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MAJOR EMERGING TRENDS AND ISSUES OF INDUSTRIAL DEVELOPMENT IN ASIA AND THE PACIFIC - IMPLICATIONS FOR UNIDO

I. Introduction

The Asian-Pacific region is often referred to as a 'role model' for industrial development, and many countries in other developing regions are seeking to emulate what they perceive as Asian success stories. Certain salient features of the 'East Asian model' - such as private sector emphasis, export orientation, foreign investment promotion and strong industrial HRD efforts - have become common themes in many other developing countries' strategies to make their industries more productive and competitive. Yet industrial development does not proceed according to a predictable sequence of stages. Each country has to define its own development path based on realistic objectives and a suitable set of policies.

For UNIDO, it may thus be particularly relevant to closely observe the changes under way in the patterns and approaches of industrial development in Asia and the Pacific. In adapting the Organisation's technical cooperation programmes and modalities to emerging new requirements in this region, UNIDO may be better prepared to respond to similar challenges imminent in other regions as well.

The present paper first briefly reviews recent patterns of industrial development in Asia and the Pacific (section II), then highlights UNIDO's role as well as the more general framework for technical co-operation in the region (section III and IV) and stresses major themes for UNIDO's future services (section V). These may provide a preliminary yardstick for looking at UNIDO's future role in the region. This is not in any way a comprehensive review of regional industrial issues nor a concrete action plan. Further analysis will be required to substantiate and enlarge on the main issues. Finally, some tentative conclusions are drawn for UNIDO itself with a view to responding efficiently to the needs of the 'industrial community' in the region's developing countries (section VI).

II. Recent Industrial Development in Asia and the Pacific

Performance and Major Trends

Asia and the Pacific comprises a developing region marked by an extremely high degree of heterogeneity in terms of the size, population, resource endowments and level of economic and industrial development. The region hosts the majority of the world's newly industrializing economies (Hong Kong, Republic of Korea, Singapore, Taiwan Province and - as so-called second-tier NIEs - Malaysia and Thailand), yet at the same time includes 14 out of a total of 47 Least Developed Countries. Countries range from tiny Pacific island states to vast and populous giants like China and India. Some of the region's countries, above all in East and Southeast Asia, have become leading forces in global economic and industrial growth, capable of competing internationally in sophisticated industrial technologies. Other have performed less well and continue to be characterised by low levels of development and a high incidence of poverty. As a consequence, intra-regional development disparities are increasing.

Overall economic performance

In an overall comparative perspective, economic and industrial progress in the region has been truly remarkable. In the 1980-90 period, when many developing countries in other regions were struggling to barely maintain their income levels, all but a handful of Asian countries recorded real annual growth rates in the 4-9 per cent range (7.8 per cent for East Asia and Pacific; 5.2 per cent for South Asia). In most countries of the region, industrial structures have become horizontally and vertically more

diversified; levels of foreign indebtedness have been kept manageable; inflation rates have remained relatively low; and the degree of integration into the world economy has increased. In a nutshell: Asia and the Pacific has consolidated its position as economically and industrially leading developing region. UNIDO forecasts clearly indicate that in the 1990s, Asia and the Pacific will continue to outperform all other developing regions - as well as the developed countries. The region's share in world GDP is expected to rise form 13.8 per cent in 1990 to 16 per cent in 2000.

Table 1: Medium-term growth projections, 1992-1997

(Average annual percentage growth rate)

Economic grouping of region	GDP	MVA
World	3.4	3.1
Developed countries	3.2	3.5
North America	3.2	4.1
Western Europe	2.6	2.2
Japan	4.2	5.2
Other	2.6	2.0
Eastern Europe and former USSR	-2.1	-5.9
Developing countries (excluding China)	4.3	6.1
Latin America and the Caribbean	3.1	2.6
Tropical Africa (including sub-Saharan Africa)	2.7	3.9
North Africa	3.8	5.1
Western Asia	3.3	6.1
Indian Subcontinent	5	6.7
East and Southeast Asia	7.5	10.6
Centrally planned Asia	7.8	..
China	8	..

Source: UNIDO database

Table 1 presents UNIDO's medium-term growth projections for the various developed and developing

regions. It confirms the above-average growth dynamism of Asia. In addition, the significant divergence between MVA growth and GDP growth should be noted: the manufacturing sector is clearly assuming the role of the major 'engine of growth', particularly in East and Southeast Asia where two digit MVA growth rates are projected in the medium term.

Country-specific data on the most recent growth performance are shown in Table 2, while Appendix Table 1 provides a synopsis of key economic indicators by sub-regions. These data show large individual variations between countries in the region. They also suggest a performance gap between Southeast and East Asia, on the one hand, and South Asia, on the other: the former sub-region is growing faster, has kept inflation at a lower rate, is not suffering from large resource gaps and has a significantly lower debt-service ratio. As mentioned above, the obvious result is growing disparities in industrial development between the various sub-regions.

Table 2: Selected Countries: Real Growth Rates of GDP and Industry, 1990-92.

Country	GDP			Industry		
	1990	1991	1992	1990	1991	1992
East Asia						
China	4	7.7	12	7.8	14.6	16.7
Rep. of Korea	9.2	8.4	7.3	12	8.9	7.4
Taiwan Province	5	7.3	7	1.3	6.4	6.5
Southeast Asia						
Indonesia	7.1	6.6	5.9	9.7	9.9	8.1
Lao People's Dem. Republic	6.6	4	6	55.5	30	..
Malaysia	9.8	8.6	8.5	14.5	10.5	9.9
Philippines	2.5	-0.9	1.8	2.3	-3.3	2.5
Singapore	8.3	6.7	4.7	9.1	7.7	4.9
Thailand	10	8	7.5	15.6	11.2	10.7
Viet Nam	5.1	4	7	2.9	4.3	12.0
South Asia						
Bangladesh	6.6	3.6	4	6.4	5.9	5.7
Bhutan	3.1	3.5	4	4.9	4	4.5

India	5.6	2.5	4.5	6.7	1.5	4
Maldives	15.1	8	..	17.8	9.3	..
Nepal	6.1	5.5	3.1	4.1	5.7	7
Pakistan	4.7	5.6	6.4	6.3	6.2	7.3
Sri Lanka	6.2	4.8	4.5	2.7	7.5	7.1
Pacific Island Economies						
Fiji	5	-0.1	4.2	6.1	4.8	6.3
Papua New Guinea	-3	9.5	5.4	-3.8	24.8	7.0

Sources: International Monetary Fund, *International Financial Statistics*, vol. XLV, No. 11 (November 1992); Asian Development Bank, *Key Indicators of Developing Asian and Pacific Countries 1992*, and *Asian Development Outlook 1992*; and national sources.

