

NATIONAL INDUSTRIAL POLICY 2010  
REBUILDING PAKISTAN'S MANUFACTURING BASE

PRINCIPLE RECOMMENDATIONS BY  
CORE GROUP - INDUSTRIAL POLICY TASK FORCE



Ministry of Industries & Production  
Government of Pakistan

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## List of Acronyms and Abbreviations

ADR	Alternative Dispute Resolution
API	Active Pharmaceutical Ingredients
BOP	Balance of Payments
CRO	Clinical Research Organisation
DAP	Diammonium Phosphate
DFID	Department for International Development
EDB	Engineering Development Board
EPZ	Export Processing Zones
EOBI	Employee Old-Age Benefit
FDI	Foreign Direct Investment
FPCCI	Federation of Pakistan Chambers of Commerce and Industry
GDP	Gross Domestic Product
GMP	Good Manufacturing Practices
IAG	Industry Advisory Group
IDB	Industrial Development Board
IPR	Intellectual Property Rights
ITP	International Trade Price
KIBOR	Karachi Interbank Offer Rate
MMF	Man Made Fibre
NAVTEC	National Vocational & Technical Education Commission
NEQS	National Environmental Quality Standards
NPO	National Productivity Organisation
OEM	Original Equipment Manufacturer
PEFMA	Pakistan Electric Fan Manufacturers Association
PEPCO	Pakistan Electric Power Company
PHADC	Pakistan Hunting Arms Development Company
PIB	Pakistan Investment Bond
PLDC	Pakistan Leather Development Council
PPP	Public Private Partnership
PSDC	Pakistan Stone Development Company
PSM	Pakistan Steel Mill
PSQCA	Pakistan Standards & Quality Compliance authority
PSI	Pre-shipment Inspections
R&D	Research & Development
RFID	Radio Frequency Identification
SECP	Securities & Exchange Commission of Pakistan
SEZ	Special Economic Zones
SME	Small & Medium Enterprises
SMEDA	Small & Medium Enterprise Authority
SG	Safeguards
SPS	Sanitary & Phytosanitary
TBS	Tariff Based System
TBT	Technical Barriers to Trade
TDAP	Trade Development Authority of Pakistan
TEVTA	Technical Education & Vocational Training Authority
TVET	Technical & Vocational Education Training
UNEP	United Nation Environment Programme
WAPDA	Water & Power Development Authority
WHO	World Health Organisation
WTO	World Trade Organisation

# I. INTRODUCTION

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This draft National Industrial Policy 2010 has been developed by the Core Group appointed by the Ministry of Industries & Production, Government of Pakistan. The policy is an outcome of a three-month long process that involved research based on primary and secondary data, rigorous analysis as well as a gruelling but highly rewarding nationwide consultation process with multiple stakeholders including industrialists, trade associations, chambers of commerce and industry, public sector institutions and universities. The draft policy proposals have been presented at FPCCI, Karachi and Chambers of Commerce and Industry in Sukkur, Hyderabad, Multan, Karachi, Peshawar, Faisalabad, Gujranwala and Lahore. The final presentation was made in Islamabad to the members of the task force along with a diverse group of industry leaders. This draft reflects the considerations that were raised by participants in all our engagements.

As this policy was being formulated Pakistan was being devastated by unprecedented floods. Thousands of people lost their lives and livelihoods, billions of dollars worth of productive assets were destroyed and much of the country's infrastructure lay in ruins. No amount of foreign aid is enough to help us get out of this situation. The people of Pakistan will need to rely on themselves to recover from this disaster. If organised and given a direction, they can not only overcome this setback but in the process take Pakistan much further than it was prior to this calamity. Our policy reflects the urgent need to rebuild our infrastructure, empower people through education and training and take everyone along rather than just a few.

In developing this Policy, we have followed a two-pronged approach:

1. We use an economy wide lens to suggest a set of critical horizontal interventions or broader policy measures required to facilitate and spur the growth of the manufacturing sector in Pakistan. While earlier industry-related policies have emphasized some of these measures, we depart from them in several ways. Salient among our departures is our emphasis on the establishment of a full-

scale, end-to-end science park as a way to support knowledge-based industries while considering our international obligations, reversing brain drain, and moving from the current emphasis on inward FDI to a focus on outward FDI.

2. We identify several manufacturing industries that we think Pakistan can excel in (a primary criterion is domestic demand which has been recognized as a crucial stepping stone for export competitiveness) and propose vertical interventions or sector specific reforms within them. Some of the suggested sector policies are cross cutting while others are industry specific.

## II. VISION

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Our vision for Pakistan is that of a factory for the world rather than a shop. We hope that in the next ten years, Pakistan will establish itself as a formidable manufacturing economy producing for an expanding domestic market as well as for the world market.

## III. OBJECTIVES

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Industrial policy 2010 is devised with five related goals in mind:

1. Pakistan's manufacturing output per worker has grown by a paltry 1.5% per year over the past 10 years. Its share in GDP has also stagnated in these past 10 years. Through value-addition and diversification this policy aims to increase the manufacturing output per worker by at least 100% in the next 10 years. This increase is expected to enhance the manufacturing share in GDP to at least 30% in the next twenty years as envisioned in the Vision 2030.
2. By a conservative estimate, more than one-third of Pakistan's labour force is unemployed or under-employed. In addition, about two million people join the labour force every year. While the services sector in Pakistan continue to be critical for more job creation, this policy aims to expand Pakistan's manufacturing base and

impart focused skill-based training to the labour force in order to productively employ the young population of this country.

3. Currently, Pakistan's manufacturing industry is concentrated in a few developed districts, which attract a disproportionately high allocation of development funds. This unbalanced industrial development is unsustainable because it leads to growing disparity and deprivation, which in turn fuels resentment and political unrest. This policy aims to spur development across the country to stem this undesirable progression.

## IV. FUNDAMENTAL PRINCIPLES FOR INDUSTRIAL POLICY

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The government interventions proposed in this policy document are based on the following economic principles:

1. The role of the government is in the provision of public goods and services. These include both hard and soft infrastructure such as transportation, energy, education and health. These provisions are necessary horizontal interventions required to facilitate industrialization.
2. Government intervention is required where there are market failures due to the presence of externalities or information asymmetries. Such market failures are found in many places including credit markets, labour markets, R&D in production, and environmental pollution as a consequence of economic activity.
3. In sectors where there are external economies of scale (dynamic comparative advantage) which can lead to the emergence of a vibrant industrial cluster, government can facilitate the formation of such a cluster by improving coordination amongst firms and reducing their costs of entry. Thus the role of the government is that of a catalyst and a mediator in cluster development - it subsidizes R&D, disseminates information and knowledge, supports in contracting with cluster suppliers, and facilitating access to larger international markets.
4. Government's role also involves setting up institutional mechanisms which ensure efficient functioning of factor and product markets.

## V. STRATEGIC THRUST OF INDUSTRIAL POLICY

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1. Industrialization is a long-term process which requires sustained investment in both physical and social infrastructure. Investments in social infrastructure such as in education and labour skills improvement by augmenting existing factor resources would help harness dynamic comparative advantages and create the necessary conditions required for value added activity.
2. Wherever possible, we must strive to add value to basic raw material rather than export it. The value addition must take place through product and process based innovations, as well as through marketing and branding.
3. We have a population of nearly 170 million. We must focus on harnessing the tremendous potential of local demand and thereby create capabilities that will underpin future success in global markets.
4. Where support is needed, it must be on the input side rather than the output side. While the latter hides the true competitiveness of our industry, the former enhances it. Any support should be conditional on performance with a clear timeline or duration.
5. Promotion of knowledge-based industries in Pakistan will require a reversal of the current brain drain. We suggest Pakistan follow Taiwan's lead in this matter and establish a large science park, with all amenities that any expatriate professional may require to set up or manage a knowledge-based enterprise. Such a science park will also allow Pakistan to sidestep WTO restrictions on supporting local industry.

6. Currently, all emphasis appears to be on inward FDI. We are recommending that while efforts to attract inward FDI should continue (albeit in priority sectors, and with conditionalities), the state also start focusing on outward FDI. This would involve purchasing enterprises that can fill critical gaps in our industry, e.g., R&D, distribution/ branding in foreign markets.

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## VI. BROAD STEPS FOR INDUSTRIALIZATION

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### A. Achieving Macro-economic Stability

Pakistan's economy frequently suffers from macroeconomic instability, which increases risk and uncertainty, distorts resource allocation and adversely affects total factor productivity growth. The root cause of this problem is low tax to GDP ratio (at around 10%), which gives rise to low national savings rate, large fiscal deficits, increased money creation and borrowing, which in turn leads to higher inflation rates, higher current account deficit and increased debt to GDP ratio. Higher inflation rates are often followed by higher nominal interest rates, both of which not only hurt the welfare of the people but also increase the cost of doing business, making domestic firms less competitive while simultaneously discouraging new investment. Moreover, repayments become increasingly difficult for operating firms, forcing them out of business. Therefore, a strategy to ensure macroeconomic stability must be based on an increase in tax to GDP ratio. Moreover, the recurring boom and bust cycles in the country are symptomatic of a weak and uncompetitive manufacturing and export base. A diversified and competitive manufacturing sector by generating enough foreign exchange through export earnings would act as buffer against any short term shock which otherwise would create external and internal imbalances.

**In this context, the Ministry of Industries & Production should strongly advocate:**

- An increase in tax to GDP ratio from the existing 10% to 15% in the next five years, i.e., an increase of one percentage point per annum.
- Raise taxes against the provision of 'service efficiencies including public goods' that are required by the businesses<sup>1</sup>.

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<sup>1</sup> Businesses (especially large ones) benefit directly from enhanced government efficiency and better provision of necessary public goods. Therefore if industry sees their tax receipts being translated into improvements in service efficiency and in the provision of public goods, the incentive to contribute to the national exchequer would increase. Public policy in designing systems of taxation should ensure that the link

- Expansion of the tax base by including those sectors in the tax net that are currently not being taxed.
- Prudent monetary and fiscal policy so that the rate of inflation and the nominal interest rate do not increase to double digit levels.

