Common Futures
BIMSTEC

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The Problem

- **Can we think in a realistic manner on triangles of prosperity in South Asia and the BIMSTEC region? What are the sustainable development issues in the populous South Asian region, which has the largest share of poor people in the World. What are the strengths of the other countries?**
- **The argument is that whenever we have looked at solutions in a "practical" manner the finger points at larger regional perspectives. But while there are common heritages in many cases, sometimes "experience" and institutions are dissonant**
- **We have included analysis for Pakistan since it is a large South Asian country although not a "Bay of Bengal" economy. We have had difficulties in getting data for Bhutan for which apologies.**

Major Issues

An area of high population densities, it has a carrying capacity problem and food security, employment, energy and water are emerging as critical issues. From the few studies that have been done, it seems that the problems will become acute and need immediate attention.

On the flip side are technology and the irreversible path of economic liberalization in a global setting, clearly pointing at strategic regional initiatives, as a part of the reform process. The strongest argument of this paper is that reform is making many old mind sets irrelevant

- **Demographic-Economic perspectives suggest that major emphasis has to be on institutions and policies. The regional cooperation agenda emerges from and is a necessary part of the reform process in South Asia.**
- **Second old mind sets which work in terms of Bismarckian diplomacy structures, rather than modern rules of functioning of techno-economic systems stand in the way of substantial progress.**
- **Third the development of such rules will have to be in a strategic policy framework which accounts for the different sizes, initial conditions and resource endowments of the countries.**
- **Fourth such frameworks can be developed and in a rudimentary form are already there.**
- **Finally a step wise process of progress should be strived for rather than big bangs which fail.**

The Economies

- **Per capita growth in the recent period has been above 3% annual in India and Sri Lanka and between 2 to 2.5% annual in Pakistan, Thailand, Myanmar, Bangladesh and Nepal.**
- **The savings rate is high in India, which also has a high investment rate. Also in Thailand**
- **In some of the other economies, the savings gap for growth is financed through inflows from abroad.**

Selected Economic Indicators: South Asia

S.No.	Country	Gro ss I As % GDP		Gross S As % GDP		Per Capita GDP US $	Per capita Income Gr. Rate	
		1988	1998	1988	1998	1995	1980 -89	1990 -98
0	1	2	3	4	5	7	7	8
1	Bangladesh	12	21	3	15	204	2.0	2.3
2	India	24	25	21	23	439	3.6	3.5
3	Nepal	20	21	8	9	208	2.4	2.0
4	Pakistan	18	17	9	13	366	3.0	2.6
5	Sri Lanka	21	24	9	17	517	2.9	3.0
6	Thailand	24	24	18	24		4.2	2.8

Demographics

- Population densities are high. Fertility rate is above 5 in Pakistan and Nepal, between 3 and 3.5 in Bangla Desh, Thailand and India 2.2 in Sri Lanka. Rural poverty rates are high, but not in Thailand, although they went up in the period 1998/99

Demographic Characteristics in South Asia

S.No.	Country	Population Density	Fertility Rate	Population Growth%	Rural Poverty % (90)
0	**1**	**2**	**3**	**4**	**5**
1	Bangladesh	857	3.3	2.3	51
2	India	301	3.4	1.9	27
3	Nepal	168	4.6	2.6	43
4	Pakistan	178	5.6	3.0	31
5	Sri Lanka	286	2.2	1.5	36

Per Capita Consumption of Agricultural Processed Commodities in India

S. No.	Commodity	1955/56	1975/76	1990/91	1996/97
1.	Foodgrains (FiveYear Average of Kgs. ending with Year)	155.6	158.5	180.6	181.2
2.	Edible Oil and Vanaspati Kgs./Yr.	3.2	4.2	6.5	7.4
3.	Sugar (Kgs./Yr.)	5.0	6.2	12.5	14.1
4.	Textiles (cotton equivalents) (Metres/Yr.)	14.4	17.6	24.8	29.0
5.	Tea (Kgs./Yr.)	0.36	0.45	0.61	0.63
6.	Milk (Lts./Yr.)	4.71[1]	4.6[2]	6.3	8.41
7.	Eggs (Nos./Yr.)	5.31[1]	15.5[2]	26.0	32.0
8.	Vegetables and Fruits (Rs. in constant prices)		3.1%[3]	5.2%[4]	5% Maintained
9.	Plywood		3.9%[5]	10.3%	
10.	Paper and Paperboard		4.3%[5]	7.1%[6]	
11.	Newsprint		4.0%[5]	21.1%[6]	

Growth and Diversification

- Growth has led to increase in the level of agricultural demand and diversification in its structure.
- Non-grains growing faster than grains and non-crop based agriculture even faster.