GNP.

Industry includes services.

Growing global and regional integration

One of the most significant trends in industrial development in Asia and the Pacific has been the increasing importance of the external sector. This involves both foreign trade and foreign direct investment (FDI) and refers to both the increasing levels of world market integration and the growing intra-regional economic interdependencies. This trend has manifested itself most strongly in the Southeast Asian sub-region.

The trends in the growth of *manufactured exports* in the 1980s (in current US$) are shown in Table 3. The East Asian NIEs have been for some time the leading exporters in the developing world, and have been able to maintain high rates of growth over time. The group has now been joined by China, while Hong Kong has dropped in relative terms (if only its domestic exports are considered) as it shifts its low-end manufacturing offshore. In addition, the new-NIEs (excluding Philippines) are exhibiting very impressive rates of growth, driven partly by the relocation of labour intensive export activities from the established NIEs. Even South Asia is showing faster export growth rates than most other developing regions. This testifies to the rapid integration of the region into the world industrial economy.

Table 3: Manufactured Export Performance[1]Performance		
Country	Manufactured exports 1990 (US$ millions)	Manufactured export growth rate p.a., 1980-90 (percent, current US$)
NIEs		

Rep. of Korea	64837	14.5
Taiwan, Province of China	67040	13.6
Singapore	52627	16.4
Hong Kong	13672	7.7
New NIEs		
Malaysia	12945	17.5
Thailand	23002	24.7
Indonesia	25553	35.6
Philippines	7768	8.1
South Asia		
India	15643	9.9
Pakistan	4642	11.7
Sri Lanka	1529	20.9
Bangladesh	1305	19.7
Other		
China	62091	15.9
Sources: UNCTAD, *Handbook of International Trade and Development Statistics* ,1991; ADB, *Key Indicators of Developing Asian and Pacific Countries*, 1992.		
Domestic exports only.		
Includes petroleum and related products.		
Data on manufactured exports and its growth rate are for 1989 and 1980-89.		
Data on manufactured exports and its growth rate are for 1989 and 1980-89.		

This pattern of export growth has gone together with the development of intra-regional trade, especially in Southeast Asia. By the beginning of the 1990s, the so-called ASEAN-4 countries (Indonesia, Malaysia, the Philippines and Thailand) together sourced some 60 per cent of their total imports from other Asian countries - with the East Asian NICs supplying more than half of the total (thus outranking Japan).
The same pattern holds true with respect to *foreign direct investment*. The Asian region attracted

approximately 60 per cent of FDI inflows of all developing countries at the beginning of the present decade. Table 4 shows the value of cumulative FDI flows over 1986-90, as well as the value of overseas development assistance in this period. It shows that the NIEs, the new NIEs and China were the major recipients of FDI in recent years. ODA flows went mainly to China, Indonesia and the South Asian countries.

Table 4: FDI and ODA Flows, 1986-90[1]ODA Flows, 1986-1990		
Country	Cumulative FDI Flows, 1986-90 (US$ millions)	Cumulative ODA Flows, 1986-90 (US$ millions)
NIEs		
Rep. of Korea	3380	107
Taiwan, Province of China	4934	13
Singapore	17213	166
Hong Kong	8828	138
New NIEs		
Malaysia	6201	1269
Thailand	5873	3107
Indonesia	2865	7152
Philippines	2463	1681
South Asia		
India	802	9537
Pakistan	705	5540
Sri Lanka	187	2882
Bangladesh	10	8587
Other		
China	14265	8814
Vietnam	28	1,724

Sources: UN, *World Investment Report* 1992; ADB, *Key Indicators of Developing Asian and Pacific Countries*, 1992.

On the receiving countries' side, further stimulating factors have been a conducive overall investment environment (relative political stability and administrative efficiency, generous incentives, liberal investment regulations) and the availability of efficient domestic supporting industries. In general, Asian countries (most notably China) have been the 'winners' in an intensifying locational competition for FDI among developing countries - against an overall trend of an increased concentration on OECD host countries. It can be expected that "the strong investment flows from Japan and the Asian newly industrializing countries to South-east Asia are likely to reshape the regional structure of production over the next decade ... and make the region a more cohesive entity in the world economy." (ADB, *Asian Development Outlook 1990*).

The growth of intra-regional FDI is worth noting. Here, again, the traditional pattern of a one-sided Japanese domination is no longer valid. In Indonesia, Malaysia and the Philippines, the East Asian NICs have become the major suppliers of FDI inflows (Table 5). This trend is based on a variety of factors, including growing cost differentials (both for labour and land), exchange rate variations (appreciation of NIE currencies) and attempts to capture rapidly growing consumer markets in the main ASEAN countries.

Table 5: Intra-Asian FDI Flows - Orders of Magnitude (1988-1990)

(percentage distribution)

Source of FDI	Thailand	Philippines	Malaysia	Indonesia
Japan	49	21	28	5
4 NIEs	27	31	35	37
Asia Total	81	56	66	42
World Total	100	100	100	100

So far, the trade and investment regionalization process in the region has been clearly market-driven, not policy-induced. Recently, however, attempts to formalise regional integration and co-operation have gained considerable momentum, with the objective of superimposing an institutional structure on the largely autonomous regionalisation process. This is at least partly a result of related developments underway in other regions which are perceived as threat to Asia's future world market position (the "Triad" which includes the EC and North America). The need is expressed now frequently for Asia to proactively work towards higher levels of regional coherence and regional identity. Recent initiatives in this respect include:

- the 1992 establishment in Singapore of an APEC Secretariat (APEC stands for Asia-Pacific Economic Co-operation, with 15 - developed and developing - Asian member states) and the initiation of a number of joint projects in areas such as trade data harmonisation, technology transfer, human resource development and telecommunications;
- the Malaysian counterproposal of creating an East Asian Economic Grouping (EAEG) with a more limited membership aimed at a clearer Asian profile;
- ASEAN's ambitious targets for an ASEAN Free Trade Area with aimed-at tariff cuts down to 5 per cent within 15 years (with even faster cuts envisaged for 15 so-called 'fast track' manufacturing sectors);
- plans for ASEAN enlargement, with observer status already accorded to Viet Nam and Lao PDR;
- various 'growth triangle' concepts at different levels of development, including the Southern ASEAN triangle (Singapore-Johor-Riau), the Northern ASEAN triangle (Penang-North Sumatra-Southern Thailand), the Pan Yellow Sea triangle (China-Republic of Korea-Japan), and the Tumen River project (China-Russia-DPR Korea).