## B. Bridging the Development Gap between Regions

There is a widening infrastructure gap across districts. The evidence shows that not only public education, health and road infrastructure is highly skewed across districts, the gap between most-developed and least-developed districts is also widening over time. These infrastructure gaps serve as major impediments in (1) optimal resource allocation in deprived districts on the basis of comparative advantage, and (2) market access to domestic producers, traders and service providers in least-developed districts. Moreover, these infrastructural gaps increase poverty, promote unbalanced industrial development and uneven location of urban population. This pattern of development is politically unsustainable in the long run.

### **The Ministry of Industries & Production should strongly advocate to:**

- Introduce non-income based poverty mapping of districts to identify most deprived and least deprived districts in the country.
- To reverse the trend of widening infrastructure gaps across districts, use education and health based mapping to disproportionately allocate development funds to least developed districts for the next 10-years.
- Allocate more funds to develop quality road network in deprived districts. For this purpose, road density based mapping of districts needs to be employed to allocate more funds to deprived districts for the next 10-years.

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between taxes and public goods and service provision is strengthened. In this regard, pilot projects addressing urgent needs of the industry can be initiated to raise tax revenue.

## C. Meeting the Energy Challenge

The ongoing energy crisis has crippled Pakistan's industry and economy. A conservative estimate puts the loss to industry at 13% of total manufacturing sales or nearly Rs. 130 billion per annum. The energy crisis is hitting the industry at multiple levels: energy tariff increases are forcing businesses with low margins and those who are unable to generate their own power (e.g., SMEs) to close down; unannounced load-shedding and voltage fluctuations damage machinery worth millions of dollars; unavailability of electricity harms productivity of workforce. With an abundance of two of the cheapest sources of energy in the country, there is no reason why Pakistan should not be able to overcome this crisis soon.

**To overcome this crisis The Ministry of Industries & Production should strongly advocate the following:**

- As long as power shortfall remains, load needs to be managed carefully. Areas with a heavy presence of industry, both large-scale and SMEs, should be given the status of industrial corridors. These corridors could be given separate feeders, where load shedding will only occur when absolutely necessary<sup>2</sup>. This needs to be finalized in consultation with PEPCO so that the present suboptimal matching of grid stations and 11kv feeders can also be addressed. Load-shedding schedules for such units need to be announced at least 2 months in advance and load shedding days should be clustered for both electricity and gas. No such priority should be given to industry that is based in residential areas.
- Conduct sector-wide energy audits, initiating the programme from heavy load industries. Based on the recommendations of the audit, provide incentives to the industry to shift toward more energy efficient production methods and technology.
- In the industrial corridors, peak-load pricing schedules should be announced.

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<sup>2</sup> This point is also addressed in the section on Industrial Estates and other special economic zones.

- In the medium to long-run, we strongly propose a shift in energy mix. This may be helped by developing localized, cheaper machinery for hydel, thermal and coal-based power plants. For this purpose, the interaction of manufacturers and power producers, including WAPDA needs to be facilitated to develop machinery best suited to Pakistan's needs.
- In special economic zones, science park and industrial estates, captive power generation should be allowed.
- At the same time, steps should be taken to facilitate the local development of wind turbines and solar energy technology. For this purpose, two pilot research projects should be initiated bringing together universities, industry, foreign and local experts and relevant government departments.

## D. Upgrading Logistical Infrastructure

An efficient and well integrated transport system is integral to the growth and development of the industry as it creates access to markets, reduces the costs of production and increases the competitiveness of firms. In Pakistan, however, the transport systems suffer from insufficient investments, poor management and a lack of essential maintenance. The low reliability and high costs of the transport sector hinders Pakistan's economic growth by reducing the productivity of its industry and competitiveness of its exports. The cost of transport system inefficiencies has been estimated at about 4%-6% of the GDP.

**In order to increase the efficiency of logistics in the country, The Ministry of Industries & Production should strongly advocate the following measures:**

### ROADS & TRUCKING

- In partnership with the private sector international standard Logistical Parks near industrial areas, agricultural hubs, and ports need to be setup. For this purpose, land needs to be provided, and government should invite local/foreign investors to develop facilities for storage, loading-unloading facilities, and rest

areas. Dry ports should be established within or adjacent to these logistical parks.

- Vehicle quality testing stations and Radio Frequency Identification (RFID) based tracking facility should be established within the logistical parks.
- A roads commission should be set up to develop the overall strategy for roads giving priority to areas with relatively low connectivity. It would include in its purview connecting roads to major industrial estates, railways and border points as well as connectivity with Baluchistan and tribal areas.
- The government should standardize and provide technical advice, licensing and registration of trailers.
- The government should ensure the creation of cold storage facilities near agricultural hubs and expedite the creation of cold chains from agro-based clusters to Karachi.

## RAILWAYS

- The condition and performance of Pakistan Railways needs to be improved significantly. New investment is required in the Railway Freight Service and new tracks need to be laid in order to support transportation within the country.
- It is proposed to increase the share of national railway in national freight from the current 4% to 22% by 2030 as proposed in Vision 2030.

## PORTS

- Pakistan Automated Customs Clearance System should be maintained and the software issues need to be solved immediately.
- The government needs to facilitate the private sector to invest in bulk handling port facility. This could be done through public-private partnerships by following the 'landlord concept' employed successfully in the Karachi Port Terminal.
- The government should facilitate the establishment of silos at Karachi port for the storage of commodities such as coal and cement.

### **The Case of Gawadar:**

Gawadar is located in Baluchistan whose strategic location needs to be exploited. It is east of Iran, south of Afghanistan, and boasts a sea port almost at the mouth of the Strait of Hormuz. Gawadar is an essential node in the Iran-Pakistan-India pipeline, which could cross from Iranian to Pakistani Balochistan. At the same time, Gawadar is of enormous strategic importance to China, Afghanistan, Iran and Central Asia. However, the development and usage of the Gawadar Port has stalled as a consequence of a myriad of issues ranging from lack of infrastructure investment by the government, prohibitively high cost of transportation, security issues, absence of any significant industry in Baluchistan, and foreign interests which feel threatened by this development. Accordingly, the following policy recommendations are given:

- Scrap the deal with PSA and seek assistance from China in developing the port.
- Urgently complete road works linking Gawadar to upcountry. Currently, transporters have to go through Sukkur.
- Incentivize China and/or UAE to build oil refineries near the port.
- Seek Chinese assistance in building a rail link between Gawadar and northern parts of the country.

## **E. Promotion of Knowledge-based Industries through a Full-Scale Science Park**

A cornerstone of this industrial policy is the establishment of a science park in Pakistan. The proposed science park will have formal operational links with one or more universities, research centers, or other institutions of higher education. It will be designed to encourage the formation and growth of knowledge-based industries. It will have all the infrastructure required to attract professionals, consultants and managers and will house organizations ranging from R&D to manufacturing, marketing and branding. In short, the objectives of the establishment of a science & technology park in Pakistan are the promotion of technology commercialization, transfer and diffusion

by fostering links between Industry and universities, R&D labs, and promoting the formation and growth of knowledge-based companies.

A science park fulfils several purposes that are critical to the success of the 2010 industrial policy. Most importantly, it enjoys the status of an R&D establishment, which means it sidesteps the same WTO regulations that prohibit any subsidies to local organizations. Local organizations can be encouraged to indigenize through collective government sponsored R&D and build brands within a science park.

Second, a science park captures the entire product cycle, rather than just focusing on manufacturing. It provides incubators for scientific innovations as well as a production center for cutting-edge products. Universities will be playing a very strong role in the emergence of the proposed science park and will be required to supply trained human resource and a knowledge base for industrial innovation.

Third, a science park provides economies of scale and scope with respect to common infrastructure facilities (such as transport, power, information and communication technology connectivity, office and production space, and waste treatment) and technical services (such as recruitment, training, mentoring, financing, networking, and legal and IPR consulting).

Finally, through delegation of powers to the science park level, various ministries and government bodies can achieve coordination, a goal that otherwise remains difficult to achieve.

The aim is to create an environment where knowledge-based industries can thrive and the required professionals can reside with their families. We envisage the park project to be 6-year long with approximately US \$500 million required in startup costs. The total area for the park will be about 200 hectares. The project will be executed in 3 phases. Phase 1 will include the survey of different sites in Pakistan for the park and the selection of the most suitable site. The 2<sup>nd</sup> phase will include building the infrastructure as well as building and recruiting park clients. The last phase will include facilitating the

investment environment for the clients and building bridges between different universities of Pakistan, R&D institutes and park clients.

**The government of Pakistan will incentivize the investment environment in the science park through the following measures:**

- Absorb initial startup costs for the science park
- Provide infrastructure of the park including amenities
- Establish venture capital funding for startups
- Provide five year tax holiday
- Ensure industrial laws and regulations simplification
- Ensure delegation of power from several other government agencies to park administration for 'one stop operation'
- Pass special commerce and tax laws for science park operation
- Ensure cooperation programs among universities, research institutes and park clients
- Provide transparent, competitive R&D grants

## **F. Development of Industrial Estates, Special Economic Zones, Export Promotion Zones**

**The following is proposed in this respect:**

- To promote the growth of existing and resource-based industries the government should create industrial estates and agro processing zones at the identified 'hot spots' of economic activity. This should be done while preserving agricultural lands and observing municipal zoning laws.
- The government should develop these estates through the provision of necessary soft and hard infrastructure and world class logistic facilities.
- The government should facilitate estates and zones in:
  - Accessing appropriate technology.
  - Obtaining information about modern methods of production.
  - Improving quality standards such as phyto-sanitary measures for agriculture processing.
  - Product branding and up gradation.
  - Accessing international markets.

- This should be done by creating linkages with universities, research centres available locally and internationally, and by creation of centres of excellence.
- Captive power generation should be permitted at the estate level.
- Effluent Treatment Plants and Solid Waste dumping sites should be established in all industrial estates. Incentives such as tax break should be provided for local construction/fabrication of effluent treatment plants.
- With falling duties, the attraction of EPZs (where imports are duty free) has fallen dramatically. EPZ such as the one in Gujranwala should be turned into an industrial zone.
- The government should rationalize its existing portfolio of industrial estates. The failed estates or SEZs (e.g., Gadoon) need to be liquidated and lessons learned from their failures. Sukkur Small Industrial Estate should be developed.
- Business incubators for SMEs should be set up to reduce costs for business start-ups.

