

Productivity, Quality and Innovation (PQI) in Pakistan

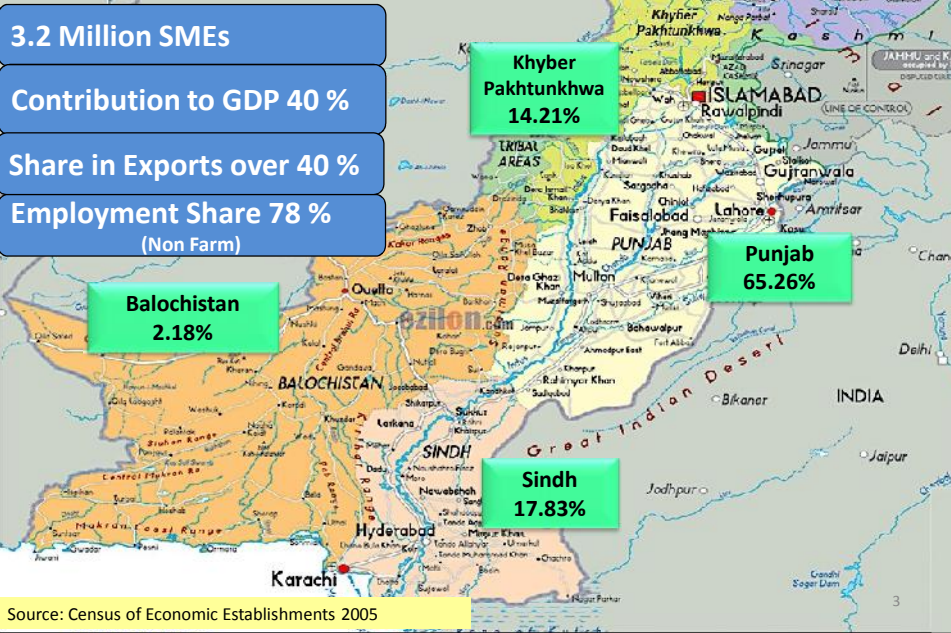
SME Perspective

Presentation by SMEDA
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Scheme of Presentation

- Significance of SMEs in Pakistan's Economy
- Japanese Approach & PQI Issues in Pakistan
- Malaysian Approach & Innovation Issues in Pakistan
- Value Addition Gaps – SME Sectors
- Recommendations

SME Sector in Pakistan



Major Issues of SMEs

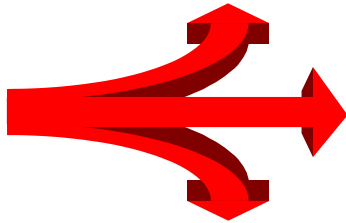
- Technology Low Technology Base
- Financing Lack of Access to Finance
- Marketing Lack of Market Information
- HRD Skilled Workforce
- Regulatory Govt. Rules – Impediments
- Low Q & P Non Competitive

Low Value Addition

SME Development Strategy

Building a Conducive Environment

- Proposing and facilitating changes in Policy and Regulatory Environment
- Reducing the Cost of Doing Business
- Facilitating Government-SME Interface



Developing Sectors and Clusters

- Sector Strategies Development and Implementation
- Cluster Development
- Common Facility Centers (CFCs)

Provision and Facilitation of Services

- Investment Facilitation (Helpdesk, Pre-feasibilities, Business Plans etc.)
- Technical services, Training, Finance, Business Information, Marketing, and legal support
- Productivity and Competitiveness Improvement



Japanese Approach (4M 1E)

- Manpower / Skilled Workforce
- Machine / Technology
- Material
- Method / Process
- Environment (Safe workplaces)

PQI Impediments in Pakistan (4M 1E)

A. MANPOWER / SKILLED WORKFORCE

- Lack of focus on skilled work force as a competitive tool
- Demand & Supply Gap (Skill Set Gap)
- Lack of competency based curriculum development

B. MACHINE / TECHNOLOGY

- Obsolete Technology
- Less focus towards preventive maintenance
 - Machine breakdown
 - Low productivity and line efficiency
 - Shorten machine life
- No New Product Development

PQI Impediments in Pakistan (4M 1E)

