). Out of these forty, twenty five firms were purposely selected.
- **Data Collection Methods-** Questionnaire, Interviews and Observation
- **Data Analysis-** Data was analyzed to measure the Sectors to which EPZ firms belong and linkages with other firms outside the EPZs.

Research Findings



- **Age of the Firms.** It was found that (80%) were four or less years, (20%) had between 5-9 years.
- **Ownership of EPZ Firms.** Findings showed that (64%) were foreign owned, (4%) were joint venture between local and foreigners, (28%) were local owned and (4%) were owned as joint venture with foreigners
- **Origin of the Firm.** Findings showed that (56%) were branch of the firm located outside, (36%) were completely new businesses, (8%) were branch of the local firms.
- **Level of Workers Education.** Findings showed that (77%), had primary education, (8%) had vocational education, (5%) had secondary education (5%) had technical education and (5%) had university education.

28th-29th June, 2012 Regency Park Hotel

Characteristics of Tanzania EPZ Firms



- The firm characteristic is measured using three levels of industries classification according to OECD (2011).
- These include low, medium and high technology firms.
- The low technology firms include recycling, assemblage, wood, , paper, paper products, printing and publishing, food products, beverages, textiles, textiles products, leather and footwear.
- The medium technology firms include metal, chemical (excluding pharmaceutical) and electronics
- The high technology includes pharmaceuticals, Radio, and TV.

Characteristics of Tanzania EPZ Firms cont.....



- It was found that (20%) deals with textile, (28%) agro processing, (16%) assembling, (16%) renovation of imported used cars, (4%) packaging, (8%) mineral processing and others were (8%).
- Therefore, based on OECD industries classification, Tanzania EPZ firms belong to low –technology
- EPZ firms that are potential in technology transfer are those using capital intensive and new technologies
- ILO (2003) revealed that EPZ in China managed to transfer technology to local firms because they concentrate more on high tech-industries

The 2th STIPRO Research Workshop

28th-29th June, 2012 Regency Park Hotel

Technological Capability Levels OF Tanzania EPZ Firms



- to measure the level of technological capability of the EPZ firm , the frame work proposed by Lall (1992) is proposed
- Its levels include basic, intermediate and advanced levels.
- The basic level is the ability of the firm to adopt new technology and make modification
- intermediate level is the ability to improve the technology in the use of scientific knowledge
- advanced level is the ability of the firm to invest in R&D

Technological Capability Levels OF Tanzania EPZ Firms cont.....

- It was found that (52%) had basic level of technological capability, (44%) had intermediate level and only (4%) had advanced level.
- Only one firm was found to have advanced level of technological capability.
- The firm is called Vector Health International. It manufactures Mosquito nets
- Company conducted research and invented insecticides called OLYSET
- Then OLYSET was incorporate into the fibers of the net during manufacturing as the most reliable chemical which kills all types of the insects. This process is regarded as a major innovation that happened in the firm.

Technological Capability Levels OF Tanzania EPZ Firms cont.....

- The study also found that, Vector Health International has R&D department. This R&D is responsible for ensuring quality of the nets and conduct research on the kind of the new materials used to produce nets.
- The workers in R&D are the experts from Japan and Tanzania. The Tanzania experts were trained by the Japanese within the firm
- This shows that the firm is capable to transfer technology to Tanzanians

Technological Capability Levels OF Tanzania EPZ Firms cont.....



- **Training Duration.** It was found that (12%) trained their workers for a week, (36%) for two weeks, (16%) for one month, (4%) two month and above and (32%) never conducted training for their workers
- **R&D Department.** The study found that (8%) had R&D departments while (92%) had no R&D.
- During the research, it was noted that R&D departments are found in parent companies
- **Quality Control Departments.** The study found that (52%) had quality control departments. On the other hand, 12 (48%) had no quality control departments