## G. Strengthen Governance

There are several issues in governance that can easily compromise any industrial policy.

### **The following is a list of recommended measures:**

- Smuggling (Afghan Transit Trade): The Afghan Transit Trade Agreement is a serious issue for industry. A range of goods which are officially imported for the Afghan market make their way into Pakistan through well established and strong smuggling networks operating at both sides of the Afghan-Pakistan border. Prices of these smuggled items in the local market are much below those of local manufactures resulting in an erosion of their market share and a loss in revenue. One way to control smuggling is to increase the transaction cost of smuggling and reduce the wedge between importable prices of legal and smuggled goods.

**The following are some suggested policies in this regard:**

- The government should increase controls at Karachi port and Afghan border to curb smuggling.
- Efforts should be made for tariff harmonization between Afghanistan and Pakistan. A bilateral agreement could be made to adjust tariff from both sides with the objective to minimise tariff differential so that it reduces the premium on smuggling.
- Afghan custom clearance should be at Karachi.
- Letter of Credit for import of these products should only be issued in Afghanistan. This has already been implemented.
- The government should negotiate some degree of quantity control on products meant for Afghanistan based on the market size or demand estimates in Afghanistan.
- Rationalization of sales tax regime in Pakistan would also help in reducing the premium on smuggled goods that are manufactured domestically; e.g. Tyres.
- Another serious issue concerns under-invoicing. To tackle this problem, the government should:
  - Use the International Trade Price (ITPs) lists to reduce the incidence of under-invoicing.
- Cost of Doing Business: Costs of doing business affect both domestic and foreign investment in the country. These costs relate to bureaucratic inefficiency or red tape, endemic corruption, complicated systems of taxation and business registry to weak contract enforcement systems stemming from dysfunctional provincial judicial systems. We propose the following:
  - All labour related issues to be handled at a single window.
  - All labour related tax dues (EOBI, WWF, Social Security, etc.) to be lumped as a single payment.
  - Online system for registration of new businesses should be developed.
  - All unnecessary procedures of starting a business, such as the requirement to establish a company seal, should be abolished.

- Refunds of duty draw backs and sales tax should be completed in one month.
- Businesses should be allowed to keep the 3 months security deposit with Sui Gas in National Saving Certificates.
- Contract enforcement needs to be improved through the following measures:
  1. Setting up of specialised courts or commercial divisions in existing courts
  2. Design and implement case management systems in courts.
  3. Introduce a maximum time limit of 3 months on all commercial cases.
  4. Strengthen the Alternative Dispute Resolution (ADR) System. Encourage and support the provinces to replicate the ADR system piloted in Karachi.

## H. Building World Class Human Capital

Due to years of neglect the human resource capacity in Pakistan has deteriorated to alarming levels. In order to develop a competitive advantage across particular industries, the level of human resource needs to be go up significantly. For existing and resource-based industries generic and specific skills need to be developed. For knowledge-based industries, an additional requirement is to attract Pakistani expatriate professionals currently working in the West.

**Accordingly, the government should take the following measures on a priority basis:**

- **Primary and Secondary Education:** Universal Primary and Secondary Education is a Pre requisite for Skills Development. Primary and Secondary education is the right of every individual in the country; therefore its free and universal provision is an integral responsibility of the government. Through the widespread provision of basic education Pakistan can successfully turn its

demographic challenge into a formidable strength. Along with many other positive externalities generated by education, it significantly increases the trainability of workers and thus has a direct effect on labour productivity which in turn leads to industrial growth. Therefore it is essential for the government to give the highest priority to primary and secondary education. It is proposed that the following steps should be taken to increase both the coverage and quality of basic education.

- The government should drastically increase the budgetary allocation for education. This increase needs to be maintained for successive years. Currently Pakistan spends 2 percent of its GDP on education; this has to increase to at least 4 percent in the next 5 years. The allocation should also cater in providing essential facilities such as infrastructure, sanitation and water, and improving the accessibility of schools.
- The curricula at the primary and secondary level should undergo periodic revisions and over a phased period aim at reducing the mismatch between skill concentration and education and market demand.
- The government should also consider a phased shift towards uniform curricula across private and public schools in Pakistan at the primary and secondary level.
- Teacher training programs should be established to strengthen the capacity of the teachers to effectively deliver the national curricula.
- The recruiting criteria for teachers should be strictly on merit and should be done in a transparent manner.
- Public schools administration should have the flexibility to reward teachers who produce better educational results.
- Together with increased incentives for teachers there must be increased accountability on performance. The government should explore different methods of accomplishing this, for example, by providing a framework for parents to be more involved in the education of their children.

- Technical Education and Vocational Training: Although the government has come up with various initiatives to improve skills and technical education there are some serious gaps in the existing system. The provision of skills and vocational training is not in sync with the demands of the industry. The curriculum and class room teaching methods are outdated and have not developed the capacity or mechanism to respond to the needs of the industry. In 2009 the National Vocational and Technical Education Commission (NAVTEC) developed a strategy to overcome some of these issues. The vision of the 2009-2013 NAVTEC skills strategy stresses a shift from supply led training to demand driven skills development by promoting the role of industry in both the design and delivery of TVET. In light of the NAVTEC's skills strategy the following are the main policy proposals:
  - The government should map out all the existing provincial federal and private skills and vocational training institutes operating across the country.
  - The government should evaluate the condition, available infrastructure, quality of trainers and relevance in terms of meeting demands of the industrial sectors.
  - The government should upgrade the existing training institutes and only establish new training institutes - Centres of Excellence in those areas/sectors where they do not exist. Under the Nation Skills Strategy the government proposes to promote and facilitate the establishment of sector specific training institutes and Centres of Excellence. These institutes are to be located in proximity to relevant industry in order for them to benefit from new technologies, and to facilitate industry placement of trainees and trainers and information flows between the training institute and industry. The existing institutes should be upgraded based on the following strategy:
    - Upgrade the entire range of curricula and make it more demand driven and industry specific.
    - Improve the quality of the faculty and the master trainers.
    - Replace outdated equipment with more relevant equipment.

- Assist the training institutes to develop international linkages to offer certified courses such as, City and Guilds UK. The NAVTEC's strategy also proposed to help Pakistani Centres of Excellence establish partnerships and links with counterpart reputed industry specific training facilities abroad.
- Develop a framework for continuous feedback from industry to assist the training institutes in maintaining their usefulness and relevance. The institutes should also develop job exchange system whereby they can track the placement of their trainees.
- In order to facilitate on floor training a skill based wage subsidy program should be piloted in a few sectors. The program is designed to incentivize the factory owners to train workers on their factory floor and also register them with locally available training institute for classroom based general training. The firms will pay seventy percent of the minimum wage to the worker, whereas the remaining thirty percent would be the government's contribution payable through the training institute directly to the worker.
- To link the industry and government, sector specific Industry Advisory Groups (IAG) may be established. Each IAG will be represented by members of large, medium and small industry, including all sub-industries that fall within the category, international employers, and employees. Their responsibilities will be to carryout periodic sector surveys, identify skill needs in their sectors, indicate new and emerging areas and occupations and determine and update competency standards for workers. IAGs should be established gradually over time, with the aim to establish two each year until all the major sectors are represented.
- Leading firms should sponsor a training unit within a public sector institute, where trainees can be trained specifically on their machines and according to their requirements and standards. Such a model may also be useful for clusters of industries which do not have their own training establishments and have difficulty financing training individually.

- Higher education - University- Industry Linkages: Simply increasing the number of engineering universities will not achieve much. Industry needs to be the driver of higher education in engineering and science. Engineering and science degrees need to be developed around industry needs. Furthermore, there is a dire need for an effective linkage between industry and academia. Following are some proposals to effectively enhance the University-Industry linkage:
  - Science and engineering universities need to introduce new courses and degrees in view of local industry needs.
  - With collaboration from industry state-of-the-art laboratories should be established in universities for R&D needs of business.
  - Government will sanction \$10 million for joint research projects involving universities and industry based around actual industry problems.
- Provide incentives to attract Pakistani and other professionals from abroad. The Science Park is proposed as an initiative which can resolve this issue by providing them with all the amenities they require to relocate.

## I. Securing Land Markets

The current land registration laws present certain elements that make the acquisition process lengthy and often require high informal costs. In addition to the formal land registration and land tenure system, there are strong and widely used informal land transfer systems, such as oral commitments, collateral assurances, powers of attorneys etc., that operate outside the formal land registrations. The existence of these parallel systems is said to have created serious complications by providing shelters to land mafias, registration fee evaders, and public sector rent seekers. An even more critical issue in terms of land availability is the "title of record" dimension of land parcels. Under current legislation, the records of rights in land primarily reflect a fiscal responsibility. The person mentioned in the records is liable for land revenue or property tax; that he is also the rightful owner is only

incidental. The land registration documents only have persuasive, not conclusive, evidentiary value.

**We propose that the government should:**

- Reform the Land Registration ACT to provide security of titles.
- Ensure that the Provinces complete computerization of all land records

## **J. Effectively Using Trade Policy**

Trade policy reforms in the 1990s and 2000s in line with the WTO agreement have reversed the protectionist, inward-oriented import substitution policies of the past decades. Since 1996, substantial trade liberalization and tariffication has been realized through tariff cuts, tariff rationalization, removal of quota regimes and import surcharges. Pakistan has also signed regional trading agreements with neighbouring countries.

**Keeping in mind the limited policy space available to the government the following proposals are put forward:**

- Local knowledge-based industry must be supported within the ambit of a Science Park (proposed above). A Science Park allows for support while avoiding conflict with the WTO regime.
- Trade policy is an instrument of industrial policy, therefore it should be made in conjunction with industrial policy and not independently. It is proposed that the Ministry of Commerce in the future should frame its trade policy in accordance with the broader objectives of the industrial policy.
- To protect the value added industry, the government should rationalize tariffs according to the following escalating schedule: (1) raw material: 0 - 5%; (2) intermediate goods: 5% - 10%; and (3) final goods: 15% to maximum bound tariff.
- Given limited policy space in tariff based measures, the government should effectively use non-tariff measures to its advantage in line with the WTO

agreement. In this regard, government should more effectively use border control measures such as Sanitary and Phytosanitary (SPS) measures, quality standards such as technical barriers to trade (TBT), quantity and quality measures such as Pre-Shipment inspection (PSI), temporary measures to slow imports or to impose import restrictions such as Safeguards (SG) and Balance of Payment Measures (BOP) to protect local industry.