  Indian data shows that from the mid Seventies when the Indian economy started growing at faster rates, foodgrains demand increases, but the growth of sugar, oil, cotton is faster and milk, eggs, vegetables and fruits and forest products grow even faster.

Selected Agricultural Indicators : South Asia
(in 1989 - 91 US $)

S.No.	Country	Agricultural Output per ha	Growth in Agricultural output	Irrigated area %	Growth	Fertilizer Kg/ha	Govt. expenditure on agriculture % of Agriculture GDP
		1988	1989-95	1995	1989-95	1995	1993
0	I	2	3	4	5	7	7
1	Bangladesh	931	1.7	32	4.3	136	3.2
2	India	665	3.0	32	3.4	82	6.3
3	Nepal	765	-1.4	30	-0.5	32	3.7
4	Pakistan	898	3.9	80	0.8	116	3.6
5	Sri Lanka	965	2.0	29	0.5	106	8.1
6	Average Asia	1059	2.8	33	2.1	102	8.1

Growth and Diversification

- The diversification of the agricultural demand basket became a significant feature of the Tiger economies from the mid-eighties onwards. FAO projected that up to 2010, GDP growth would be 7% annual in East Asia and 4.4% in the Near East and North Africa, with the West Asian (Near East) component growing faster.(See Nikos Alexandratos, 1995) Per capita income growth was 5.7% annual for East Asia. With this kind of income growth there was a shift of demand to non-cereal food items and commercial crops.
- Countries projected to have high volumes and growth of agricultural imports were Japan, Hong Kong, the Republic of Korea, Saudi Arabia, Singapore, Malaysia, Indonesia, the Islamic Republic of Iran, Thailand, Kuwait and Oman. These countries were estimated to be large and growing markets for fruit and vegetables, meat and countries like Japan and Korea, of fish. In fact up to the mid nineties the agricultural import of each of these countries was growing between 4 to 8% annual. (See Y.K.Alagh, World Food Day Lecture, FAO, Bangkok, Oct. 2002, also First Dantwala Lecture, 1999 and ESCAP, 1995).

Meltdown and Diversification

- **The East Asian slowdown seems to have led to a slowdown in the diversification of the agrarian economies of the NIE's. We developed a simple indicator of diversification' namely the change in the index of livestock production in a country divided by the index of agricultural production. According to the World Development Indicators, the long term annual GDP growth rate through 1997 was 7 to 8 % for Indonesia, Malaysia, Thailand and the Republic of Korea, respectively.**
- **In the period, 1984 to 1994, the incremental livestock to agricultural production ratio was 2.12, 2.18, 2.59 and 2.56 respectively for these countries.. The GDP growth of these countries went down to 4.7%, 2.9%, 0.3% and 4.4% and the incremental livestock to agricultural production ratio went down to minus1.79, 1.01, minus 1.61 and minus 0.72 in these countries, from 1994 to 1999.**
- **On the other hand countries like China which grew at around 8% since 1980 and where the growth did not decelerate, had the incremental livestock to agricultural production ratio of 1.82 in the earlier period and 1.59 in the later period suggesting that the momentum of diversification and widespread agricultural growth was kept up.Also in India.**
- **Data on vegetable and fruit production is available only for the Nineties (FAOSTAT), and the incremental vegetable to cereal production ratio is minus 1.14 in Indonesia, minus 2.58 in Malaysia, minus 0.3 in Thailand and 1.43 in South Korea from 1994 to 1999. (I am grateful to Munish Alagh for these ideas.)**

Food Hunger and Reform

- **The problem of hunger will remain, although evidence suggests that hunger incidence is less than poverty. In India for example 7% of households said that they did not get two square meals daily, while poverty rates were 27%. The region are going to grow fast in the next two decades. Per capita demands will rise faster for the agricultural sector than in the past. The food basket will diversify. Non grains will grow faster than grains and non-crop based agriculture will grow even faster. Diversification will also be accelerated by larger trade in agriculture.**
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- **Poverty and hunger will go down in the region. The extent will depend in the main on achievement and sustenance of agricultural growth rates of three to four percent annual, focused policies of widespread rural development based on participatory development strategies. With the most favourable set of policies, hunger can be eliminated by 2020. According to an ADB sponsored study with a high investment strong reform strategy, per capita food availability can go up to 2719 k.cal/person in 2010 in South Asia. (ADB, 2001)**
- **Growth based on area expansion is going to stop and more intense use of land and yield expansion will be the drivers**