C. MATERIAL

- Low quality material
- Non Standardized Raw Materials
- Improper material handling

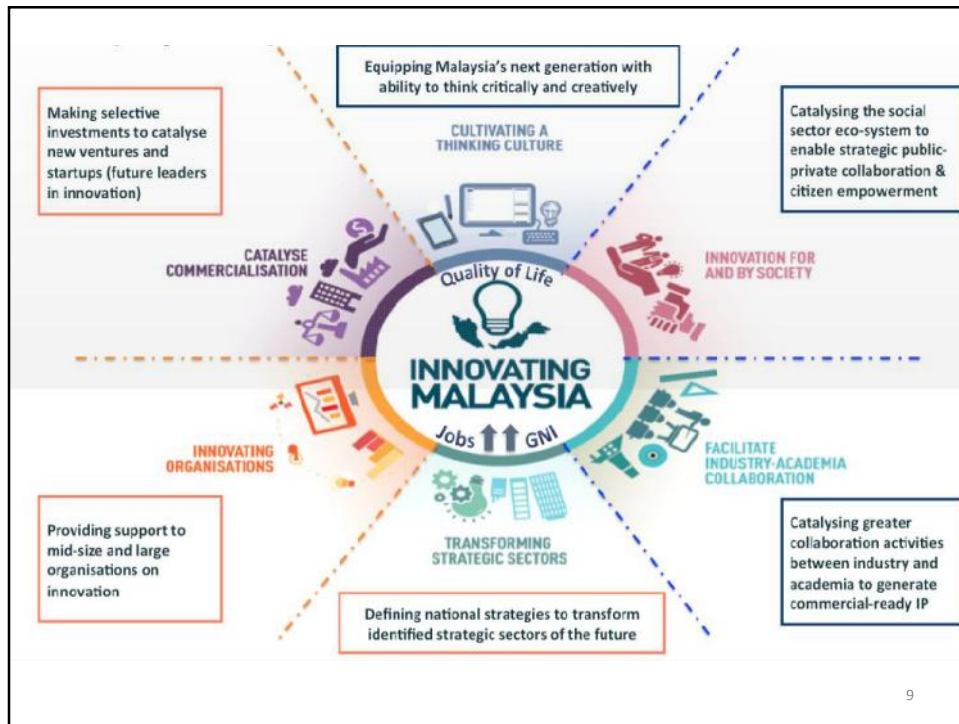
D. METHOD / PROCESS

- Conventional Production / Manufacturing Concepts
- Less Efficient Methods
- Unbalanced Production / Assembly lines

E. ENVIRONMENT (SAFE WORKPLACES)

- Poor Housekeeping
- Unsafe Work Environment
- No use of Personal Protective Equipment (PPE)
- Lack of Procedural Instructions / SOPs





PQI - Innovation Bottlenecks (Pakistan)

A. Knowledge Factors

- Lack of information on technology
- Lack of qualified human resource
- Lack of information on market requirements

B. Regulation Factors

- IP Regulations (awareness & effectiveness)
- International and country specific regulations / certifications

C. Cost Factors

- Excessive perceived economic risks
- Direct costs are too high
- Access and affordability of finance

D. Entrepreneurship Factors

- Opportunity identification
- Management practices – Idea generation

Value Addition Gaps - Examples

Sector	Value Addition Gap
Surgical	Implants & Electro-medical Devices <ul style="list-style-type: none"> Surgical Market: US \$ 247.4 Bn Pakistan Share: US \$ 0.356 Bn
Food Processing	Canned Food, Fruit Pulp, Potato Chips and Powder, Fruit & Veg. Dehydration, processed meat and milk products i.e. Cheese & butter etc.
Sports Goods	Mechanized ball, Composite Based Sports Goods (e.g. Snow and water Sports: Ski, Golf Stick, Fishing tackle, Hockey and Ice Hockey Etc.) <ul style="list-style-type: none"> Est. Market: US\$ 7 Bn
Cutlery	Tableware <ul style="list-style-type: none"> Cutlery Market: US \$ 22.6 Bn - Pakistan Share: US \$ 0.085 Bn – Continuous Polishing & CAD Designing
Leather	Footwear & Leather Goods <ul style="list-style-type: none"> Leather Market: US\$ 119 Bn - Pakistan Share: US\$1.17 Bn Footwear Market: US\$ 54.46 Bn - Pakistan Share: US\$ 0.092 Bn Leather Goods Market: US\$ 27.51 Bn - Pakistan Share: US\$ 0.022 Bn – Training & Testing Facilities, Computerized Pattern Designing & Machinery, REACH etc.)