## K. Facilitating SME Growth

### **Strengthening Institutional Support to SMEs**

According to the most recent study conducted on SMEDA, Pakistan's premier agency for supporting small and medium sized enterprises: "Pakistan's economy is dominated by SMEs with more than 90% of enterprises belonging to this category. The SME sector is suffering from many constraints including lack of access to finance<sup>3</sup>, limited access to markets, lack of infrastructure, hostile business environment, corruption and red tape, weak management and lack of access to skilled labour. Also, many of the government policies are devised from the perspective of large firms and not SMEs. The implementation of SME policies in Pakistan is fragmented and limited and needs to be more effective in light of the SME sector's importance and contribution".

**In view of the credit problems faced by SMEs, the State Bank of Pakistan has already initiated a few measures. Below, we supplement these with additional programs to increase accessibility of credit to the SMEs.**

- The first program launched under the Financial Inclusion Plan of the SBP is the Credit Guarantee Scheme for Small and Rural Enterprises in which the SBP will share 60% of the losses from short term and medium term loans (up

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<sup>3</sup> Small and Micro enterprises are often rationed out of the credit market due to information asymmetries such as opaque knowledge of firms and sectors on the part of commercial banks. Information asymmetry results in relatively high collateral requirements for SMEs which along with the degree of documentation required for loan application deter them from resorting to the formal sector credit market - commercial banks. Lack of credit availability thus severely impedes the growth potential of small scale and micro enterprises. Data suggests that over 90 percent of small enterprises finance their business and working capital requirements through retained earnings.

to a maximum of Rs 5 million per loan) extended by banks to SMEs. Each loan will have a tenor of up to three years and will have an interest rate equivalent to the 3-month Karachi Inter Bank Offer Rate (KIBOR) plus 300 basis points (bps). The initial capital for this scheme is to be provided by DFID. The government should help in disseminating information about this particular scheme through the various business/industry associations representing SMEs around the country.

- The second program is the Refinance Scheme for SMEs in KP, FATA and Gilgit Baltistan, with a stated purpose of increasing the supply of credit to SMEs. The interest rates for this program will be floating based on a formula linked to the rates of 6-month Treasury Bills and Pakistan Investment Bonds (PIBs).
- The procedural requirements such as excessive documentation of loan application by commercial banks are perceived as a major hurdle by SMEs. The government (MOI) should advocate with the State Bank to facilitate the development of a uniform simplified and efficient procedure for loan disbursement to small and micro level enterprises. This will substantially reduce transaction costs for SMEs and increase their incentive to apply for a loan.
- Information asymmetry is the principle factor behind lack of access of SMEs to credit, it is imperative to have a Credit Rating Agency specialising in the SME sector. The State Bank has successfully launched the Pakistan Credit Rating Agency, however it does not cover the SME sector. An agency similar in scope but targeted towards the SME sector should be supported by the government
- The government should recommend to the State Bank to promote Venture Capital Funds in Pakistan in order to stimulate small scale entrepreneurship in the country and also rectify credit market failures present in the formal commercial banking system. Venture Capital Funds do not only provide capital but also support nascent enterprises and entrepreneurs with technical and managerial support. Such support is crucial for the success and survival of a new business.
- The State Bank along with the Ministry of Industries should provide information on investment opportunities in the country and facilitate

investment by expatriate Pakistani's both directly and through such Venture Capital funds.

- Invoice based financing, where the borrower gives accepted invoices (or receivables) of its business customers or downstream buyers, as collateral to the commercial bank should be promoted by the State Bank as an alternative to collateral based lending.

**Other measures that should be taken with respect to SMEs include:**

- A cabinet committee for SMEs should be established to fast track decisions on SME policy matters.
- Exemption limit for excise duty should be raised from Rs. 5 million to Rs. 10 million.
- A capital subsidy for investment in technology should be provided.
- Incubation centres should set up in sunrise industries. Some of the sunrise industries include:
  - Bio-technology
  - Information Technology
  - Electronics and telecommunication equipment
  - Non-conventional energy sources
- Establishment of testing and certification facilities should be financed.
- A vendor development programme should be initiated under which 'buyer – seller meets' exhibitions are organised at regular intervals and at dispersed locations.
- A fresh census of small scale industries should be conducted with special focus on gathering information on the incidence of sickness of industries and its causes.
- Skill development initiatives specific to SMEs should be initiated. Schemes covering the areas highlighted below should be developed:
  - Training should be provided in quality management systems
  - Training support for entrepreneurial and managerial development of SMEs
  - Training and benchmarking for designing lean manufacturing techniques

- SMEDA should be institutionally restructured to enable it to design sectoral programs for the SMEs that involve tailor-made investment projects in various sectors. The new organization structure should also enable SMEDA to interact with the government (federal and provincial) and its entities for developing favourable policy environment for SMEs. SMEDA's new organization structure should also allow it to network domestically and globally to bring the maximum benefits for the SMEs of Pakistan.
- Adequate human resource with greater financial flexibility should be made available to run the revised organisations structure.
- The joint equity participation fund should be revitalised and should be allowed to provide loans up to 25% of the project value with a maximum cap of Rs. 10 million. The mark up charged on these loans should be 5%.

## L. Assisting Sick Industrial Units

In any business not all firms survive due to a variety of reasons however in relatively efficient markets the productive capacity of failed firms is acquired by others. In Pakistan due to difficulties in liquidation of businesses a huge amount of productive capacity lies dormant at any point in time. The government should institute a more transparent and efficient procedure/system to help distressed firms get out of business quickly and at least cost.

**For this purpose the government should:**

- Recommend changes to the bankruptcy laws to make it easier for businesses to acquire distressed firms. The transition and exchange of hands in business will be made swifter under these legal revisions.
- Also fully support the Corporate Rehabilitation ACT being developed by SECP and ensure that the ACT covers the possibility of providing technical support in reviving the sick industry.

## M. Implementing Cleaner Production Programs

Growth of the industrial sector cannot be visualized without strengthening cleaner production programs in the country. As defined by the United Nations Environment Program (UNEP), cleaner production is “the continuous application of an integrated environmental strategy to processes, products and services to increase efficiency and reduce risks to humans and the environment.” The implementation of cleaner production programs is an integral part of the policies that aim at increased competitiveness and increased efficiency of firms because they help firms save energy, conserve water, control pollution, ensure safety of machines and equipment, improve health and safety of workers, improve environmental conditions and the image of the firm at the local and international levels.

**To achieve the goals of implementation of cleaner production programs and to promote investment in cleaner productions, the Ministry of Industries & Production should advocate the following measures:**

- Encourage and promote investment in local manufacturing of cleaner production equipment along with other emerging environmental technologies. However, in the interim period the Ministry should advocate policies that ensure low prices for imported cleaner production equipment.
- Pilot projects that help demonstrate costs and benefits of private investment in cleaner production technologies, e.g., CO<sub>2</sub> recovery, should be initiated as part of awareness raising campaigns. Similarly, awareness raising seminars and training programs should also be used to harness full benefits of cleaner production programs.
- A policy for cleaner production needs to be devised that offers tax incentives and tax rebates to compliant firms and to firms who want to establish Effluent

Treatment Plants. These incentives should also apply to those who get ISO 14001 certifications.

- Offer tax incentives to encourage private sector to set up quality testing and certification laboratory facilities in all sectors, especially those relating to textiles, sugar, leather and pulp and paper sectors.
- Allocate funds for next ten years to set up well designed landfill sites for disposal of hazardous and non-hazardous industrial solid waste and installation of Hi-tech incinerators.
- The existing National Environmental Quality Standards (NEQS) were developed in isolation without consulting all the stakeholders. That is the reason why these Standards are non-productive and hard to implement in their present form. There is a need to revise the NEQS in consultation with all the stakeholders. The new NEQS should be industry/sector specific and should be based on the ground realities.

## VII - SECTORAL REFORMS

A key component of the 2010 industrial policy comprises increasing the global competitiveness of various significant sectors in the country. In formulating sector level policies, four considerations have been important. First, needs to focus on dynamic comparative advantage, or competitive advantage, rather than sticking to the restrictive notion of static comparative advantage. In other words, Pakistan should not keep supporting only industries where it has a resource advantage (e.g., textiles) but broaden its support to span sectors where it can develop a competitive advantage based on capabilities. In industries with resource-advantages, value-addition must be the goal. Second, Pakistan must invest in ramping up for industries where it is likely to grab global market share. These are industries where either production has become too costly for more developed competitors, or industries where the knowledge gap is not prohibitively large (e.g., industries where knowledge, technology or components are no longer proprietary). Pakistan will have to quickly move into the sectors where gaps are appearing in global value chains. Third, Pakistan needs to take measures to enable local enterprises to exploit all potential local demand, in particular focusing on industries where large demand exists domestically<sup>4</sup>. Finally, in order to boost export competitiveness, a key strategy needs to be 'outward foreign direct investment'. This involves plugging value chain gaps (e.g., absence of R&D or branding knowledge) by buying assets abroad.

Apart from value-added sectors, policies are also provided for three primary/ancillary sectors (steel, chemical and fertiliser). The role of State Owned Enterprises in sectors such as steel are strongly supported. Furthermore, these sectors are extremely important as they support a wide range of downstream industries. In addition, the sectoral analysis also covers a large list of value added sectors some of which are critical for exports while

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<sup>4</sup> It is now established that securing the domestic market gives local firms the platform from where export competitive products can be launched. Furthermore, research has shown that " 'national' ownership to secure the home market (defined by majority stock ownership and directorships) has become more critical over time for five reasons: Without national enterprise, the illegality of local content regulations under WTO law is binding, outward foreign direct investment is implausible, out-sourcing for developed countries is untenable, establishing brand names is impossible, and reversing brain drain of the top national talent is less likely."

some supply to the domestic economy. The policy recommendations covering the primary/ancillary industry aim at building capacity in these sectors to meet the input requirements of the value added sectors.

