GROWTH-STRATEGY FOR THE ENGINEERING INDUSTRY TO ACHIEVE RAPID INDUSTRIALIZATION AND ECONOMIC GROWTH

*Javed Akhtar Paracha**

ABSTRACT

The paper focuses on the importance of the engineering sector in economic development with an overall global perspective, compared to the position of Pakistan's engineering sector. Main feature of the paper is that the engineering data of Newly industrialized countries has been compiled which depicts a progression of their development in the engineering sector. This provides realistic correspondence with Pakistan's scenario of engineering industry's development, which is a close follower of the Newly Industrialized Countries (NICs).

In the end, existing and future plans for the government alongwith recommendation are provided. These provide policy guidelines for government institutions in formulating future approaches to engineering sector development.

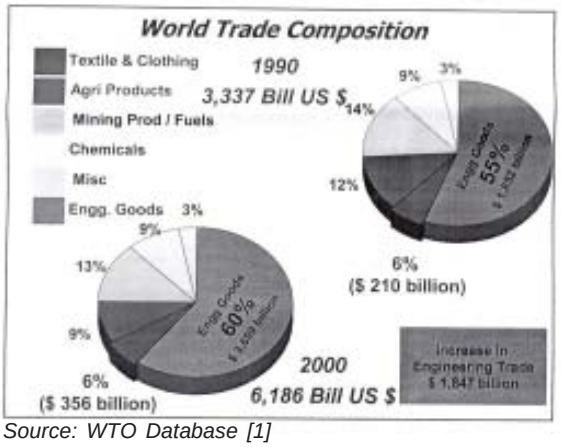
SIGNIFICANCE OF THE ENGINEERING INDUSTRY

The Economic Power-Houses in the contemporary world do not just appear; they are manufactured through engineering industry. Evidence suggests that, the highly developed Engineering base of developed countries directly relates to the high standard of living of its people. It is therefore considered as the engine of economic growth.

Countries dependent on natural resources, such as oil, agriculture produce, etc., may find the reserves depleting fast, resulting in ultimate recession. On the other hand, engineering sector being high value-added breeds brisk economic activity; thus self-reliance in this sector is sustainable.

The Newly Industrialized Countries (NICs), Taiwan, Singapore, Korea, Malaysia had accorded the highest priority to the engineering sector and are developing fast. It is noteworthy that Engineering sector is more capital-intensive, requires higly qualified manpower and a diverse industrial infrastructure.

Figure - 1 suggests that Engineering Goods account for around 60% of the world's trade, which is higher than all other commodities put together.



Source: WTO Database [1]

Figure - 1: World Trade Composition

Figure - 2 Shows a consistent increase for the past decade in the world merchandise exports concerning t

Source: WTO Database [2]

Figure - 2: World Merdhandise Exports % share

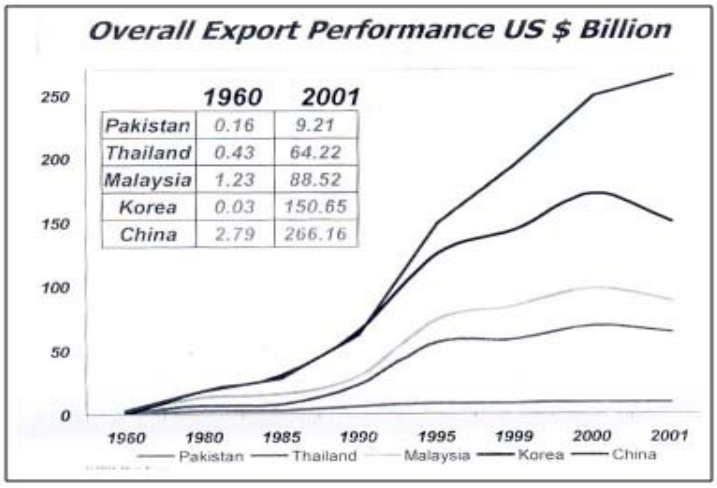
Table-1 Suggest a major share of engineering goods in the production of developed countries. This indicates a direct relationship of the engineering sector to the development of the world economy.

* Coordinator, Engineering Development Board, M/o Industries & Production, H.23, St.87, G-6/3, Islamabad.

