An Integrated Model for Technological Capability Upgrading (TCU) of Manufacturing Cluster(s) of Pakistan through Collaboration with SEZ(s) along CPEC

Presenter

Ahsan Munir

Layout of Presentation

1. Definition of technological capability upgrading (TCU)

2. Factors affecting TCU of industrial clusters in a developing country

3. Focus of Factors Affecting TCU in Pakistan

4. An Integrated Model for TCU of Industrial Clusters

5. Research Methodology

6. Results

7. A Proposed Integrated Model for TCU of Local Cluster(s) in collaboration with SEZ(s) of CPEC

8. Conclusions and recommendations

1. Definition of TCU

TCU in context of developing countries, such as Pakistan, has been described as:

The ability of a firm to buy, understand(assimilate), use and adapt (or change), and improve or create a technology for better value-added processes and products for existing and higher end markets

2. <u>Factors affecting technological capability upgrading (TCU) of industrial clusters in a developing country</u>

i.   Focus of government industrial policy
ii.   Focus of government development agencies
iii. Focus of international development agencies
iv. Focus of academia

3. Focus of Factors Affecting TCU in Pakistan

3.1 Focus of government industrial policy

i.   SMEs policy focuses on business performance, access to different markets, quality accreditations, supply chain management

ii.   However, there is no effort to identify technological capabilities of cluster(s)

3.2 Focus of local development agencies

i. Focus of government development agencies, such as SMEDA, TUSDEC, TDAP, TVETA , has been to improve the operational efficiency of SMEs to make them cost competitive

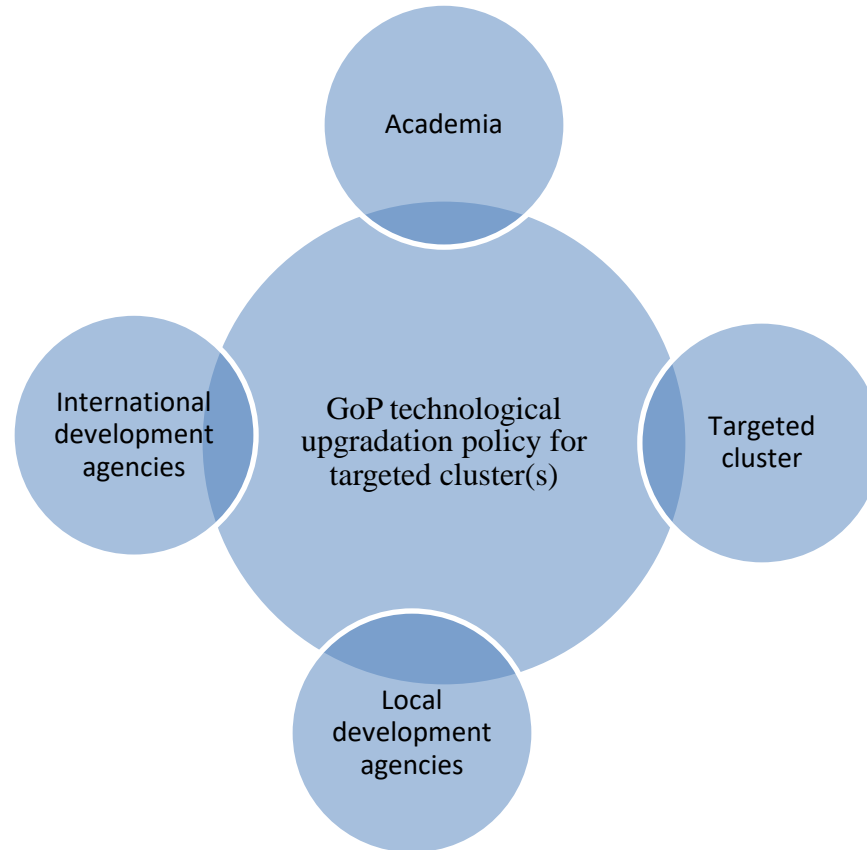ii. However, there is no robust integration/ coordination among development agencies

3.3 Focus of international development agencies

i.   Various development agencies, such as UNIDO, JICA, TRTA, individually work towards increasing the productivity and quality of various SME industrial clusters