To follow through with the process of sector level dialogue that has been started we recommend the formulation of dedicated taskforces for particular sectors. These sector groups should be tasked with the development of sector specific action plans in line with the broad policies proposed as well as the specific recommendations provided below.

## SECURING THE INPUT NEEDS OF THE VALUE ADDED INDUSTRY

### A. Development of Steel Industry

It is next to impossible for Pakistan's industry to become competitive without a reliable steel production base. Unfortunately, while Pakistan has an abundance of iron ore, local steel production has not kept pace with increasing demand. For this reason, Pakistan has become increasingly reliant on steel imports, exposing the economy to exogenous shocks. The problem of an increasing production deficit is further compounded by power shortages, poor infrastructure, outdated equipment, and shortage of skilled human resource. Pakistan's policy on steel is to decrease reliance on imports and develop indigenous steel industry.

**For this purpose, it is proposed that the government should:**

- Triple the capacity of the PSM over the next 5 years to make it economically viable. The government will take steps to attract investment into enhancing PSM's capacity to 3 million tonnes.
- Incentivize further steel production with a goal of producing 8 million tonnes of steel indigenously by 2015 by establishing an industrial park. This park will be given priority in terms of power, gas and financing. The park will also contain facilities for foreign experts, whose visits will be sponsored by the government.

- Invest in the enhancement of existing knowledge resources. For this a steel and metallurgy institute will be set up in conjunction with the PSM, universities and downstream industries.
- Re-evaluate the impact on overall industry and the basis on which FATA was allowed tax exemptions on running steel furnaces.

## B. Chemical Industry

Chemicals are one of the primary raw materials for manufacturing, contributing to all manufacturing sub-sectors, including pharmaceuticals, automobiles, textiles, furniture, paint, paper, electronics, construction and appliances. The unavailability of an integrated Petrochemical complex with a Naphtha cracking facility has constrained the growth of downstream industries especially synthetic textiles, paints, pharmaceutical, and packaging, making them dependent on costly imports. The annual import cost of raw material and finished chemical products comes to nearly \$4billion/year.

**In light of this situation, the government should take the following immediate steps:**

- Begin groundwork for the establishment of a petrochemical complex in Hub. This complex should include a refinery, a naphtha cracking facility, and facilities for manufacturing of certain petrochemicals for which demand has been ascertained. Hub is a suitable location because Byco (formerly Bosicor) refinery is already located in the area and another refinery project is proposed at that location. After expansion Byco will be the largest refinery in the country while National Refinery and Pakistan Refinery are located nearby in Karachi. This will provide easy access to Naphtha and reduce transportation costs. This will have to be a public-private partnership given the magnitude of investment involved. The textile industry will be a major beneficiary of this initiative. Despite extensive BMR, the industry appears to have shifted down the value-chain in the past few years, with many value-added units closing down. Also, while the world has moved to MMF-based textiles, Pakistan has remained

hugely dependent on cotton-based textiles. The establishment of a Naphtha cracking facility should greatly boost the downstream development of MMF-based textiles, technical textiles, and facilitate the processing sector which is hugely dependent on imported chemicals.

- In order to proceed with the above initiatives, we recommend that the chemical industry be brought under the purview of MoIP rather than the Ministry of Textiles, where it is currently housed.
- The Petrochemical plant should be a government led, economically viable project with equity from private investors. In order to make it feasible, maximum duties will have to be imposed on all chemical-related end products, as soon as the facility starts production.

## C. Fertilizer Industry

While the fertilizer industry has done well to meet the extensive domestic demand, the current NPK mix is now seen to be leading to lower average crop yield as compared to other countries. Furthermore, with an increasing gap in supply and demand for gas, future viability of our primarily gas-based plants is threatened.

**In view of this, the government should:**

- Incentivize industry to add capacity in production of DAP. This will correct the current NPK mix.
- Conduct energy audits of fertilizer manufacturing plants to assess their energy efficiency, and vary their gas subsidy based on their efficiency.
- Incentivize fertilizer plants to invest in alternate modes of energy production.
- Explore the feasibility of coal as alternate feedstock.

### A. Auto Sector & Farm Machinery

Until 2006 a deletion program was followed in the Auto industry. Due to some structural reasons as well as poor governance leading to smuggling and under-invoicing, the deletion program could not be as successful as one would have hoped. Indeed, by many accounts after many years, with a few exceptions, major OEMs have achieved less than 40% local content. This too is in components that are inherently difficult to import (e.g., seats, batteries, tyres etc). Moreover, transfer pricing where it occurs acts as a disincentive to produce locally. Where the auto industry has localized, it has yielded highly favourable results generating almost 200,000 jobs and an extensive vendor industry. Several parts are now produced competitively within the country, and in some areas we are ideally poised to even export. However, a few barriers continue to prevent this industry from growing further.

**In view of these, we propose the following:**

- Strictly enforce the Tariff-based System (TBS) which is officially in use, but effectively in abeyance. This is absolutely crucial. In the absence of effective monitoring, the progress of local auto industry will be severely impeded.
- Revise the indices that are still quoted for parts deletion. These are not based on international prices and are misleading. New indices need to be based on international prices of respective components, and the TBS needs to be brought in line with these.
- Transfer pricing severely impedes the development of a local market, and benefits parent companies of OEMs. While Pakistan officially has an 'arm's length' rule in effect, it is very weak. Application of the arm's length principle by FBR needs to be considerably strengthened.
- Granting of Pakistan-specific licenses for assembly restrict the export potential of OEMs in parts of the industry where high levels of deletion have been

achieved. The government needs to take remedial steps to eliminate this constraint. In this regard, priority will be given to three sectors: two-wheelers, three-wheelers and tractors. These are the sectors where most deletion or indigenization has been achieved, and these are poised for international growth. Starting with these sectors, the government will a) complete deletion fully, b) facilitate the acquisition of foreign brands and c) facilitate the establishment of joint ventures where such restrictions are not in force.

- For the sectors identified above (2-wheelers, 3-wheelers and tractors) the government should engage immediately in outward FDI. This will involve purchasing small firms abroad with requisite R&D capabilities that can be shared with Pakistani manufacturers, as well as those with known brand names in these markets.
- Any firms completing full deletion and operating under locally owned brands (including that purchased through outward FDI) should get a subsidy on mark-up.
- Establishment of Clusters: Three different clusters should be organized within the Auto and Farm Machinery sectors. Two automobile clusters should be located in Lahore (Sheikhupura Road, near Motorway) and Karachi (near Port Qasim). These will cater to cars, motor cycles and three wheelers. Furthermore, a Tractor and Farm machinery cluster should be located in Daska (near Gujranwala).
- In order to facilitate deletion, and develop local parts based on global standards, an Auto Design Institute will be established in conjunction with NED University. All OEMs will be required to collectively sponsor this Institute, and transfer technology through this initiative to vendors. The government should sponsor foreign consultants to come and stay at the Institute for the next two years, within which the Institute should complete full localization.
- Indigenization and development of local industry has suffered in the past whenever fully made up cars (whether as cabs or otherwise) have been imported. This practice should not be allowed in the future.

## B. Electronics

Despite being one of the most critical sectors, electronics industry has not been able to develop in Pakistan. There is hardly any indigenization and most activity is based around assembly, or simply retailing. Since electronics are now part of most industries, including textile machinery, auto, home appliances, computers, mobile phones, etc., it is imperative that Pakistan take significant strides in this industry. Given our infrastructure, however, we believe that it would be very difficult for us to go directly into manufacturing of components. It would be more prudent for Pakistan to develop capabilities in system design instead. This is the model India has followed. System design involves innovation in architecture and function. Using mostly off-the-shelf components, entrepreneurs innovate to create new designs. In due course of time, manufacturing of Printed Circuit Boards and other components follows.

### **We propose the following in this regard:**

- New courses in systems design must be initiated across engineering universities around the country. These course need to be designed jointly by faculty and industry experts.
- In order to kick start this process, the government should initiate a series of workshops open to related entrepreneurs, faculty and business people. Foreign experts should be invited to conduct these hands-on design workshops.
- The government should also identify other mechanisms to transfer design skills to Pakistan.
- The government should assist electronics firms in purchasing undervalued international firms that have R&D and branding assets and capabilities.
- Where there is demand of a particular electronics item, e.g., energy savers, the government should first look to local parties. If a part can be manufactured at home, local vendors should be preferred.
- As a matter of priority, the government should facilitate anyone who wishes to initiate manufacturing of Printed Circuit Boards in the country.

- EME College should be given a grant to establish an internationally accredited design, testing and certification institute.
- The government will also match any investment geared at acquisition of modern and emerging electronic technologies.

## C. Pharmaceutical

The size of the local pharmaceutical market is around \$ 1.5 billion. The local manufactures comprise 60% of this share and the multinationals account for the remaining. Over the recent years, the local industry has experienced impressive growth (double digit) as compared to multinationals in the local market. This said the potential in this market is huge. The market size can easily increase to US\$2.5 billion in Pakistan as incomes increase and the health expenditure as percentage of GDP increases (currently 1% - US\$7/8 per capita spending). The industry is currently struggling due to lack of chemical industry in the country, poor governance, lack of compliance with standards and electricity shortages. In addition, the industry also complains that strict regulatory control on prices of about 900 active ingredients creates distortion in the market and impedes effective supply to end consumers.

### **For further growth of the sector the following policies are recommended:**

- Prices should not be regulated for drugs whose markets are competitive or monopolistically competitive. Price regulation should only be there in the case of a monopoly or collusive oligopolistic behaviour.
- Allow duty free imports of all APIs (active pharmaceuticals ingredients) and machinery for both domestic and export markets - However, this benefit should be lifted as the domestic industry picks up and protection should be provided for WHO pre-qualified APIs manufactured locally.
- All locally purchased items like packaging material, etc. should be exempted from sales tax.