Value Addition Gaps - Examples

Sector	Value Addition Gap
Textile	Technical Textile (Sportswear, Fire & Safety and Health Sector etc.)
Auto	Manufacturing of High Precision and Complex Contour Parts (Metallurgy, Heat treatment and data generation etc.)
Electrical Bakelite Switches	Manual Presses & C.E. Marking etc.
Marble, Granite & Onyx	Processed / Finished products
Marine Fisheries	Value Fish / Seafood – EU Compliant Boats (GPS, Radio and Fish Finders etc.)

Classification of World Manufactured Export By Level of Technology (%)

Low Tech: 18 Medium & High Tech.: 58 Resource Base: 24

Classification of Pakistan Manufactured Export By Level of Technology

Low Tech: 70.6 Medium & High Tech.: 10.4 Resource Base: 19



Countermeasures for PQI - Bottlenecks

#	Type	Description
1	HUMAN RESOURCE	<input type="checkbox"/> Awareness about benefits – Top Management <input type="checkbox"/> Skill Mapping <input type="checkbox"/> Industry Specific Skill Development Centers <input type="checkbox"/> Strengthen Industry Academia Linkages
2	MACHINE / TECHNOLOGY	<input type="checkbox"/> Benchmark: same/other industries and nations <input type="checkbox"/> Adoption of New Technologies to Help Producing Economies of Scale <input type="checkbox"/> Technology Incubation Centers <ul style="list-style-type: none"> ▪ R&D ▪ Product Development ▪ Technology Transfers / Licensing ▪ Reverse Engineering
3	MATERIAL	<input type="checkbox"/> Adoption / Establishment of Standards for Raw Materials <input type="checkbox"/> Use of High Performance Engg. Materials <input type="checkbox"/> Production of standardized Raw Materials locally

Countermeasures for PQI - Bottlenecks

#	Type	Description
4	METHOD / PROCESS	<input type="checkbox"/> Implementation of Lean Manufacturing System (e.g. 5S and Line Balancing etc.) <input type="checkbox"/> Energy Efficient Manufacturing Processes
5	ENVIRONMENT (SAFE WORKPLACES)	<input type="checkbox"/> Implementation of 5 S <input type="checkbox"/> Mandatory use of PPE

Countermeasures for PQI - Innovation Bottlenecks

#	Type	Description
1	Knowledge Factors	<input type="checkbox"/> Establishment of demonstration projects and CFCs for high end products <input type="checkbox"/> Access to HR program for SMEs <input type="checkbox"/> public sector market research programs
2	Cost Factors	<input type="checkbox"/> Performance based tax incentives, grants & subsidies for R&D <input type="checkbox"/> Public sector financing for technology up-gradation at firm level
3	Regulation Factors	<input type="checkbox"/> Programed awareness and service acquisition support for IP rights and protection <input type="checkbox"/> Development & dissemination of country / sector specific international compliance requirements
4	Entrepreneurship Factors	<input type="checkbox"/> Orientation and capacity enhancement programs for existing entrepreneurs and aspirants

Proposed Key Interventions

- PQI benchmarking for prominent sectors viz-a-viz Pakistan and developed countries.
- Development of Integrated PQI model to help integrating into global value chains.
- Capacity building of NPO, PSQCA, PNAC, SMEDA, PCSIR, NPSL, TUSDEC for effective delivery of PQI model.
- Initiatives for strengthening industry-academia linkages for commercializing R&D.
- Rationalization of current regulatory regime to address the issue of high cost of doing business.

Proposed Key Interventions

- Faculty / Experts exchange programs with countries having advanced PQI.
- Support fund for;
 - Promoting new technologies.
 - Establishment of Technology Incubation Centers
 - Transfer of technology through JVs, Licensing, IPRs etc.
- Continuity and sustainability of ongoing initiatives of GoP e.g. CIP of MoST.

Thank You