3.4 Focus of academia

i.   Again, literature focuses on manufacturing SMEs to improve business performance, access to different markets, quality accreditation, supply chain management

ii. However, recent international literature has moved from focusing on operational efficiency to TCU for sustained competitiveness

4. <u>An Integrated Model for TCU of Industrial Cluster(s)</u>

5. <u>Research Methodology</u>

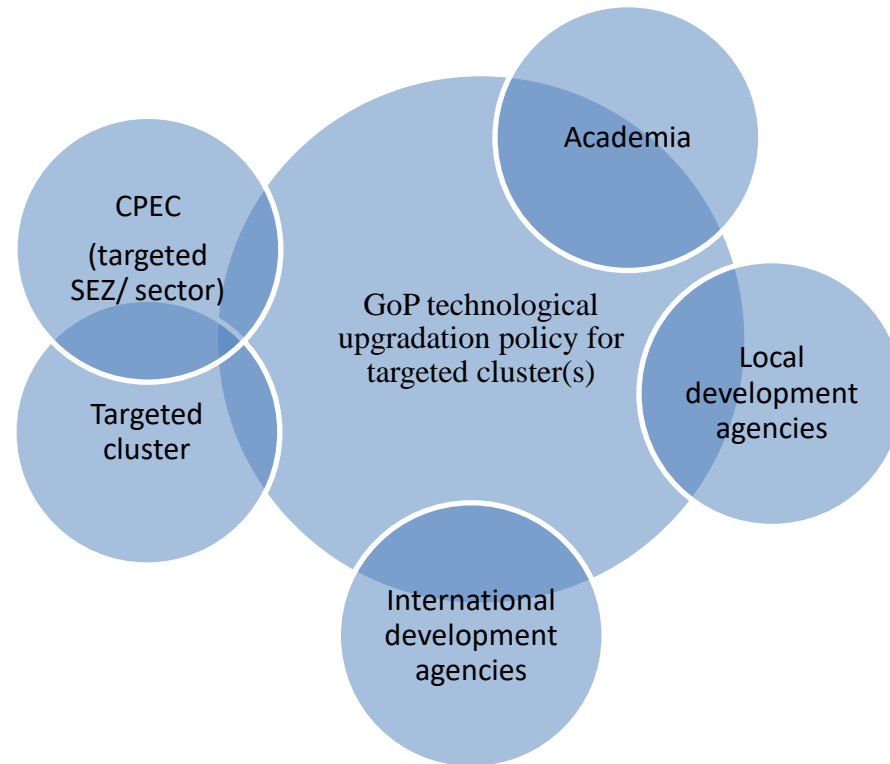Reviewing the literature on Sialkot clusters as per integrated model reveals:

i.   Focus of local/ regional development agencies
- Establishing accreditation labs
- Technology centers

ii. Focus of international development agencies
- Establishing accreditation labs
- Technology centers

iii. Focus of academia
- Improving collective efficiency
- However, there is not much discussion on frameworks/ models for technological capability upgrading of clusters

6. <u>Results</u>

Similar to national level, focus is on increasing :

i.   Productivity, quality, acquiring international accreditations, wining concessions

ii. There is no apparent inter-institutional cooperation

iii. There is no mention of roadmap for technological capability upgrading of cluster(s) for better value-added markets

7. A proposed integrated model for TCU of local cluster(s) in collaboration with SEZ(s) of CPEC

8. Conclusions and recommendations

To ensure that CPEC does not turn into a great transit route for Pakistan, with no contribution to its industrial upgrading :

i.   **Medium to high end SMEs may be made part of value chain of SMES in SEZ(s) along CPEC**

ii.   Details of medium to high end SME clusters technological capabilities may be mapped against related technological clusters/ sectors in SEZ along CPEC

iii.   Roadmap with clearly marked milestones may be defined for continuous TCU

iv.   Employment of Pakistani technical force in medium to high end Chinese' SMEs

v.   Feedback mechanism may be incorporated to keep roadmaps dynamic

Thus, an integrative model has been suggested which calls for an overarching government policy integrating the efforts of all stakeholders

THANKS