- The government should share mark-up cost on loans and allow investment adjustment against future taxes for putting up international standard manufacturing facilities targeting the pharmaceutical markets of the US, UK, Australia, Japan and also those in developing countries.
- Provide incentives such as tax breaks for carrying out R&D on molecules and all ancillary activities like setting up CROs (Contract / Clinical Research Organisations) subject to meeting certain targets.
- Incentives should be provided for new start-ups in Bio-technology.
- The government should provide tax breaks for setting-up internationally certified bioequivalence / bioavailability labs, local manufacturing / fabrication of machines and other hardware.
- Allow long-term subcontracting with drug manufacturers as opposed to 2 years as per the current rules.
- Ensure internationally acceptable manufacturing quality standards / (Good Manufacturing Practises) CGMP compliance in both the local and multinational manufacturing companies in the country
- Ensure continuous power supply to the pharmaceutical manufacturing to ensure international GMP compliance of maintaining the required levels of temperature control. This will not only ensure high quality of the locally produced medicines but will also make the industry competitive internationally.

## D. Fan Industry

Gujrat and Gujranwala, two important SME clusters, are home to 98% of the country's fan industry. The cluster houses around 500 SMEs, of which 300 are based in Gujrat and the rest in Gujranwala. The sector employs over fifteen thousand workers. However, employment is seasonal as most factories operate only for five to six months during the year. The industry produces on average 8 million fans a year with an estimated value of Rs 17 billion. Over the last four years exports from the sector have increased by about 120% to around US\$30 million. This number is expected to rise further. The sector currently faces several issues such as

low levels of productivity due to small scale of enterprises and lack of mechanisation as a consequence of years of little or no investment in the sector. There is difficulty in getting adequately trained manpower due to seasonal demand for fans and absence of training programs. Lack of R&D and design innovation and the inability to meet changed market demand, e.g., for energy efficient fans, has greatly impeded the extent of current penetration in high income markets. Finally, the inconsistent quality has made it difficult for the sector to comply with international quality standards, resulting in an inability to export to high-income markets.

**To address the issues highlighted above the government should:**

- Create awareness and facilitate common branding and consortium-building of companies to benefit from scale economies. National Productivity Organisation (NPO) will support the cluster actors to develop standardised parts and move towards common production and sourcing.
- Strongly advocate to State Bank to ensure effective implementation of initiatives provided for SME financing at reduced mark ups.
- Strongly advocate with State Bank and commercial banks to ensure availability and utilisation of long term project financing and technology upgradation. Share mark up costs for technology upgradation.
- Provide funding to Fan Development Institute to upgrade machinery at the common facility centre.
- The government should assist fan manufacturers in purchasing undervalued international firms that have R&D and branding assets and capabilities.
- Establish training facility by supporting TEVTA and FDI under PPP arrangements to provide labour training on modern machines.
- Establish a centre of fan engineering and designing at the University of Gujrat.
- Work with Pakistan Electric Fan Manufacturing Association (PEFMA) to develop domestic standards for fan manufacturing. The standards will be enforced and monitored by PSQCA.
- Share costs to meet compliance with international requirements such as CE Marking, UL Marking, etc.

- The government should facilitate joint ventures with foreign companies and ensure technology transfer.

## E. Cutlery, Utensils and Hunting Equipment

Wazirabad is one of the oldest SME clusters producing fine-quality handmade swords, knives, cutlery, utensils and hunting equipment. The other cluster is based around Dir in KP. The total production of the sector is around 6.5 million pieces. The sector is suffering heavily from the increased cost of production due to non-availability of electricity. An average-sized factory obtaining electricity from WAPDA will consume electricity worth approximately Rs100,000/month. However, the reliance on self generation can as much as triple the monthly cost. The products are also losing international market share due to lack of research and development. There has not only been a continuous decline in the level of skills of workers but also a gradual fall in the number of workers entering the sector. There is an absence of a Cutlery/Sword specific training centre in the cluster. Although the products are of relatively high quality they are unable to fetch high prices due to a lack of branding and marketing. Finally, lack of investment has caused the industry to stagnate and has left it with outdated production processes and lower productivity. The government realising the potential of this sector has already established a national representative body namely the Pakistan Hunting Arms Development Company (PHADC).

### **To enhance the competitiveness of the sector the government should:**

- Continue to support the initiatives of the PHADC and ensure that the initiatives carried out by PHADC are balanced in regional representation.
- Regularly monitor the performance of the PHADC against established targets and goals to ensure that the company delivers to the needs of the sector.
- Finance joint projects between University of Gujrat and Pakistan Cutlery Association to work on research and development of newer metals required for the industry.

- Advocate with provincial government to ensure that TEVTA's service centre in Wazirabad also offers skill training specifically for the cutlery and swords industry.
- Share mark up costs of technology upgradation conditional on companies meeting set export requirements.
- Provide support to PSQCA to work with the sector associations to develop a set of core standards, especially relating to the use of materials and their quality.
- The government should assist firms from this sector in purchasing undervalued international firms that have R&D and branding assets and capabilities.
- Advocate with State Bank and commercial banks to ensure availability and utilisation of long term financing.
- Advocate with TEVTA Punjab to fully operationalise their cutlery common facility centre.
- Engage Pakistan International Freight Forwarders Association (PIFFA) to run export training programmes in Wazirabad and work with the sector association to run training programmes on business processes, business English, etc.

## F. Horticulture-Processing

Pakistan is endowed with a diverse range of fruits and vegetables. Citrus, mango and dates from Punjab, mango and dates from Sindh, cherries, strawberries, peaches, plums and apricots from the Khyber Pakhtunkhwa, and, dates, apricots, peaches and plums from Balochistan, have a large domestic market and also a growing export market. The country produces 2.2 million tonnes of citrus, 1.7 million tonnes of mango, 0.7 million tonnes of dates and around 0.6 million tonnes of apricots, peaches and plums. The agro-processing industry is affected by seasonal products and fruit quality. The industry shies away from value added business in horticulture due to coarse market links between the growers/fruit marketers and industry. Due to product seasonality the price of the fruit varies significantly and so does the quality. Owing to the risk of non-availability of raw fruit (fresh or frozen), the value addition industry feels hampered in making investments. In addition, even after several efforts made by the government and the private sector, quality and compliance infrastructure is still inadequate.

Furthermore, a significant amount of fruit in Balochistan, Sindh and KP is going to waste due to adverse conditions with processing plants lying idle and capital stock depleting.

**In order to assist the sector the government should:**

- Keep on supporting PHDEC to improve awareness on quality and compliance (establish PAKGAP Standards) and up-gradation of cool chain infrastructure and also to advocate with the provincial governments to strengthen their strategic support to upgrade the horticulture sector in meeting quality, compliance and certification requirements. The provincial government departments responsible for markets are to be requested to further facilitate linkage between the value-added sector and fresh fruit markets.
- Incentivise local manufacturing of juicing and pulping equipment by providing technical information and support from research centres such as Ayub Reserach Institute, Faisalabad.
- Strengthen PSQCA's enforcement capacity to ban / fine all illegal / counterfeit juice suppliers in the market.
- Provide special time bound incentives to initiate a support plan to restart business activity in war stricken areas. Special horticulture processing and value added zones should be developed in interior Sindh, Balochistan, KP and Southern Punjab. Land should be provided on attractive terms. The zones should be declared exempt from all taxes and duties, however a target employment for each zone must be set to qualify for this exemption.
- Develop seven clusters in the agro-sector including dairy cluster in Sahiwal, Pak Pattan and Okara; Citrus cluster in Sargodha; Mango cluster in Multan and Mirpur Khas; exotic fruit cluster in Swat; dates cluster in Sukkur/Khairpur and exotic fruit and apricot drying cluster in Gilgit.
- The government should assist horticulture firms in purchasing undervalued international firms that have branding assets and capabilities.

## G. Surgical Instruments Sector

Surgical instrument sector is one of the critical export clusters based predominantly in Sialkot. There are over 2,400 units involved in production of surgical instruments. The major impediments faced by the sector include declining levels of skill and workforce, limited designing and innovation capacity, extremely limited branding in international markets and lack of proper testing and certification infrastructure.

**In order to improve the growth performance of the surgical sector the government should:**

- Establish a Surgical training school in Sialkot. This will train workers not only in the basic skills but will create an educated workforce which understands the nature of the product. This is imperative given the fact that as quality standards and compliance regimes get tougher worldwide the workforce will have to understand the requirements of these standards.
- Upgrade / Establish laboratory in Sialkot to provide surgical instrument specific testing and conformity assessment certifications. Under new WHO regulations the industry will soon have to make a change in their polishing and cleaning techniques. The industry will have to shift from chemical to water based cleaning and polishing systems. This shift will increase costs and also change the testing and certification requirements. A laboratory is required that can test for sterilisation, chemical presence, etc. The government working with the sector will either upgrade the Surgical Association Laboratory or will extend more support to the laboratory being established by the Punjab Government.
- Facilitate via foreign offices for local companies to acquire international brands.
- Support development of steel industry which is the primary input into surgical industry.
- Establish an excellence centre for instrument design and innovation in medical device industry.
- The government should assist surgical manufacturers in purchasing undervalued international brands in this sector.

- Launch a sector competitiveness project executed by NPO.

## H. Sports Goods

Sports Goods industry is another historic cluster based around the city of Sialkot. The sector, although extremely critical for Pakistan's exports, is characterised by low capital per worker and a poor ratio of skilled to unskilled workers. The key weakness of this sector is chronically insufficient investment, which makes it difficult for the industry to adapt technologically to keep pace with changes in the international demand for sports goods. The largest single export item from Sialkot is inflatable soccer balls. Over the last two years, Pakistan's exports of this item have dropped from \$226 million to \$160 million, while world exports have increased from \$984 million to \$1.15 billion. The reason for this is a shift in technology, as the world's demand for soccer balls has moved to thermo-bonded and machine-stitched balls. If this trend continues, the one-time prime export of Sialkot (soccer balls) faces extinction. This, in fact, was the fate that befell the rackets industry. Other issues include inadequate availability of newer materials, deficiency in product development and design, testing and certification including social compliance and inadequate work force development. The government realising the potential of this sector has already funded a competitiveness exercise for the sector.