Table - 1: World Split of Production: Major Products (%)

	Industrialized Countries	Newly Industrialized Countries	Others
No. of Countries	**48**	**7**	**129**
Steel	76.1	17.7	6.2
Mech. Goods	94.7	4.1	1.2
Elect. Goods	89.3	8.3	2.4
Transport Equip	83.5	13.2	3.3
Distribution of MVA	76.6	19.9	3.4

Source: UNIDO 1990 [3]



Source: WTO Database [4]

Figure - 3: Overall Export Performance US $ Billion

Figure - 3 gives a graphical comparison of Pakistan's export performance with those countries which shifted their maximum emphasis to the Engineering Goods industry.

These were few examples that clearly manifest a strong link between the economic growth and the development of the engineering sector.

Considering the share of manufacturing in GDP of the Industrialized Countries (ICs) and the Newly Industrialized Countries (NICs) from Tables 2 & 3, a direct inference can be drawn to suggest that the infrastructure for the engineering sector plays the most important role in sustained economic growth.

SITUATION ANALYSIS

Although the policy-pattern as indicated in Table 4 & 5 although reflects some emphasis by respective governments on the importance of investment in the engineering sector, yet the investment priorities had been irrational on one hand and policies had not been consistent and at times conflicting, on the other hand.

As a direct consequence of the above policies, the implementation aspect clearly shows a dis-proportionate trend, in respect of technical manpower development. The ratio of Institutions to the respective enrolments in Technical Universities and Vocational Institutes has been in a state of imbalance, see Figure-4, whereas the total allocation to development of technical education is also out of proportion (Figure-5).

Table - 2: Share of Manufacturing in GDP (%)

	1960	1965	1970	1977	1980	1985	1990	2000
	Selected Asian Countries							
Pakistan	12	14	16	16	16	18	17	17
Indonesia	8	8	10	9	13	24	21	26
Malaysia	9	9	12	18	21	29	24	28
Korea	12	18	21	25	28	30	29	32
	Developed Countries							
Sweden	27	28	-	24	-	-	-	26
Germany	40	-	38	38	-	-	26	28
UK	32	30	33	25	-	-	-	25
Japan	33	32	36	33	29	-	28	24

Source: World Bank - World Development Report [5]

Table - 3: Comparison of Key Indicators

	Malaysia	Korea	Pakistan
GDP US$ Billion	90	457	62
Manufacturing Value Added (% of GDP)	29	32	17
Population (Million)	23	48	137
GDP per capita (US $)	3,849	9,520	446
Exports Per Capita (US $)	4,206	3,650	67
Engineering Exports per Capita (US $)	2,679	2,600	2
High Technology Exports (% of Manufacturing)	54	27	0.04

Source: World Bank - World Development Report - World Bank 2000 [6]

Ultimately, the industrial sector has therefore, not been able to take-off, as is evident from Figure 6 & 7. It is evident that, despite the geographical size and the abundance of manpower resource, Pakistan is far behind its much smaller regional companions.

EFFECTS OF INDIGENIZATION

Despite certain constraints and hesitation due to variation of emphasis on the engineering-goods sector during various regimes over the past decades, which could not lead to successful marriage of the policies and the implementation process, Pakistan's indigenization policies are ultimately proving a success story. Within the past 4 to 5 years, the local content i.e. the deletion achieved in the Automobile sector alone has increased from 7 to 27% in various categories of vehicles, with a marked increase in sales-volume and market volume. The effect of indigenization has been appreciably instrumental in foreign-exchange saving. Since 1995, saving of **US$ 401,205,762 per year** has been made on this account with a continuously upward trend. Similar pattern is observed in other industrial sectors.

Overall, siginificant investment has also come in the engineering goods area, as is evident from Figure 8. The Engineering Development Board is now playing a pivotal role in rationalizing the policies, in order to affect synergy for sustainable development.

STRATEGIC FOCUS

Ministry of Industries & Production and the Engineering Development Board, in a presentation on 22 August, 2002 to the President of Pakistan, on "*Growth Strategy for the Engineering Industry to Acheive Rapid Industrialization & Economic Growth*" achieved a major

Table - 4: Industrial Development Paradigm in Pakistan

Year	Shifting Paradigm
1950-1960	Import Susbstitution - Industrial Development via Direct Control
1960-1970	Development of Consumer & Capital Goods Industry - with some Export Incentives
1970-1977	Nationalization - Emphasis on Heavy Engineering
1978-1992	Liberalization & Privatization
1992-2002	Privatization, infra-structural development, employment-creation and export-led growth

Source: Economic Survey 2002 [7]

Table - 5: Past Investment Priorities

Types of Industries	Fixed Assets	Value added	Val-Add. as % of Fixed Assets	Past Tariff Protection %
Basic Metal	43.2	6.1	14%	60-100%
Metal Products	5.8	1	17%	Upto 45%
Mech. Machinery & Equip.	4.5	2.8	62%*	Upto 45%
Elect. & Electronic Equip.	8.4	4.6	55%*	Upto 45%
Transport Equipment	12.2	2.9	24%	Upto 250%

** Future value addition/Investment target: 100%*
Source: Economic Survey 2002 [8]

milestone towards prioritiizng the engineering sector. The presentation was highly regarded equally in the government as well as the private sectors.

