Giving a big push to Green Industrialization in Pakistan by developing a robust GI Policy Framework and effective integrated sectoral policy strategies and plans

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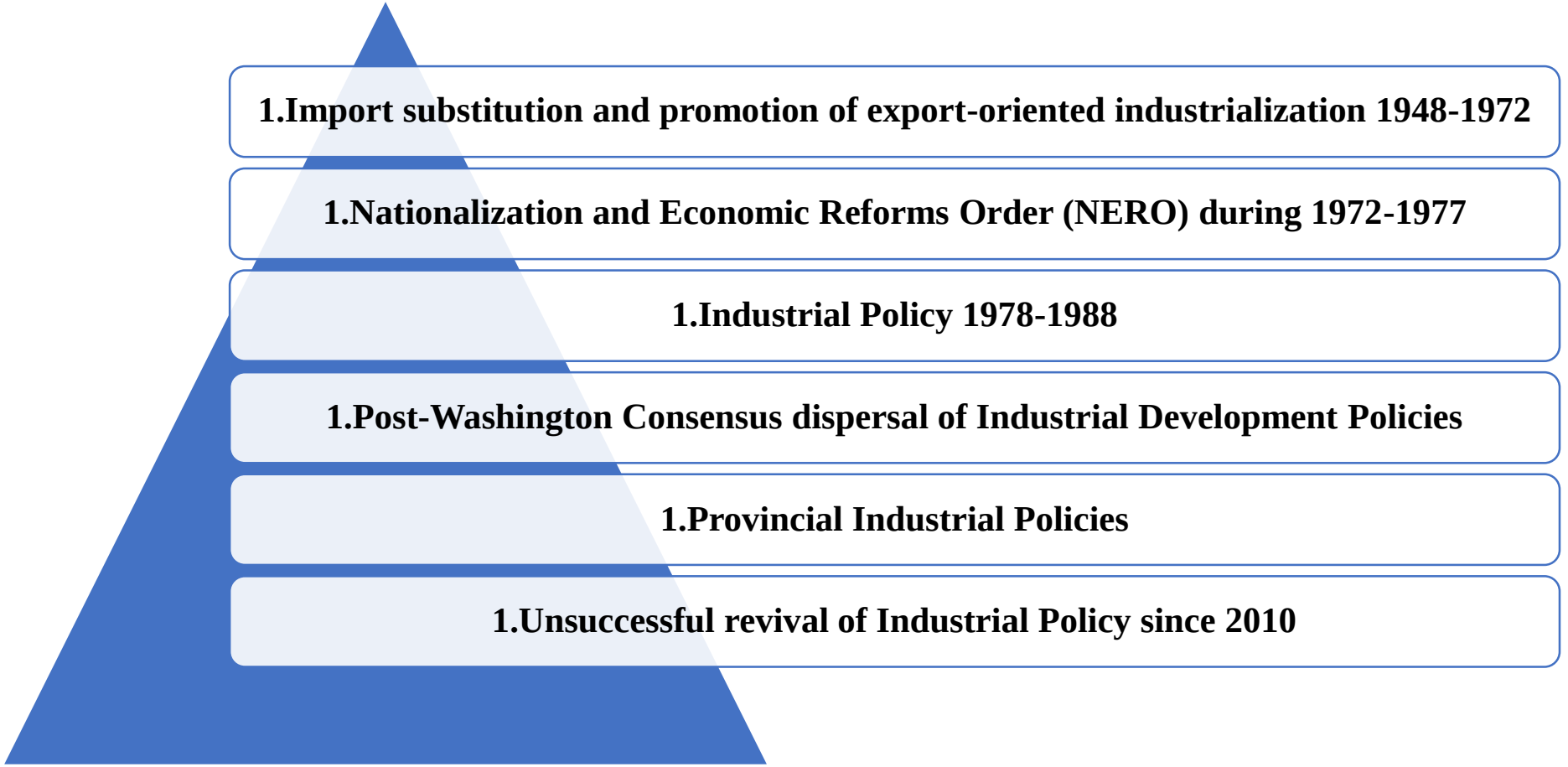
Industrial Policy logjam f Pakistan: From Import Substitutions To Liberalization, Deregulation, Privatization



Policy Drivers of Draft 2010 Industrial Policy

- Investment promotion
- SME focus
- Promote and support R&D by public and private sector
- R&D as a conduit of subsidies along with support for brand promotion, workforce training, export promotion help
- Strengthening of Modern Tech institutions
- Use of TBTs for protection
- Support champion sectors more
- Respect for Standards and Compliance requirements
- Mainstream Gender

LAUNDRY DETERGENTS

Popularized by seductive advertisement, per annum consumption of laundry detergents in Pakistan is 33,000 tons and growing 20-25% per year but detergent waste is leading to growth of duckweeds and eutrophication (algal growth that kills aquatic life) of lakes and water channels. Chemical compounds used in detergents burn human, can cause cancer or hormonal issues and also affect marine life.			
“Synthetic Detergent for General Purposes 2017” law is enforced but not observed	Informal/unregistered low quality detergent production factories/units proliferating on a big scale, with little effluent treatment arrangements	Exact labels are missing on packing	Little financial help in developing/importing right kind of machinery.