The 2th STIPRO Research Workshop

28th-29th June, 2012 Regency Park Hotel

Relationship between EPZ Firms and those outside the Zones



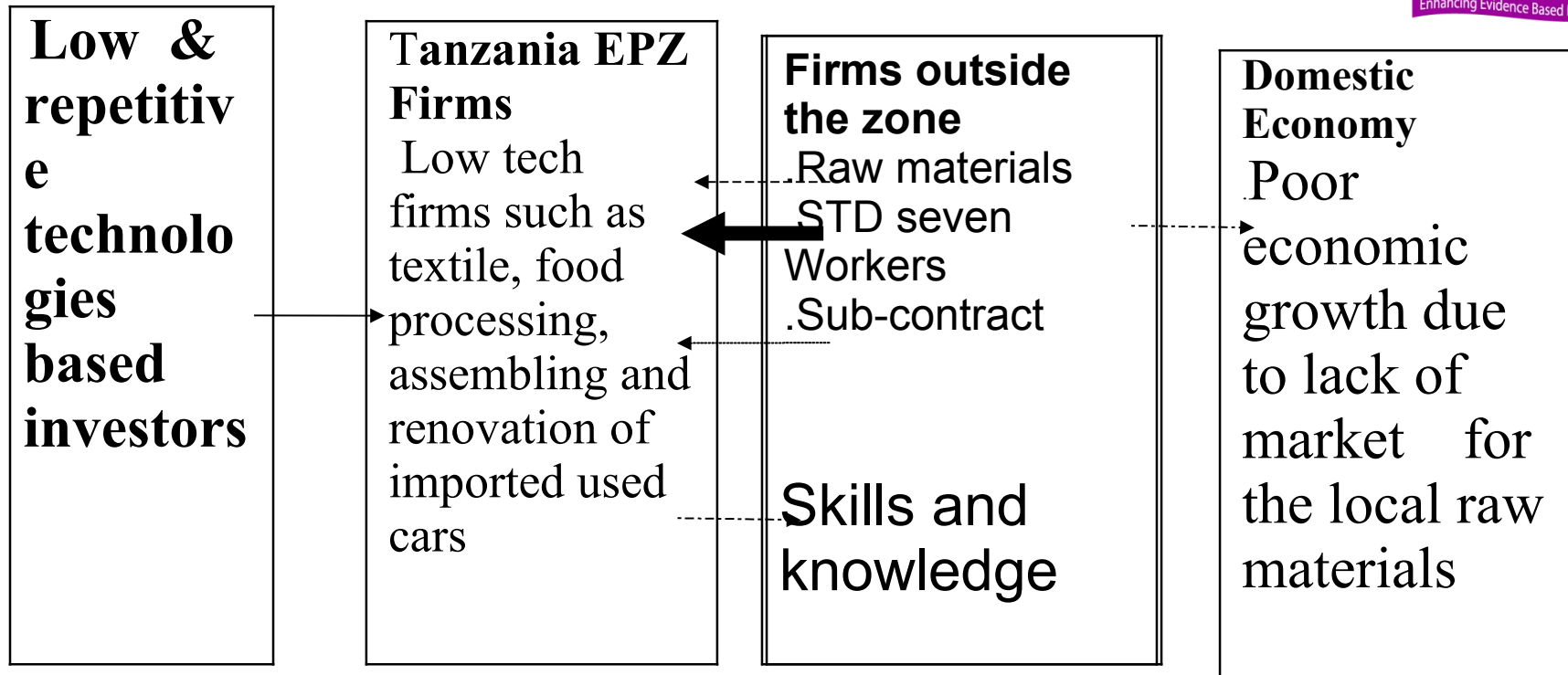
- It was found that (64%) had no relation with those outside the zone. However, it was found that (16%) take raw materials from the local firms and (20%) take packaging materials.
- **Relation with Higher Learning Institutions.** It was found that (20%) had relationships with the higher learning institutions mainly in the fields of students training, advice, sample testing, and hiring of industrial engineers and technicians. (80%) had no relationship
- Therefore, since there link between EPZ and those outside the zones is weak, technology transfer is difficult

Relationship between Tanzania EPZ Firms and External R&D



- It was found that (24%) had relationships with external R&D institutions while (76%) had no relation
- However, the subsidiary companies operated in Tanzania EPZ deals with production only while R&D activities are conducted in the parent companies abroad
- EPZ firms which are not a subsidiary of Multinational Corporations are the ones which cooperate with external R&D for technology out sourcing.

Findings of Tanzania EPZ FIRMS



Source: Researcher, 2012.

Problems Facing EPZ Firms in Tanzania



- Data showed that, (28%) was shortage of power. (24%) problem related to taxation process, (24%) poor environment. (20%) was lack of raw materials and others (4%).
 - **Shortage of power.** Forced investors to use generators. As a result, production costs were higher.
 - **problem related to taxation process.** The study found that TRA officials were not aware of tax exemptions offered to EPZ firms in Tanzania. Also, most of the TRA officials had no general knowledge about EPZ operation. This problem hinders effective production in the firms.

Problems Facing EPZ Firms in Tanzania cont.....

- **Poor environment.** Zones are not conducive. For example, at Hifadhi Zone the area had no security. The cameras were not working. Thieves came in and stole investor's properties.
- **Lack of raw materials.** Investors claimed that varieties/specific materials required by the firms were not found in Tanzania. As such, textile firms have been importing raw materials such as cotton from Egypt and Mauritius. Also, food processing firms have been importing such raw materials as sugar, milk and ground nuts from South Africa and Uganda.

Summary and Conclusion



EPZ firms found in Tanzania are of low tech and most of them conduct their business without links with those outside the zones. Hence, seems to have no potential in promoting technology transfer .

The 2th STIPRO Research Workshop

28th-29th June, 2012 Regency Park Hotel

Recommendations

- Technological infrastructures of the zones need improvements so as to attract Medium and high tech firms
- EPZ policy should focus on intermediate and advanced firms.
- Strengthening the linkages between EPZ firms and those outside the zone
- There is a need for institutions for technology transfer from EPZ firms to those outside the zones.

Areas for Further Research

- The need for a similar research to be conducted in the next five years to see changes.
- The study can be conducted in one of the East African Countries for comparison

The 2th STIPRO Research Workshop

28th-29th June, 2012 Regency Park Hotel



Asanteni Sana

Thank you for your Attention.

The 2th STIPRO Research Workshop

28th-29th June, 2012 Regency Park Hotel