### **The government should:**

- Continue to support the ongoing competitiveness initiative being managed by SMEDA and agree to fund the initiatives that will be identified as a result of this exercise.
- Establish a sports good sector company with broad base representation of the private sector. This company will implement the sector competitiveness strategy developed with support from SMEDA.
- Operationalise the Sports Industries Development Centre being established in Sialkot.
- Support development of a material bank in partnership with the private sector to facilitate development of newer products.

- Facilitate establishment of strong linkages of the sector with NED Karachi, Gujrat University and Loughborough University to work on product and design development.
- Assist sporting goods manufacturers in purchasing undervalued international firms that have R&D and branding assets and capabilities.
- Advocate with the provincial government to complete its Sports Goods testing laboratory project on a priority basis.
- Provide targeted tax benefits for companies diversifying into more competitive products such as golf equipment. The credits will be conditional development and exports of these products.

## I. Ceramics

The ceramics industry which is primarily located in Gujranwala and Gujrat has made significant progress over the last few years. The industry has been able to penetrate export markets and also supply to an increasing local demand. The critical issue faced by the industry at the moment is the uncertain electricity load shedding which severely impacts productivity. The heating kilns in the industry need continuous electricity for maximum efficiency. Moreover, the sector lacks availability of skilled workers and formal training facilities. The export market growth is also hampered by limited design and product development capacity. Finally, the sector has limited marketing and branding capacity and weak links in export markets.

### **To invigorate the potential of this sector the government should:**

- Strongly recommend that the Ceramics Industry be provided continuous electricity for 10 months during the year in lieu of complete shut down for two months
- Ensure that the ceramics centre established in Gujranwala focuses on product design and development and offers training courses specifically for the ceramics sector.

- Support Identification of international buyer clusters of ceramics and facilitate international market access through TDAP.
- Assist ceramics firms in purchasing international firms that have marketing and branding assets and capabilities.

## J. Furniture

- Furniture is a critical industry serving both the domestic and international consumers. The industry is mostly located around Lahore, Karachi, Peshawar, Chiniot and Gujrat. The government realising the importance of the sector conducted a detailed competitiveness analysis of the sector. Issues identified during this exercise included: (i) shortage of Sheesham and other wood resources; (ii) low productivity and low value added; (iii) issues with quality of the wood processing especially drying of wood and; (iv) inadequate availability of furniture accessories. To address these issues the government established a Section 42 company “Furniture Pakistan”. This company has now established its office in Lahore and is working on the implementation of strategic recommendations developed by the sector.

### **The government should:**

- Keep supporting the ‘Furniture Pakistan’ initiative and provide funding for implementation of strategic actions developed by the furniture sector.
- On priority basis ensure provision of solar kilns for wood drying in Karachi, Chiniot, Peshawar, Lahore and Gujrat.
- Ensure early completion of common facility centers for product development and training facilities in Karachi, Chiniot and Peshawar.
- Allow duty free import of low cost woods and alternative material for furniture manufacturing.
- Support establishment and implementation of domestic quality standards for furniture.
- Assist furniture firms in purchasing international firms that have marketing and branding assets and capabilities.

## K. Leather & Leather Products

The leather sector of Pakistan is one of the oldest sectors with an established share in world market for tanned leather, leather garments and leather gloves. In 2008-09 the industry exports exceeded the US\$ 1 billion mark. Realising the importance of this sector, the government initiated a leather sector competitiveness project to address the issues of worker training, product development, quality compliance, environmental compliance, marketing and branding. A detailed strategy was developed by taking input from all four sub-sectors of the leather industry: (i) tanning; (ii) garments; (iii) footwear & accessories; and (iv) gloves.

### **The government should:**

- Establish the Pakistan Leather Development Council (PLDC). This should be a section 42 company and should act as the representative body of the entire sector.
- Ensure appropriate funding is provided for the implementation of the PC-1 developed for implementation of strategic initiatives under PLDC.
- Work with University of Veterinary and Agricultural Sciences to improve quality and quantity of livestock.
- Incentivise establishment of modern abattoirs and allow duty free import of flaying machines.
- Reduce duty on Bulk Chemicals to 5%.
- Allow free import at 0-5% for 3 years to acquire tanning plants and machinery from international locations where tanning industry is closing due to higher costs or environmental compliance.
- Provide matching grant for establishing Effluent treatment plants.
- Take immediate steps to stop smuggling of live animals.
- Establish design centres and glove development institute.
- Assist in creating linkages with international design centres and also incentivise development of local centres of design excellence.

- Develop a footwear development institute and link it with design centre at Pakistan Institute of Fashion Designs.
- Promote Charsadda Chappal by registering it as Geographical Indicator.
- Ensure that announced tanning zones in Karachi and Sialkot are operationalised.
- Ensure footwear parks are established at Muridke and Charsadda. It will be ensured that the land is available at viable rates.
- Assist leather apparel manufacturers in purchasing international firms that have marketing and branding assets and capabilities.

## L. Gems & Jewellery:

Despite its abundant reserves of precious and semi-precious gemstones and rich history of jewellery manufacturing, Pakistan has been unable to develop an internationally competitive gems and jewellery industry. Pakistan can capitalize on its vast natural resources, low labour costs, skilled craftsmen and a growing national and international demand. Seeing this opportunity, the Government initiated a sector level competitiveness project to upgrade the gems and jewellery sector of Pakistan. As a result of this initiative the government established the Pakistan Gems and Jewellery Development Company.

### **The government should:**

- Continue to support the initiatives launched by the Pakistan Gems and Jewellery Company. Funding should also be provided for agreed projects.
- Regularly monitor the performance of the company against established targets and goals to ensure that the company delivers to the needs of the sector.
- Assist local brands in internationalization.

## M. Marble & Granite

Marble and Granite industry of Pakistan is still in its infancy stage. The industry suffered heavily in the past due to poor blasting techniques and outdated quarrying technologies of marble and stone extraction. The blasting techniques of extraction wasted around 85% of the raw marble and also severely damaged the quality of marble. Realising the potential of the industry the Government initiated a marble sector competitiveness project. The work done under the project identified the poor quality and techniques of quarrying as the major impediment for the development of the sector. In order to assist the sector move up the value chain the government established the Pakistan Stone Development Company (PSDC) with the short term goal of upgrading and establishing new quarries for extraction of square blocks. PSDC has turned out to be one of the success stories of government intervention and now square blocks are being extracted which has improved the quality, productivity and value of the marble.

### **The government should:**

- Keep on supporting PSDC and ensure funding is provided for all planned strategic interventions.
- Establish seven more model quarries in identified areas of Balochistan and KP.
- Support up-gradation of existing quarries.
- Enhance the common machinery pool for extraction of square blocks.
- Operationalise the planned marble cities at Risalpur and Karachi and provide requisite infrastructure in partnership with the provincial governments.
- Fund establishment of common facility and training centres at Gadani, Risalpur, FATA and Karachi.
- Regularly monitor the performance of the company against established targets and goals to ensure the company delivers to the needs of the sector.
- Support the internationalization of local brands by purchasing Italian firms that have marketing and branding assets and capabilities and/or assisting with the development of local brands.

## N. Agriculture Implements

The agriculture implements (excluding tractors and tractor parts) industry of Pakistan consists of a large number of micro and small scale manufacturers throughout the country. Most of these entities operate out of their back yards and small workshops with outsourcing for components to other small scale operators. The manufacturers are clustered in and around Daska, Faisalabad, Okara and Mian Channu. Due to years of operating in the informal sector and lack of investment has resulted in outdated production assets and technology. The workforce is largely without any formal training, however, they are rich in innate abilities and raw skills. As peculiar in the informal sector, the management skills are weak. The manufacturing processes are mostly based on reverse engineering and hit and trial methods. This limits the design and engineering capacity and also results in high wastage. The production is not standardized which on one hand offers the benefit of flexible production but on the other hand limits the advantages of scale economies. Finance is also a critical impediment impeding growth of the sector. Against all these odds, the industry has done well in meeting a large local demand and in accessing international markets. The equipment manufactured in Pakistan is currently being exported to Afghanistan and in small quantities to Africa.

**To ignite the potential of the sector the government should:**

- Establish a design & innovation and training centre in Daska to provide technical skills and to help the sector move towards product standardization. The centre should also be provided with funding to develop a common facility centre.
- SMEDA and PSQCA should facilitate businesses putting up new production lines to shift towards standardized common parts on large scale required by the agriculture implements industry.
- Ensure that NPO conducts a productivity benchmarking for the sector and impart training on lean production methods.

- Support equitable business partnerships through the design & innovation enabling the developer of a new product to partner with investors for putting up large commercial units.
- Assist leading firms in this sector with development of domestic and international brands.
- Establish and strengthen a national association for agriculture implements and help them establish national sales centres especially in remote areas.
- Advocate with the State Bank of Pakistan to design both short term and long term credit schemes based on the requirements of the sector.

## O. Home Appliances

The domestic home appliance engineering industry consists of medium to large size units in organized sector with enough managerial capacity. The main products include refrigerators, freezers, air conditioners and washing machines. Most of the manufacturing is done through assembly relying on imported CKD/SKD kits. The critical issue facing the sector is the inability to add greater value during assembly.

### **To help the sector add more value the government should:**

- Establish CAD-CAM designing facility to develop new product designs, improve quality and bring standardization in production parts.
- Support provision of market information and linkages with international design houses to assist the sector add value through design innovation.
- Explore possibility of increasing the potential of intra-industry trade within South Asia region.
- Share cost of compliance with international standards such as ISO, CE, UL and other such marks conditional on companies meeting their export targets.
- Ensure that NPO conducts a productivity benchmarking for the sector and impart training on lean production methods.
- Assist home appliance manufacturers in purchasing international firms that have R&D, marketing and branding assets and capabilities.