PLASTICS

Pakistan uses 3.3 million tons of plastics in a year, of which only 5% of the used plastic is recycled as 55 billion single use plastics used in Pakistan in a year. Plastic industry contributes 15% to the GDP. The carbon footprint of producing plastics is very high.

Recyclability of plastics is low	Little sustainability research on plastic products	The implementation of plastic bans is limited	No labels and information on recycling of products	Problematic Plastic Waste import policies and practices including the recycling of the recycled plastics

COOKING PRACTICES & KITCHENWARE

Pakistan wastes 30-40 billion cubic feet of gas in kitchens (a loss of $300 million) due to poor quality Stoves, which are responsible for 2% of methane emissions. The decayed and rusty pans responsible for metals release in atmosphere, with carcinogenic effects of Teflon and PFOS/PFAS chemicals			
Pakistan Standards and Quality Control Authority has a detailed provision in the form of Standards for Domestic Gas Stoves. → POORLY ENFORCED	No standards set On Pots and Pans	Fire and flame literacy is poor	Environment friendly designs and materials of pots not yet mainstreamed

GHEE & COOKING OIL

Pakistan’s edible oil imports: US$ 4 billion as Pakistanis consumes 2.3 million tons of cooking oil per year; an average Pakistani consumes 18 kgs of ghee cooking oil per year – highest in the world				
Oil industry uses excessive amounts of water, toxic fertilizers, and fuel	Environmental standards not enforced or variably enforced on oil industries in different provinces	Informal oil and ghee producers not registered and monitored	Oil industry environmental footprint information is not present on labels	Weak vegetable oil testing facilities

TEXTILES

Textiles, the largest of industrial sector of Pakistan in terms of output [8.5 % of GDP], exports [60 %], industrial value addition [25 %], employment [38 % of formal labour] is a heavy fossil fuel based energy user and a transportation heavy sector, with serious water use, chemical use and land use issues.

Structural changes required for emission reduction are slow, except in large exporting firms	Lack of micro-level objective standards for each segment of a very long supply chain for GHG, Water, Chemical use and waste disposal	Lack of effective oversight by environmental protection agencies	Lack of balance between energy based decarbonization and traditional environmental protection

AGRICULTURE

With multi-functional agriculture, agriculture-livestock, agriculture-forestry interactions, contributing 23% percent of GDP, providing food, fodder, livelihood, raw materials to industry and 37% of employment, responsible for 46% emissions but highly vulnerable to climate change

Concentrated use of agricultural inputs & natural resource exploitation resulting in soil and water pollution	Land inequality, insecure tenancy, poor agricultural extension	Low productivity, resource inefficiency, and limited adoption of modern technologies

TRANSPORTATION

Accounting for 23 % of total GHG at present, emissions from Transport Sector are forecast to grow from approximately 35.4 MtCO2e in 2012 to approximately 80.7 MtCO2e in 2030. 30 % of vehicles to be shifted to electrical vehicles [EVs] by 2030.

Problems in mass adoption of EVs: Under the new EV policy, ambitious targets of shifting 30% and 50% of new car and ⅔ two wheeler sales, respectively for 2030. But the investment in infrastructure needed to establish a network of charging stations is almost absent and incentives for EV production not in force	**Slow Switch to Low Carbon Fuels:** Euro 5 in 2020: Oil refineries and automobile manufactures sought two years time – not yet compliant

Political Economy of Greening

- Feudal production relations, established due to British system of Land ownership, still have a central position in rural Pakistan
- Pakistan pursued ‘productionist’ policies to generate an economic surplus from the agriculture sector.
- The structure of the grain markets in Pakistan is never free from the plurality of social relations rooted in the rural political economy.
- Government’s role enables gaining power and influence in market settings, instead of curtailing the power.
- Lack of interest in post production market economy excesses

Key Pillars of a new Policy Framework

- Reimagine Environmental, Social, and Governance (ESG)
- Regulate non-staple use of Wheat in the sectors such as biscuits, noodles etc.
- Support small farmers
  - Value their contribution to produce wheat for domestic use
  - Provide targeted financial support
- Strengthen public procurement and promote public private partnerships in storage.
- Monitor and document the movement of wheat from one economic actor to another, restricting its transfers to non-processors
- Re-negotiate the profit-margins with flour mills

Diagnostic and Policy Response in Textile Dyeing & Finishing

	SME units	Large Industrial units
Economic Incentives		
- **Lack of Customer interest**	Advocacy	
- **High implementation cost**	Targeted financial instruments, directed subsidies	
- **Lack of access to capital / credit**	Special credit lines	
- **Complexity of green industrial processes**	Training	R&D
Enforcement		
- **Loopholes in laws / regulations**	Cyclical law-making process	
- **Lack of guidance for the firm**	Advocacy	Reinforcement
- **Insufficient deterrence**	Effective penalties, advocacy	