Sub-regional co-operation approaches have not been confined to Southeast and East Asia where they have flourished under the broader theme of "Pacific Basin Co-operation". In South Asia, SAARC (South Asian Association for Regional Co-operation) was created in 1985, though economic interlinkages between the member states have, with few exceptions, remained marginal to date, with intra-trade actually declining in relative terms.

Increasing private sector role in the context of structural adjustment

In recent years, there has been a powerful global trend, especially marked in the Asian region, for the private sector in general and private industry in particular to assume a growing, and indeed leading, role in economic and industrial development. Many governments - disenchanted with the limited growth dynamics generated by public sector-led industrial development - have turned to stimulating private initiative through far-reaching deregulation and privatisation programmes. These efforts have been placed in the context of broader adjustment measures which affect the entire approach to development policies. Increased reliance has been placed on market forces within an environment of stronger competition in final product markets, input markets and financial markets. Import protection has generally declined and many restrictions on foreign direct investment have been lifted. Practically all Asian economies are now committed to outward-oriented trade policies. However, the pace and extent of trade liberalisation have differed in the region, with the NIEs and new-NIEs leading reform, South Asia following some distance behind, and the socialist economies at the beginning of the process.

These trends are reflected in above-average growth rates for *private investment* in most countries. A recent quantitative survey undertaken by the International Finance Corporation points out that the rebound of private investment in the second half of the 1980s was stronger than the recovery of gross domestic investment, implying a shift within total investment in favour of private sector capital formation. From Appendix Table 2 it emerges that for a sample of 40 developing countries the share of private in total investment between 1985-1989 rose from 53.2 to 58.4 per cent. This clear upward trend is particularly pronounced in the Asian and Pacific region although with a significant difference between Southeast and East Asia on the one hand and South Asia on the other. Whereas the private investment share more or less stagnated in the latter sub-region, it reached almost three quarters of total investment in Southeast and East Asia - the highest share recorded in any developing region.

The figures presented in Appendix Table 2 relate to overall investment shares across all sectors of the economy. To the extent that sector-specific data on the distribution of private investment are available, these reveal a heavy concentration in the rehabilitation, modernisation and expansion of industrial production capacities (manufacturing, mining and construction) and related services. In turn, public

investment continues to play a lead role in creating and/or upgrading the required physical infrastructure - increasingly within programmes aimed at redressing disparities which have resulted from the widespread past neglect of regionally balanced development. This implies that the share of *private investment in total manufacturing investment must be substantially higher than the aggregate shares* presented in Appendix Table 2.

It is evident that in most countries of the region the private sector is regarded as key engine of growth and will play the lead role in future industrial development. In the course of time, the share of production and investment originating from public industries can be expected to decline further as the private sector is less stifled by bureaucratic restrictions than in the past. Privatisation programmes have contributed to this powerful trend yet it must be noted that - despite frequent claims to the contrary - they have not been the critical factor in strengthening the private sector. *Creating a conducive climate for new private investment in manufacturing generally has a greater overall impact than simply converting public into private ownership.*

This notwithstanding, the scope and speed of economic reform measures including privatisation programmes in most of the region's countries has been impressive.[1] This applies not only to the Southeast and East Asian countries, which have always advocated a strong private sector role, but also to South Asia where large segments of industry have traditionally been reserved for public enterprises. Bangladesh, Pakistan and Sri Lanka have recently intensified privatisation programmes started already in the 1980s. India has embarked on a new industrial policy in 1991 which aims at reducing licensing requirements, liberalising foreign investment inflows and initiating a gradual privatisation process. All these countries are opening up infrastructural investments to private entry; these sectors have traditionally been wholly reserved for the public sector.

Finally, in the centrally planned countries of Asia, bold economic reforms are also under way to increase industrial competitiveness and open up the economies. In China, the share of state ownership companies in industrial output dropped from 76 to 56 per cent during the 1980s, largely as a result of a thriving coastal economy (special economic zones) dominated by foreign-owned and joint venture companies. In Lao PDR, mostly medium-sized public industries are being rapidly privatised, partly through foreign investment.

Impact of Changes in the Global Economic Environment

The policy developments in the region reflect parallel changes in the global economic environment. Despite the setbacks to the trade negotiations in the latest GATT round, the predominant tendency has been to move to freer trade in industrial products, with a larger role for the private sector and the role of the government increasingly confined to supporting private industry in its attempts to cope with the rapid pace of technological change. The development of efficient and sophisticated communications and transport systems has made the world effectively smaller.

The role of 'international production' (production under the control of transnational enterprises) has accelerated during the latter part of the 1980s. According to data collected by the UN Transnational Corporations and Management Division, international production in 1992 totalled $5.5 trillion, compared with total world trade in goods and services of $3.3 trillion. The sales of TNCs grew at an annual rate of 15 per cent during 1986-90, as compared to gross world domestic investment at 10 per cent, GDP

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[1] For country-specific information, see UNIDO, *The Increasing Role of the Private Sector in Asian Industrial Development*, PPD.238(SPEC), 25 March 1993.

at 9-6 per cent and exports at 10 per cent.[2] The increasing costs of frontier innovation has led to higher concentration in some advanced industrial technologies, together with the growth of strategic alliances among the leading innovators (often backed by support of national governments).

The growth of international production is being driven by sweeping changes in the technology and organisation of industrial production. These require several complementary inputs on the part of developing host countries that determine the ability to cope with advanced and fast moving technologies: these include highly skilled labour, a science and technology support structure, a network of efficient support industries and services, and advanced infrastructure.[3] The development of "flexible specialisation" as a mode of technology and organisation has important implications for developing countries, in terms of their management and training systems as well as access to new technologies from the developed world.

These global changes thus point to the need for a flexible and responsive industrial structure in developing countries. This need is perceived in the more advanced NIEs of east Asia, but in other sub-regions it has yet to become a focus for policy. Foreign investment will play a growing role in creating the necessary flexibility and transferring some of the main technologies. However, the countries themselves have to invest in creating the human capital, institutions and the physical and technological infrastructures that a full participation in the global system will involve.