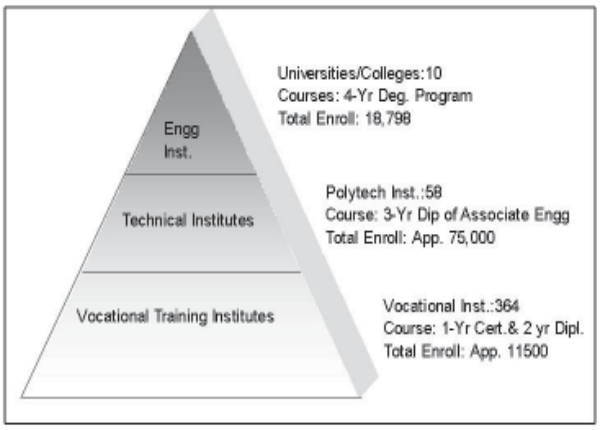
The recommendations made in the presentation are already being implemented through the forum of the Engineering Development Board. Salient features are as under:-

a. Policy Thrust

- Govt. should build Pakistan's image as a professional producer of quality-products, as per international standards.
- Govt. policies should be driven by national interest, supporting local industry without seriously infringing on WTO and other intl. commitment.
- Govt. should avoid fragmented decision-making and follow an integrated approach, with various policies complimenting and not contradicting each other.

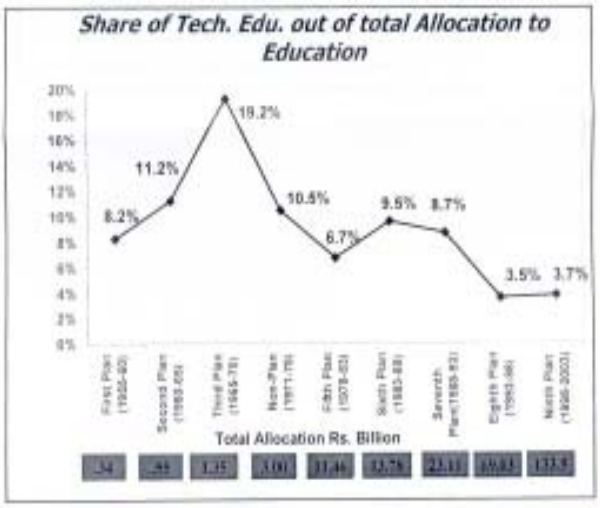
b. Human Resources Development

- Replicating the excellent decision taken to increase the allocation for higher education, the decision needs to be extended for Technical Manpower Training through Allocation of at least 1% of the total annual outlay to technical education and skill-devleopment for the next five years.
- Allocation for higher education to be extended for Technical Manpower Training, through allocation of at least 1% of the total annual outlay to technical education and skill-development for the next five years.
- The success stories in the nuclear and defense fields need to be extended to other sectors of economy, through dependence on the local enigneers, technologists and the Domestic Engineering Industry.
- The Whole Government machinery should support, procurement of Engineering Products and award of contracts to local companies.



Source: Ministry of Education, Provincial Education Departments [9]

Figure - 4: Technical Manpower



Source: 9th Five Year Plans - Planning Commission [10]

Figure - 5: Share of Tech. Education out of total Allocation to Education

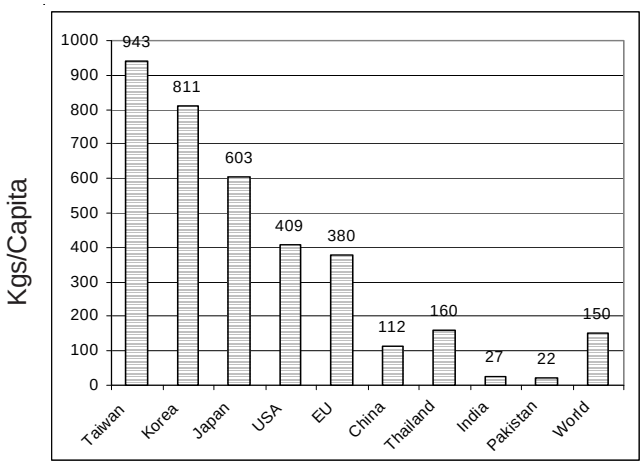
- Provide limited additional resources in the areas of tech. development fund, common facilities, technology centres and technical manpower development.

c. Globalization of Industry

- Aggressive promotion, to attract relocation of industries from industrialized countries.
- Government should intervene to make Pakistan a member of global supply-chain, particularly in auto mobile sector.