## P. Iron & Steel Pipes and Tubes

Iron & Steel pipe and tube industry in Pakistan produces a large range of products from cast iron, galvanised iron pipes, cold rolled tubes, square Cathode Ray tubes, rectangular CR tubes, elliptical CR tubes, API line pipes, black pipes, structural pipes and spiral welded pipes. In seamless tube category the industry produces heat exchange tubes, pressure tubes, boiler tubes, low temperature service tubes, precision shaft tubes, linked tubes, etc. as per international standards. The sector is sharply fragmented with a few large scale corporate units having sufficient managerial, technological and financial capability and several medium and small scale manufacturers. The industry needs to expand its production capacities to produce enough exportable surpluses for growth in exports. This will require small and medium scale firms upgrading their product range, increasing their scale and becoming compliant with international quality standards. Moreover, the current strength of the industry is in producing large diameter pipes, which attract prohibitive cost of freights and cannot be exported to far distance markets as they cannot remain price competitive. The government will have to facilitate the sector in moving into innovative products that are more competitive globally.

### **The government should:**

- Share the mark up costs of small scale producers expanding their production facilities to enhance their product mix.
- Provide technical support to companies through PSQCA in improving quality, standardisation and compliance requirements.
- Provide support to PSQCA to establish domestic standards of quality and standardize product range.
- Improve the logistical facilities and advocate for cost efficient freight services on long routes.
- Establish a product design and development centre to facilitate innovation in the sector. This centre will also provide common facilities for manufacturers.
- Ensure that NPO conducts a productivity benchmarking for the sector and impart training on lean production methods.

## Q.Pumps

The pump manufacturing is dominated by an unorganized SME sector. The industry is concentrated and clustered in and around Karachi, Lahore, Gujranwala and Faisalabad. There are about 70 registered and relatively organized units. The number of unregistered and unorganized units is estimated to be over 500. This number also includes indirectly involved businesses of vendors supplying to manufacturers operating at medium, small and micro level. The industry has been experiencing falling competitiveness in spite of the rise in product prices. This is attributed to be rising production costs, high prices of raw materials and a cut throat competition through price cutting in the domestic market. The other issues impeding the growth of the sector include unskilled labour, outdated technology and lack of coordination with support agencies. Lack of standardization and quality control has also halted the growth potential of the sector, especially in the export markets. Limited investments have generally resulted in low scales of production, a weak product mix and a general dependence on obsolete designs and quality.

**In order to improve the competitiveness of the sector the government should:**

- Develop local quality and product standards to shift production towards better quality and standardized products. This will be done in consultation with the sector.
- Share cost of complying with established quality standards.
- Establish a centre of excellence in Gujranwala to work on design development, quality improvement and standardization of products.
- Ensure that NPO conducts a productivity benchmarking for the sector and impart training on lean production methods.

## R. Electrical Fittings

The electrical fittings manufacturers are concentrated in Sargodha (70%), Lahore (20%) and Karachi (10%). There are around 20 small scale units, around 200 small workshops and around 1,000 manufacturers in cottage sector. The total estimated monthly production is nearly 10 million pieces of various fittings per month. The sector faces acute competition from import of similar goods from China. The critical impediment to growth in the sector is its inability to meet the quality and standards requirements. The quality of these fittings is extremely poor and in most cases the durability is not beyond few weeks. In addition, the design and shapes vary significantly making most fittings not suitable for use with majority of electric equipment.

**To improve product quality in the sector the government should:**

- Establish a product design centre and testing facility in Sargodha that should also be responsible for defining national standards on quality, design, shape and durability. The design centre should over time refine domestic standards to become in line with international standards such as CE mark.
- Ensure strict compliance with these domestic standards and ban sale of non-compliant goods in the domestic market.
- SMEDA and PSQCA should support companies upgrading their products to comply with defined standards.

## S. Steel Structures/Towers

Pakistan steel structures industry produces towers for electricity transmission and towers to support telecom operations (fixed line as well as cellular). A number of companies are manufacturing standardized towers and other structures for this purpose. There are around 10 units operating in the organized sector. They manufacture steel structures using design drawings and use the required quality of steel as per specifications. Exporting steel towers to African countries offer significant potential. However, steel towers cannot be exported in assembled form and need to be assembled on site. Therefore, the prospective exporters need to

establish a business of installation of structures in the country of import or establish partnership with an installation company which can market their products as well as undertake installation. Unless, this relationship is established, export may not become possible.

**The government should:**

- Share cost and facilitate through the foreign office the companies establishing installation facilities in export markets and should facilitate/coordinate these efforts through foreign office support.
- Conduct detailed market studies to provide a marketing strategy for the sector.

## T. Prefabricated Buildings

Prefabricated buildings industry has recently picked up momentum in Pakistan. These buildings are increasingly being used as grain storage silos, sheds, industrial applications, commercial activities & warehousing and hospitals/ schools/ emergency housing in disaster hit areas. It is a critical support sector to develop low cost industrial sheds and housing. The critical challenge faced by the sector is lack of awareness in using these prefabricated buildings in the market.

**To further build on the recent success the government should:**

- Advocate the use of pre-fabricated buildings in all government schemes of low cost housing and infrastructure projects where applicable.

## U. Fisheries

The Pakistan fish and seafood industry is worth \$1.2 billion with exports of fish and fish products from Pakistan reaching \$213 million per annum. There are around 800,000 people relying for their livelihood on the sector. The seafood industry is currently facing two critical issues (i) depleting fish stock and (ii) poor quality control and inadequate hygiene measure which result in the value of the catch not being maximized and also results in high levels of wastage.

**In order to facilitate the sector the government should:**

- Create awareness on SPS, health and safety standards that are required to comply with international requirements.
- Invest in expansion of the existing laboratory infrastructure to provide testing and certification facilities acceptable to destination markets
- Provide financial support to revamp fish jetties at Gadani, Dam, Pasni and Jewani.
- Ensure provision of facilities such as landing stations/jetties/port along Makran coast in partnership with the provincial government of Balochistan.
- Support Korangi Seafood processing companies in developing traceability system for smoked, canned, fresh and frozen fish products.

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## VIII. IMPLEMENTATION

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Industrial policy is an endeavour and a process that cuts across existing boundaries within the Pakistani state machinery. It requires close coordination between departments and ministries responsible for finances, banking matters, commerce and trade, science and technology, privatization commission and a few others. At the same time, it is a national undertaking which requires the support of industry, bureaucracy and other stakeholders.

It is extremely difficult to pursue a coherent and comprehensive industrial policy in the absence of effective coordination between different arms of the government. Principal impediments to coordination are departmental or ministerial boundaries. Over time, several ministries have been born, which have only served to increase transaction costs across ministries, and made it much more difficult to implement any national policy, which cuts across these boundaries. While it makes sense for some ministries (e.g., foreign ministry and home ministry) to be separate because they have infrequent exchanges, there are other government departments which should be housed under one roof. These are departments that have frequent exchanges and much greater interdependence. In this context, we would like to propose that the following departments be merged into the Ministry of Industries: Ministry of Science and Technology; Ministry of Commerce; Board of Investment; Ministry of Textiles; and Ministry of Special Initiatives. It shouldn't come as a surprise that post-WWII Japan's development was led by one ministry: Ministry of International Trade and Industry.

Within such an enhanced and strengthened Ministry of Industries, we still need a core organization, staffed with generalists as well as specialists, to take the policy agenda forward. This organization is to be given a clear cut mandate, the necessary resources and sufficient autonomy to take decisions independently of any political pressures. Rather than creating yet another organization within the government set up, we are of the view that the present Engineering Development Board, if reorganized, could serve

this purpose. The Engineering Development Board (EDB) has a mixed reputation. Whereas it has always publicly advocated the advancement of engineering capacity within the country, its success in doing so has been limited. This, however, is not entirely its fault as the government has often followed policies that undermined the EDB's mission. There are also widespread perceptions, however, of the EDB favouring certain industries and interests within them. The new organization should to be designed in a way that minimizes the possibility of being captured by vested interests. While reorganizing the EDB is a significant undertaking, and one that requires a substantial period of time, below, we provide the contours of what the new EDB should look like (a more detailed plan can be made later):

1. Name: The EDB should be renamed as the Industrial Development Board (IDB) to more accurately reflect its new mandate.
2. Mission: The mission of the Industrial Development Board should be clearly stated: To industrialize Pakistan in line with Industrial Policy 2010. Expressed simply, the mission is to make Pakistan the world's factory rather than the world's shop.
3. Objectives: The IDB should be given measurable objectives. We suggest that these objectives be doubling Pakistan's manufacturing output in the next five years. We believe this is an achievable target given the low level of Pakistan's current manufacturing output.
4. Strategy: How the IDB will go about achieving its objective is detailed in the 2010 Industrial Policy document. In short, there are three things that the IDB must focus on: a) value addition across Pakistan's manufacturing sector, b) making indigenization possible (through provision of education, skills, infrastructure, strict governance, and access to the domestic market), c) ensuring that over time, this growth is increasingly balanced across regions, and d) ensuring that all government trade, procurement or investment policies are in line with the objective of indigenization of industry, or the in-house development of core competences needed to become globally competitive.
5. Organization:
  - a. General Remarks: To design an organization is to design a vehicle for the attainment of a particular goal. All aspects of the organization must be in line with the organization's ultimate goal. All specialized or general resources

possessed by the organization must contribute directly to achieving its goal. Other resources that are needed for this purpose must be acquired and those that detract from this must be disposed of.

- b. CEO: The CEO of IDB needs to be a person with integrity, courage, excellent persuasion abilities (to bring other stakeholders on board), and above all passionate about the industrialization of Pakistan. At the same time, s/he needs to be an excellent administrator. The industrial policy team will be making recommendations in this regard.
- c. The Board of Directors: The current EDB Board does not fulfil the criteria laid out above. This must be reconstituted. The new board should be the best possible team that can be assembled to take the mission of developing local manufacturing capability. It should be an 'active' board rather than a passive one. The industrial policy team can make recommendations in this regard.
- d. Structure of the Organization: The organization needs to have the following parts:
  - i. an inter-ministerial coordination committee to steer the overall coordination and implementation of policy actions between line ministries, State Bank of Pakistan and provincial departments.
  - ii. a core management team to coordinate all activities, measure and monitor progress, and devise policies for each sector in line with Industrial Policy 2010.
  - iii. Desks for each sector which will a) provide monthly reviews of each sector, and generally serve as repositories for all information about sectors and b) along with a member of the core management team, provide recommendations for the development of sectors
  - iv. A world class research department, which has superior capabilities for data collection, handling and analysis. This is especially critical given the dearth and poor quality of data available in Pakistan.

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