Growing irrelevance of traditional policy drivers

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Climate Policy Response to the gaps in green manufacturing: Pakistan's NDCs 2021

Main Goals							
1.Voluntary contribution in reduction of 50% of emissions (35% through conditional and 15% through unconditional measures) by 2030.	Reduction of CO_2 emissions by 148.76 MtCo2e by 2030 through 10 Billion tree plantation	Transit to 30% of renewable energy sources by 2030	Switch to 30% of electric vehicles by 2030	Increasing the coverage of Protected Areas from 12% to 15% by 2023.	Continuation of investments in Nature Based Solutions (NbS)	No generation of power through imported coal	Introduce new sectors like blue carbon ecosystem

CLIMATE IMPACTED POLICY RESPONSE TO THE GAPS IN GREEN MANUFACTURING

- Incorporating economic incentives to promote emission reduction by upgrading industrial processes and technologies.
- Preparing voluntary CSR guidelines and encouraging the corporate sector to create a CSR-fund to cover carbon emission reductions efforts in industrial sector.
- Promoting the integrated “Cleaner Production” strategy in the Industrial sector by making more efficient use of inputs such as energy, water, raw material, etc.
- Promoting the use of energy efficient motors in the industrial sector.
- Encouraging the industrial sector to have periodical “Energy Efficiency Audit”.
- Developing capacity to monitor and estimate emissions locally for each industry.
- Ensuring that technology transfer is accelerated for the industries like cement manufacturing to control emissions without hampering the production process

CLIMATE POLICY RESPONSE TO THE GAPS IN GREEN MANUFACTURING

Industry is not listed among the sectors of interest under adaptation in Climate Policy 2021 and is listed under the “Mitigation” with the additional following measures:					
Detailed aerosol emission impact assessment studies must be made	Ensure that technology transfer is accelerated for industries like cement manufacturing,	Control emissions without hampering the production process;	Explore and introduce incentives for industries to adopt low- emission technologies e.g. Dual- functional materials for carbon capture, utilization, and storage (CCUS);	Legislate opportunities for industry to facilitate transition to circular economy model	Boost the market demand for recycled products.

SDG 9.2 Comparative analysis of progress before and after adoption

Indicator	Comparative Progress before and after adoption		
	2000	**2015**	**2022**
9.2.1 Manufacturing Value added (as percentage of GDP)	10.22%	**13.56%**	**12.4%**
9.2.2 Manufacturing Employment (as percentage of total employment)	18 %	**15.33%**	**14.9%**
	Source: SDG tracker and Pakistan Economic Survey2021-22		

Target 9.3 Increase access to financial services and markets

Indicator	Comparative Progress between 2021 and 2022			
	2021		2022	
	Share in GDP	Sectoral Share	Share in GDP	Sectoral Share
9.3.1 Value of small-scale industry	2.12%	16.1%	2.0%	15.9%

SDG Dashboard

SDG9 – Industry, Innovation and Infrastructure	Value	Year	Rating	Trend
Population using the internet (%)	25.0	2020	●	↗
Mobile broadband subscriptions (per 100 population)	35.1	2019	●	↑
Logistics Performance Index: Quality of trade and transport-related infrastructure (worst 1–5 best)	2.2	2018	●	↓
The Times Higher Education Universities Ranking: Average score of top 3 universities (worst 0–100 best)	36.5	2022	●	●
Articles published in academic journals (per 1,000 population)	0.1	2020	●	→
Expenditure on research and development (% of GDP)	0.2	2017	●	↓

Sticky Binding Constraints in developing a fit to purpose Green Industrial Policy and integrated Green Industrialization strategies

From past Industrial Development Policies to Green Industrial Policy providing a Framework for future industrial development interventions

Policy Principle:

Modernization and greening of manufacturing activity need to be taken as a single undertaking to produce optimum results

Greening as a Vent of growth

Policy Goals:

a. **Expansion of manufacturing and employment in manufacturing by a better control of f Variable/PIllars**

b. **Reduction of per unit value**

Five Variables:

- **GHG Status**
- **Lean Practice**
- **Standards Compliance status**
- **Sectoral Commercial Practices vis a vis the above 3**
- **Non-realization of Competition Policy potential**
- **Policy Drivers: Green Finance linked with Green Innovation; Reorganized Stands, Compliance, Competition regimes; Reset MOIP's Industrial Development Policies; Fit for purpose institutional structure at MOIP**

Discussion Points for the Policy Roundtable Participants

- **Ending the uncomfortable relationship between Green with traditional environmental pollution?**
- **Strengthen the nexus between Voluntary Standards and Environmental Compliances**
- **Is a better understanding of the nature of Commercial Practice the right starting point to assess the relevance of current policy framework?**
- **Significance of mapping Deficit Maps of Green, Lean, Standards and Commercial Practice**
- **Need of a new consensus to make Green and Lean into a judiciable matter of Competition Policy**
- **What kind of steering mechanism should Ministry of Industries have to implement the new consensus?**