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[2]UN TCMD, *World Investment Report 1993*, forthcoming.

[3]UNIDO, *Foreign Direct Investment Flows to Developing Countries: Recent Trends, Major Determinants and Policy Implications*, PPD. 167, 1990.

III. UNIDO's Past and Present Activities in Asia and the Pacific
[To be written by WL]
IV. Framework for Technical Cooperation in Asia and the Pacific

Main Actors and Competitive Context

The main actors in the industrial arena that compete with UNIDO are the multilateral institutions, the bilateral donors and private sector providers of industrial services and consultancy. These are taken in turn

Multilateral Agencies: The main agencies that offer industrial assistance, through finance, technical assistance or some combination of the two are the World Bank/IDA, the International Finance Corporation/MIGA and the Asian Development Bank.

The **World Bank** has been cutting its direct operations in industry. With its growing stress on adjustment and market-based allocation of resources, its lending is increasingly directed at general policy support for countries that are undertaking liberalisation and privatisation measures. It assumes that industrial finance will be provided (according to market criteria) by commercial intermediaries, and to this end it has also phased out its support of development finance institutions that were formerly its main vehicle for lending to industry. The main form of Bank operations that now affect industry is in the form of technology development projects; there are several of these in Asia, covering the Republic of Korea, China, India and Indonesia. Further such projects are under consideration for Indonesia and possibly Philippines. The sums involved are not very large, but the projects are hoped to be catalytic in promoting local research and development activity, venture capital financing and closer linkages between industry and government R&D institutions.

According to the World Bank's *Annual Report 1992*, of a total of approved loans in 1992 of $21.7 billion, only $788.7 million came under the category of 'industry'. However, a closer examination of this category shows that only 1 project ($ 82.7 million for cement in China) was actually for industrial production; the others were for financial sector reform, general policy reform or structural adjustment. Thus, only 0.4% of the total commitments in 1992 were directly for industry. In addition, $482.5 million was committed to development finance companies for onlending to the private sector, including industrial companies (only $25.5 m. of this was in Asia, to Bangladesh), and $60 million for small scale industry (in Poland). This brings the total to $625.2 million, or 2.9% of total commitments for 1992. If technical assistance of $196.4 million is included (a large proportion of this is not intended for industry), the total comes to $821.6 million, or 3.8%.

In cumulative terms, of a total loan portfolio of $289.3 billion, by mid-1992 the World Bank (including IDA) has given $8.5 billion (2.9%) directly for industrial projects.[4] Its loans to development finance companies have totalled $23.9 billion (8.3%). The Bank also lent $5.2 billion for small-scale enterprises and $1.8 billion for technical assistance (again, it is not possible to say how much of this was for industry). The total of all these categories comes to $39.4 billion, or 13.6% of the total. These figures indicate that industry has not played a major direct role in the Bank's operations, and that this role has declined over time.

There is therefore a great deal of scope for UNIDO to continue and expand the scope of its activities in industry without coming into competition with the World Bank. The withdrawal of the Bank from direct

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[4] These are taken to include lending to engineering, fertilisers and other chemicals, iron and steel, paper and textiles. They exclude industry sector adjustment loans, mining and tourism. Data from *Annual Report 1992*, Table 7-6.

interventions in industry while assisting economies to liberalise means that certain areas of industry support assume greater significance than before. In the past, the Bank used to provide detailed industry studies to countries that were reluctant to liberalise. These studies were comprehensive in their coverage of technical, managerial, input and price aspects of industrial competitiveness, and were regarded as very useful by governments and industrialists.[5] The need for such information and advice is all the greater now that industries are being exposed to international competition, yet the Bank is reluctant to enter into this level of intervention. The main form of industry studies are those related to calculations of effective rates of protection and domestic resource cost, and some brief analyses that feed into its general economic reports. This is thus an area of activity from which the Bank is gradually withdrawing.

The alternative sources of analysis that can provide unbiased and economical advice with a strong international perspective are few. Private consulting companies can certainly do this, but they are not cheap, and may not always be unbiased. UNIDO can develop specialised capabilities to conduct industrial competitiveness and restructuring studies that can be valuable to the process of liberalisation. One major advantage that the organisation has over private consultants is the ability to put together a team of individual international experts according to the specific needs of each case, including those drawn from countries in the region. UNIDO can also offer training to managers and technicians, an asset that few agencies have.

In addition, there is a need for analytical work at the policy level to promote efficient economic liberalisation. The World Bank favours a rapid and sweeping opening up of industrial sectors to import competition, without systematically addressing their differing restructuring needs. Different industries have different requirements of time and resources (human, technical and financial) to achieve competitiveness, and they need differing degrees of governmental or institutional support to retrain, absorb new technologies, upgrade productivity and enter export markets. These crucial policy planning decisions are left out of consideration in drawing up adjustment plans, and the details of the process have to be developed by the governments without recourse to impartial foreign advice, and with internal pressures from vested interests. There is a role for UNIDO to develop expertise in this area.

There is also considerable scope for UNIDO to complement the Bank's work in the area of technology development. The Bank is placing increasing stress on the development of market oriented science and technology institutions to support industrial upgrading. There is particular need felt to increase the capabilities of standards and metrology centres (the EC's requirement that all its imports of a range of manufactured products meet the extremely demanding ISO 9000 standards has made this imperative for export activity). Small scale industry needs special technical extension services and common facility centres. Contract research to solve a range of technical and design problems can be of immense assistance to enterprises of all sizes. Information on sources of foreign technology and equipment is scarce in developing countries, and UNIDO already has expertise in the procurement of equipment for smaller enterprises. It should be possible to develop several fields of cooperation in technology development with the World Bank.

The International Finance Corporation is not directly a competitor to UNIDO in its main business of taking equity positions in enterprises (industrial and other) in developing countries and arranging for joint ventures between them and developed country firms. However, the IFC, in combination with MIGA (Multilateral Investment Guarantee Agency), also engages in investment promotion and advisory services related to FDI. In this it competes directly with UNIDO, which also undertakes investment promotion

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[5]This is noted for India in the study by the Operations Evaluation Department, *World Bank Support for Industrialization in Korea, India and Indonesia*, World Bank, 1992.

activity.