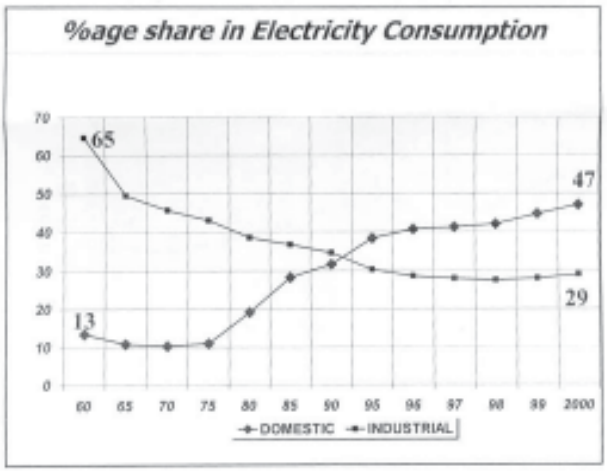
d. Encourage Rapid Growth through market enhancement

- Government has recently announced Consumer Financing Scheme for market enhancement. This scheme needs to be further extended by Employers, including Government/Public Sector, through secured guarantees against gratuity/ provident fund to the suppliers for leasing transport and domestic appliances to their employees.
- Expedite enactment of effective repossession laws



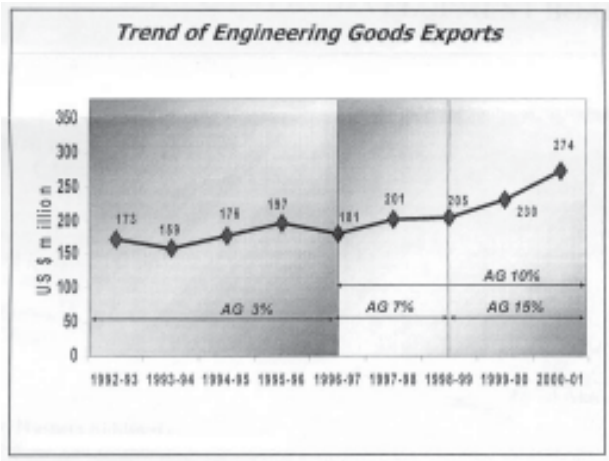
Source: Website: World Steel 2000 [11]

Figure - 6: Per Capita Steel Consumption



Source: Economic Survey of Pakistan 2000 [12]

Figure - 7: %age share in Electricity Consumption



Source: State Bank of Pakistan, Annual Reports and FBS [13]

Figure - 8: Trend of Exports of Engineering Goods

to further encourage leasing.

- Offer State-Credit for exports of capital goods.
- As a matter of Government Policy, stake-holders should renegotiate existing agreements with foreign partners, to permit exports (tractors, cars, etc) from Pakistan.

e. Institutional & Regulatory Framework

- Rationalization of tax and tariff regimes carried out in the last two budgets should be continued for two more years, to provide protection and level playing-field, including withdrawal of exemptions detrimental to the local industry.
- During the President/Chief Executive's visit to Japan, a major achievement was the financial & technical support provided by Japan for upgrading three (PITAC Lahore, PTC & AT&TC Karachi) common facility and technology-support centres.A total number of about 25 such centres are required to be established throughout the country.
- Strengthen Pakistan Standards & Quality Control Authority.

REFERENCE

1. International Trade Statistics - 2000 (P - 110) WTO
2. International Trade Statistics - 2000 (P - 04) WTO
3. World Report - 1999 - 2000 UNIDO
4. International Trade Statistics - 2000 - Trade by Region - WTO
5. World Development Report - 2000 - World Bank
6. World Development Report - 2000 - World Bank
7. Economic Survey 2002 - Ministry of Finance
8. ibid
9. Ministry of Education - Database 1999-2000
10. 9th Five Year Plan - Planning Commission
11. International Trade Statistics - 2000 - WTO
12. Economic Survey 2000
13. State Bank of Pakistan - Annual Report - 2000-01