This competition is more apparent than real. The need for investment promotion is so large for the foreseeable future that several organisations could engage in it without coming into conflict. This is particularly true where medium and small investors and recipients are concerned (including investors from the developing countries). The largest TNCs have excellent information sources of their own, as do the leading enterprises in Asian developing countries: investment promotion is only of fleeting value here. It is the less internationalised enterprises, especially those that do not have the financial and human resources to collect the necessary information, that could benefit from targeted promotion. In this UNIDO, with its focus on small and medium firms, has a particular advantage. It should strengthen its activities in this field, perhaps focusing on specific industries and technologies in which it builds up expertise in terms of technology, productivity enhancement and institutional support.

This provides another source of advantage to UNIDO in investment promotion. Its promotion can consist, not just of bringing together interested parties and providing information on investment opportunities, but of offering a *package* of promotion with diagnosis of technological problems, policy studies for restructuring, training, contacts with foreign equipment suppliers, institutional development and the services of individual international consultants. There is no other organisation with the potential to offer this kind of promotion service, though the individual elements of the package can be put together by consulting companies and enterprises. The advantage of the packaged promotion approach is that is maximises the value of the venture as it is brought to the international market, and offers a lot of information that would otherwise be expensive to collect (by either party); this can raise the value and extent of investment flows.

Finally, UNIDO can offer services in promoting "new" forms of technology transfer: management contracts, licensing, BOT and so on, which other multilateral organisations do not focus on. The liberalisation process raises the demand for these types of services, again mainly from small and medium firms on both sides.

The Asian Development Bank also makes loans to industry and provides technical assistance. Its interest in industry is somewhat larger than the World Bank's but not by a very large margin. Of its cumulative loans over 1968-91 of $37.6 billion, 4.2% went directly into industry and non-fuel minerals. The proportion of such loans fluctuated year by year, with no clear sign of any trend.[6] Taking recent three year averages, in the period 1986-88, they accounted for 8% of the total, and in 1988-91 for 3.8% (in 1991 alone the figure was 7.6%). The ADB also carries out industrial and strategy studies related to manufacturing, though these are not of the depth of those previously conducted by the World Bank.

The role for UNIDO here is very similar to that described earlier with respect to the World Bank: detailed industry restructuring analysis, policy studies in selected sectors, institution building in technology development, and training. There is a similar scope for cooperation and collaboration between the ADB and UNIDO on a number of industrial aspects where their work is complementary.

Bilateral donors: Table 4 above showed that aid is still of great importance to a number of countries in the region. The donors provide a variety of assistance for industry, often in tandem with the policies recommended by the multilateral agencies. Their assistance tends to be tied to sources of goods and services from their own countries, but a significant sum is left to the discretion of the recipient governments.

[WL to complete on bilaterals]

To conclude this section, the main task is to identify the things that UNIDO can do best in the context

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[6]Asian Development Bank, *Annual Report 1991*, Manila.

of the process of structural adjustment, and which are not offered by other organisations. This may need considerable specialisation compared to the present, both by subsector and by function. The need for its services have to be identified in the countries of the region, and would tend to differ by country and level of industrial and institutional development. The main needs that are likely to arise are on the design of adjustment programmes, the development of specialised industrial skills, technological upgrading and institutional improvement in industry support.

Clients

The demand for UNIDO's services in the future are likely to arise from a range of clients. The main ones are likely to continue to be governments, not so much in the context of building up industry in the public sector but in restructuring industries largely in private ownership and improving the support structure for training and technological development.

Apart from governments, demand for UNIDO's services may arise from industry itself. Large enterprises tend to have in-house technical resources and good contacts overseas, so are unlikely to call for its assistance. However, small and medium enterprises are constantly in need of support (even in developed economies), and are unlikely to be able to address generic problems of restructuring and upgrading satisfactorily in many Asian countries. Since by their very nature they cannot make individual approaches for help, it is industry associations or representatives that will be able to mount projects in which UNIDO can participate. One major task may be for UNIDO to help such bodies identify their needs and formulate coherent projects -- that is, to enable them to become effective clients.

[WL to complete]

Potential Strategic Partners

It is evident that a number of new industrial needs will arise in Asia in the context of adjustment and technical change. The present assumption seems to be that existing markets for direct investment, technology transfer, information and consultancy will be able to meet these needs adequately. It is up to UNIDO to establish that there are deficiencies in existing markets, particularly for institutional support for restructuring and upgrading for small and medium enterprises, which it can help to remedy economically. If this can be done, there would seem to be considerable scope for collaboration with other bodies.

The potential for collaboration between UNIDO and the multilateral and regional banks has already been touched on above. It is possible that strategic alliances can be struck here if a convincing case can be made for UNIDO's services in industrial upgrading.

Other strategic alliances may be possible with industry associations, particular bilateral donors and technology suppliers

[WL to complete]

Funding Options

[WL to complete]

V. UNIDO's Future Role in Asia and the Pacific: Key Themes

i. Human Resource Development

Background: One of the most important emerging themes of recent analysis of industrial development in the developing world as a whole, but particularly in Asia and the Pacific, is the significance of skill

development for efficient industrial investment and operation.[7] The proper mastery of any industrial technology, even in mature industries, requires the development of specific technological and managerial capabilities. In more advanced, technology-intensive industries, the capabilities required are very complex, and take a long period of training, technological effort and interaction with other firms and institutions to develop. It is essential to have a "receptive base" of educated and trained manpower at all levels to reach world levels of efficiency. The emerging trend towards flexible specialisation in engineering industries reinforces the need for high levels of formal skills and on-the-job training, both for handling new technologies and for new organisational forms that need broadly skilled workforces.

The human resources relevant for industrial efficiency depend on the nature of the industrial structure, the level of technology used at within each industry and the extent of local technological competence aimed at. Light industrial structures with a high level of reliance on imported technologies need a broad base of general skills while deep industrial structures with high domestic technological inputs need advanced engineering and scientific skills. The necessary skills are created by a mixture of formal school and tertiary education, vocational training, post-employment formal training and in-firm training.

Table 6 shows comparative data for formal education enrolments in the Asia and Pacific region. It suggests that there is great diversity between the countries in terms of their investments in human resource development. The established NIEs, especially the larger ones with deep and diversified industrial structures, have invested heavily in creating the human resource base necessary for continued upgrading of industry. Other countries are investing in improving their skill bases, but have some way to go if they are to match the NIEs. There are particular gaps in terms of higher education in South Asia and China. It should also be noted that the quality of education, completion rates and the relevance of the curricula for industry differ across countries. These are not captured here, but would tend to strengthen the lead of the East Asian NIEs.

Table 7 shows educational attainments more directly relevant to industry: vocational training and tertiary enrolments in science and technology, both expressed as percentages of the population. This table confirms that there exist wide disparities across countries and that the larger NIEs have established a large lead over the others. South Asia and the socialist economies again turn out to have relatively low rates of enrolment, though China has good performance as far as vocational training is concerned.

Relevance to UNIDO: Given the significance of human resource development for the success of industrial adjustment, and the large gaps that exist in many countries in the region, UNIDO can have a large role to play in strengthening these capabilities. The tasks are as follows:

Raising awareness of governments and industries regarding the significance of education and training: There is a pressing need for analytical work on the skill needs of industry, both in general and in the context of areas of future comparative advantage (which are likely to be very demanding of skills). The best ways to promote different industrial skills have to be analysed and specific solutions developed for each country.

Table 6: Educational Attainment, 1965 and 1989[1]PrimarySecondaryand TertiaryEducation

	Primary		Secondary		Tertiary	
	1965	1989	1965	1989	1965	1989

[7]See S. Lall, *Building Industrial Competitiveness in Developing Countries*, Paris, OECD Development Centre, 1990.

Old NICs:						
Rep. of Korea	101	108	35	86	6	38

Taiwan, Province of China	97	99	38	94	7	31
Singapore	105	110	45	69	10	24
Hong Kong	103	105	29	73	5	13
New NICs:						
Malaysia	90	96	28	59	2	7
Thailand	78	86	14	28	2	16
Indonesia	72	118	12	47	1	8
Philippines	113	111	41	73	19	28
South Asia:						
India	74	98	27	43	5	7
Pakistan	40	38	12	20	2	5
Sri Lanka	93	107	35	74	2	4
Bangladesh	49	70	13	17	1	4
Other:						
China	89	135	24	44	0	2

Sources: World Bank, *World Development Report 1992*; UNDP, *Human Development Report 1993*.

Table 7: Vocational and Tertiary Science and Engineering EnrolmentsPrimarySecondaryand TertiaryEducation						
	Vocational enrolmentVocational enrollement			Tertiary students in natural science, mathematics, computing [illegible]gts in mathermatics, natural science, computing and engineering		
	Year	Numbers	percentage of population	Year	Numbers	percentage of population
Old NIEs						
Rep. of Korea	1989	723193	1.72	1990	589360	1.39
Taiwan, Province of China	1985	404600	2.12	1990	212000	1.06
Singapore	1985	9400	0.36	1987	18099	0.7
Hong Kong	1987	45943	0.82	1987	27517	0.49
New NIEs						
Malaysia	1988	24032	0.14	1988	22088	0.13
Thailand	1988	336420	0.62	-	-	-
Indonesia	1988	1240907	0.72	1988	137324	0.08
Philippines	-	-	-	1987	271505	0.47
South Asia						
India	1985	677164	0.09	1987	1233798	0.16
Pakistan	1987	51395	0.05	1987	28496	0.03
Sri Lanka	1985	21800	0.13	1987	47541	0.29
Bangladesh	1988	24880	0.02	1988	102114	0.1

Other						
China	1988	4161900	0.38	1988	1160775	0.11
Vietnam	1976	65553	0.12	1980	15679	0.03

Sources: UNESCO, *Statistical Yearbook 1990*, Republic of China (Taiwan), *Statistical Yearbook*, 1992.

The role of minority groups and women in skill development, with their special needs and solutions, needs to be analysed.
Institution building for industrial training, with assessment of teacher and equipment needs, can be studied and assisted by UNIDO.
Promotion of in-firm training: Provision of specialised advice, support and institutional development to training, drawing upon the experience of the more advanced countries in the region.
Arrange for inter-enterprise training deals, between developed countries and region and within region itself.
Direct provision of special training by UNIDO.
Coordination of aid for training.

ii. Poverty Alleviation

Background: One of the primary aims of industrial development must be to alleviate poverty. While sustained industrial growth itself offers the opportunity to create highly paid employment (both directly and indirectly) there are some specific needs that need to be addressed to maximise the distributional impact of industrialisation.
Among these, one of the most important is the promotion of **small-scale enterprises**. Every industrial economy, however developed, has a large number of SSEs which are specialised in areas where there are few economies of scale and where flexibility or customisation offers competitive advantages. SSEs are thus necessary for industrial efficiency and specialisation. They can create a great deal of employment, be instrumental in the diffusion of industrial technologies, and create international comparative advantages in skill intensive areas of manufacturing.
The region has many examples of successful industrialisation based on modern and efficient small-scale industry. Hong Kong and Taiwan Province have relied heavily on smaller firms to mount their export drives. Even Korea, with an industrial sector dominated by large conglomerates, is making special efforts to promote SSEs and subcontracting arrangements between large and small firms. India has had a sustained policy to promote small scale industry, though it may have gone too far in the direction of reserving activities for it and so creating inefficiencies. Among the developed countries, Japan has perhaps the most striking example of linkages between large and small firms, with continuous exchanges of information, technology, skills and finance.
The promotion of entrepreneurship is closely linked to SSEs, but constitutes a separate area for analysis and policy. The encouragement of disadvantaged groups like women or minority groups to enter industrial activity needs special measures to train potential entrepreneurs, support them with infrastructure, finance and information. "High technology entrepreneurs" need access to venture capital type of financing to overcome the high risks attached. Many countries are trying 'incubator' schemes to help such entrepreneurs. Countries like Taiwan offer a variety of institutional support to new entrepreneurs with technical assistance, information and training.
Rural industrial development is a major aim of policy in Asian countries with large agricultural sectors. Here the need is to upgrade traditional, low-productivity technologies with some forms of intermediate technologies that eases their progress to the modern sector, and to provide basic infrastructure and skills to integrate them into larger markets. The success of rural industry in China has many lessons for the rest of the region.
Regional development policies are needed to spread industrialisation away from traditional and urban centres to more backward areas. Most countries have a variety of regulations and incentives to achieve the regional dispersion of industry, of varying degree of effectiveness. The problems loom largest in countries like Indonesia with enormous distances between islands and great disparities in levels of development.

Related to the above is the need to foster industries based on agro-resources. Food processing and the processing of other primary agricultural products is an important way of promoting employment generation in rural areas.

Relevance for UNIDO: The development of SSEs, with an emphasis on entrepreneurship development and rural industrialisation, should be a major area of future work for UNIDO. This area is not tackled by any of the major international institutions, though all acknowledge its significance. Here the risk of "market failures" is very large, since purely market based policies in an era of liberalisation and privatisation are unlikely to meet the specific needs of this part of industry. The largest needs are likely to arise in terms of technical extension, training, information, exports and linkages with large scale enterprises.

There is a great deal to be learned within the region with respect to the development of SSEs and entrepreneurship, since the world's most successful examples of such development are in East Asia. UNIDO should study closely the policy implications of these experiences, particularly concerning the institutional and incentive measures adopted to promote efficient outward-looking small enterprise development. It should pay special attention to the needs of technical services and skill development to meet SSE needs, since many other attempts at promotion do not seem to have addressed these needs adequately.

It may be advisable to adopt agro-industry as a major area of UNIDO specialisation, with the ability to offer a 'package' of advice, consultancy and other services to upgrade this industry.

iii. Environmentally Sustainable Development

[WL to write]

iv. Industrial Competitiveness

The basic premise of the current industrial policy in Asia and the Pacific is that all forms of manufacturing in the developing countries in the region should become internationally competitive, regardless of whether enterprises are oriented to domestic or export markets. The development of greater competitiveness requires a combination of the right incentive structures (which will presumably be achieved by adjustment), investments in skills (above) and technical effort.

The best stimulus to investments in the capabilities needed for industrial competitiveness arises from a competitive business environment and an enabling institutional environment. Adjustment exposes industries to international competition and frees up domestic competition, and so provides a powerful set of incentives to efficiency. If infant industry considerations are kept in mind (with short and closely monitored periods of protection for a few selected activities, as done by Korea and Taiwan Province), a liberal trading regime provides the best setting.

In such a setting, the rehabilitation and restructuring of existing industry becomes the top priority. This may be a slow and expensive task, involving retraining, the induction of new technologies and work practices, new organisational methods, greater specialisation and considerable investments in indigenous technological effort. It would also require the building up of technology support institutions, to provide standards, metrology, testing, contract research, information and so on.

Table 8: R&D Spending and Manpower[1]SecondaryEducation

	Year	R&D % GNP	R&D in productive sector (% of GNP)	Year	Scientists and engineers in R&D per million population

Old NIEs					
Rep. of Korea	1991	2.3	1.9	1988	1346.3
Taiwan	1991	1.8	1	1989	1987.1
Singapore	1987	0.89	0.53	1987	1297
New NIEs					
Malaysia	1989	0.8	0.05	1983	181
Thailand	1987	0.22	0.13	1987	103.3
Indonesia	1988	0.19	n.a	1988	182.5
Philippines	1984	0.12	0.04	1984	90.4
South Asia					
India	1986	0.92	0.19	1986	111.4
Pakistan	1987	0.92	0.48	1988	63
Sri Lanka	1984	0.17	0.02	1985	176.6
Other					
Vietnam	1985	0.13	0.06	1985	334
UNESCO, *Statistical Yearbook 1990*; Republic of China (Taiwan), *Statistical Yearbook 1992*					
Includes technicians.					

Table 8 shows the formal technical effort in the largest countries in the region (data for China and Hong Kong are not available). It shows that the East Asian NIEs are spending the largest amounts on R&D (especially in the productive sectors of the economy) and employing the largest relative numbers of scientists and engineers in this activity. In fact, Korea and Taiwan Province are ahead of many OECD countries in these respects, testifying to the efforts they are making in sustaining industrial growth at the highest levels of efficiency and in many extremely complex forms of technology. The new NIEs are far behind, further than South Asia, but are able to sustain their success based on the spillover of technology from the old NIEs and by virtue of specialising in relatively low-technology processes. There is little doubt, however, that over the longer term they will have to increase their technological investments as they move into more complex industries and develop their own capabilities.

Formal R&D is only the tip of the iceberg of technological effort. The bulk of productivity raising effort

goes unrecorded, on the shop-floor, in process engineering, product design, quality control, equipment maintenance, industrial engineering, minor adaptations, procurement and so on. It is here that the most intense efforts have to be made in most developing countries to achieve world competitiveness.

The importance of institutional support for such activities has already been noted. There are a number of tasks that firms cannot do in-house, while many smaller enterprises may not even be aware that these are necessary for their survival and growth. Thus there has to be a support structure that informs and persuades enterprises of the need for technological effort, and offers them help to do things that are too expensive or complex to do within the firm. This applies not only to complex technological functions, but also to routine tasks like quality control, standards, maintenance, testing and design. Since technical upgrading also involves a variety of specialised training at all levels, institutional support is also necessary for this. As noted, the development of efficient specialisation between large and small firms, and of intense subcontracting linkages between them, is a vital ingredient of this process, and also calls for institutional support.

A crucial ingredient of the entire competitiveness development process will be the improvement of managerial skills. This is clearly necessary for the better management of any technology and for the upgrading of operational capabilities. The need for management improvement becomes all the more necessary for entry into world markets or the survival of freer import competition that adjustment brings. The nature of technical progress, with the growing role of flexible specialisation in several activities, also requires greater emphasis on organisational and human development factors rather than 'pure' technology. This calls for new styles of management and the induction of new management skills.

Relevance for UNIDO: The promotion of industrial competitiveness should become a major focus of work for UNIDO. This is where policy attention in the region will concentrate in the near future, and where other international institutions have little concrete to offer. Yet the difficulties that exist in the provision of an appropriate policy framework for technological upgrading (apart from general considerations of liberalisation and privatisation), and the market failures that affect the efforts of individual firm in getting the information, skills, assistance and research help they may need, mean that there is enormous scope for UNIDO to develop a specialisation in this area. This fits in nicely with the concept of its offering a 'package' of restructuring, training, technology transfer and institutional development services.

In more specific terms, UNIDO may approach the upgrading of industrial capabilities by focusing on the following:

Technical assistance in setting up and upgrading the technology support infrastructure. In this area there are possibilities of collaboration with the World Bank (and perhaps ADB).

Analysis and advice on "science parks" and incubator schemes.

Analysis and policy advice on means to intensify linkages between technology institutions and industry.

Analysis, advice and technical assistance on training at all levels, including management. This would include in-firm training, training in special institutions that deal with particular sectors, post-employment training in collaboration with industry (along the lines of Singapore).

Special task force to help introduce ISO 9000 standards in Asia and Pacific.This would include the upgrading of standards institutes, certification of private testing facilities, incentives for firms to have a quality 'audit' and to invest in setting up the required process and testing facilities (the EC has a special grant facility for this purpose, but governments need special assistance on how to mount the effort systematically).

Analyse the feasibility of setting up industrial restructuring institutions, perhaps undertaking some "model" restructuring to show the best way to tackle this problem. Although UNIDO cannot undertake firm-level restructuring on any significant scale, the idea of demonstration projects is feasible and could be very useful.

Arrange for international collaboration on technology and R&D. Some of this would be part of UNIDO

activities in investment promotion, while some would be an independent activity concerned more directly with the technology infrastructure.
Help countries to develop an efficient structure of supporting industries, especially SSEs, and promote subcontracting as a means of technology diffusion and specialisation.
Offer advice to SMEs on entering export markets.

v. International Industrial Cooperation

Background: As noted above, the industrial sector is rapidly becoming internationalised, in terms of ownership, technology and sales. The advent of new technologies, the opening up of the economies of the countries in Asia and the Pacific and the need to restructure industries, all mean that a major effort has to be made to attract FDI, buy new technologies in other forms and enter into collaborative arrangements with international firms. The rising costs of many frontier innovations means that it is becoming increasingly difficult for developing country enterprises to keep up without direct participation in their equity by TNCs. At the same time, the more advanced countries in the region are becoming important exporters of FDI in their own right. Tables 4 and 5 above showed the extent of FDI flows into the region and within the region.
It is evident that there are wide disparities between Asian countries in their openness and attractiveness to direct investment. While important policy changes are under way that will make FDI more welcome in almost all countries, there is need for effort to improve the investment climate and for raising access to technology transfer in other forms. Many of the traditionally inward-oriented economies have to build up a stock of information and institutions that are geared to seeking and receiving foreign investment and technology rather than screening and protecting local enterprises. These changes are not easy, especially for smaller enterprises.
There is also a need for the removal of barriers to trade and investment within the region. The efforts to develop regional integration have been noted earlier, where again differences between different sub-regions emerge. It is not necessary to subscribe to the idea of regional blocs as a policy ideal to advocate greater integration. Efficiency and development needs are sufficient to justify the case for greater trade, investment and technology flows within the region. The fact that it is the most dynamic region in the world, and future prospects continue to be very good, makes it all the more important for the lagging countries to join in the dynamism of the group as a whole.
Relevance for UNIDO: There are several possibilities in this area.
The area where UNIDO can make the greatest contribution to international cooperation in the region is perhaps in terms of investment promotion and technology transfer. As noted earlier, its unique advantage may lie in the ability to provide a 'package' of investment promotion, equipment sourcing, technology transfer, restructuring diagnosis and direct assistance with training.
This may be complemented by its ability to promote cooperative arrangements between developed country and more advanced (but smaller) Asian enterprises for technological development.
UNIDO's special role in the promotion of SMEs in this sphere can take the form of providing information on sources of technology and equipment. UNIDO may assist governments to set up data banks on technology, following the lead of Korea (which has on-line information in a number of regional capitals for all SMEs that wish to import technology).
Since the region itself is a major supplier of equipment and technology (Japan for very advanced technologies, the NIEs and other countries like India and China for more standard technologies), UNIDO could focus its information efforts on promotion intra-regional technology transfers. It may be best to concentrate on a few selected sectors in which UNIDO builds up special technological expertise.
The promotion of regional cooperation as such is largely a political decision, but UNIDO can play a role in specific industrial sectors by coordinating industrial restructuring efforts, promoting symposia on

common problems and solutions, encouraging visits by relevant officials and entrepreneurs and suggesting a more integrated approach to future development.

[CHAPTER 6 TO BE WRITTEN BY WL]

Appendix Table 1: Developing Asia: Selected Indicators of Economic Performance 1990 - 1991

	1990	1991
Gross Domestic Product	Annual percentage change	
Developing Asia	6.2	5.8
Newly Industrialising Economies	6.8	7.3
China	5.2	7
Southeast Asia	7.7	5.9
South Asia	5.5	2.7
Pacific Islands	-0.5	6.1
Inflation	Per cent change in CPI	
Developing Asia	7.0	8.2
Newly Industrialising Economies	7	7.7
China	2.1	3
Southeast Asia	7.1	8.8
South Asia	11.5	13.2
Pacific Islands	7.5	6.1
Resource Gap	Per cent of GDP	
Developing Asia	0.1	-0.2
Newly industrialising economies	2.2	0.5
China	2.2	2.4
Southeast Asia	-1.4	-1.3
South Asia	-3.4	-2.6
Pacific Islands	-5.6	-14.7

Debt-Service Ratio	Per cent of goods and services exports	
Developing Asia	16.2	15.7
Newly industrialising economies	10.7	12
China	10.3	9.2
Southeast Asia	20.1	18.6
South Asia	25	25.1
Pacific Islands	24.6	18.9

Source: Asian Development Bank; *Asian Development Outlook 1992*.

APPENDIX TABLE 2: Share of private investment in total investment, 1985-1989 (percentage)

Country	1985	1986	1987	1988	1989
Southeast and East Asia	64.2	62.7	67.4	70.6	72.6
Fiji	67	67.3	69.9	60.2	56.6
Indonesia	47.6	52.2	52.3	54.2	59.2
Korea, Rep. of	73.8	74.6	78.9	80.5	81.3
Malaysia	47	40.7	48.8	62.2	64.4
Papua New Guinea	76.9	68.6	73.9	72.6	76.3
Philippines	75.5	75.2	77.4	77.2	78.3
Singapore	63.7	58.1	64.8	76.4	82
Thailand	61.9	64.7	73.3	81.2	83.0
South Asia	49.1	47.3	48.3	50.6	50.1
Bangladesh	48.5	43.2	41.1	49.6	51.3
India	50	48.1	48	50.2	50.7
Nepal	61.3	58.3	60.6	56.4	44.2
Pakistan	41.6	41.2	40.6	41.9	43.6
Sri Lanka	44.1	45.7	51.1	55	60.9
Sample of 40 developing countries	53.2	53.3	55.3	57.1	58.4

Simple average only.

Simple average only.

Note: Averages have been recalculated.Simple (non-weighted) average.

Source: Pfeffermann, G.P. and Madarassy, A., *Trends in Private Investment in Developing Countries, 1990-1991 edition*, IFC Discussion Paper No. 11, January 1991.