LAND AND WATER RESOURCES IN PERSPECTIVE

Sl. No	Variable	1991/92	1996/97	2001/02	2106
1.	Population (millions)				
	a. Planning Commission	856	938	1016	1 099
	b. UN (FAO)	874	955 [1]	1042	1130
2.	Net Area Sown (mn. bec.)				
	a. Planning Commission estimate	140	141	141	141
	b. Revised	141		141	141
3.	Gross area sown (mn. hec.)				
	a. Planning Commission estimate	182	191	197	203
	b. Revised	183	191	197	205
4.	Gross Irrigated Area (mn. hec.)				
	a. Planning Commission estimate	76	89	102	114
	b. Revised	64	78	92	107
5.	Cropping intensity				
	a. Planning Commission estimate	1.30	1.35	1.40	1.44
	b. Revised	1.30	1.35	1.40	1.45
6.	Gross Irrigated Area as % of Gross Area Sown				
	a. Planning Commission estimate	41.5	46.9	51.7	56.1
	b. Revised	35.0	41	46	51

Source: Table estimated by Y.K.Alagh, in Lele, et. al.,World Bank, 2000 .

The Nineties

- **Irrigated area: share and growth, 1967 to 1995 (growth rates on 3 - year moving averages)**

Country	Share of Agricultural Area Irrigated		%Growth of Irrigated Area	
	1970	1995	1967/1981	1982/1995
Bangladesh	11.63	37.56	4.95	5.39
China	37.18	37.02	1.59	0.79
India	18.44	31.82	2.64	2.42
Myanmar	8.04	15.38	1.87	3.37
Nepal	5.91	29.82	12.55	2.67
Pakistan	66.99	79.63	1.39	0.89
Sri Lanka	24.55	29.16	1.91	0.21
Thailand	14.19	22.70	4.23	2.78

- **SOURCE: Y.K.Alagh, World Food Day Lecture, FAO, Bangkok, Oct.2002**

- **Things are pretty bad. Only Bangla Desh and Myanmaar did well**

Issues

- The net area sown or arable land of the country will remain constant at 141 million hectares. Growth in net area sown at around 1% annual in the early period of planning fell to around 0.6% and then to 0.3% in subsequent decades and is now not growing at all. It is reasonable to assume that the geographical area of the country or the extensive land frontier for exploitation has reached its limits.
- This is an important issue, the implications of which are not being realised with the urgency they deserve, since at a basic level resource constraints of a more severe kind faced by certain East Asian economies are now being approached in India. Organisations, communities, households and individuals will have to grasp this fact and live with it.
- The intensive frontier for land use, however, remains. It has been known for example that cropping intensity depends on irrigation. Thus gross cropped area or harvested area has been shown in the past to be strongly determined statistically, in an econometric sense, by net irrigated area and irrigation intensity.' This fundamental relationship can be used to project the intensive resource base of the economy. By the end of the next decade India would have used up most of its balance water reserves, with the irrigated area reaching around 114 million hectares by 2010.

COST OF GENERATION WITH DIFFERENT FUELS IN INDIA

Fuel Type/Location	**Delhi**	**Gandhar**	**Vizag**	**Cuddalore**	**IB Valley**
1.	2.	3.	4.	5.	6.
Domestic Coal	1.99	2.09	1.77	2.13	1.58
Imported Coal	2.48	2.16	2.15	2.16	2.26
Domestic Gas	1.82	1.90	1.75	-	-
Imported Gas	2.14	2.08	2.14	2.14	-
Imported LNG	2.47	2.21	2.21	2.21	-
Domestic Naphtha	2.44	2.66	2.61	2.60	2.66
Imported Naphtha	2.46	2.19	2.19	2.23	2.29
Domestic FO	2.47	2.48	2.41	2.49	2.55
Imported HSFO	2.45	2.17	2.17	2.21	2.27

Costs for Indian coal vs. Imported naphtha

p/kwh

Fuel Type/Location	Delhi	Gandhar	Vizag	Cuddalore	Ib Valley
Indian Coal	199	209	177	213	158
Imported Naphtha	246	219	219	223	229

Energy Projections

S.No	Fuel Source	1996	2020		2050	
			Actual Bu	Eff Bu	Eff	
0	1	2	3	4	5	6
	% age share of :					
	1. Coal	30	38	35	33	32
	2.Oil& Natural Gas	24	50	50	62	61
	3.Renewables	46	12	16	5	7
	[In (3) fuelwood falls,solar,wind, hydel, nuclear increases]					
	4. % growth over 1996 of					
	Primary Energy	327	263	853	683	

Source: O. Scwank, T.von Stokar and N.North, Long Term Carbon Emmission targets, in P.Audinet, et.al.,(ed.), Essays On Sustainable Development, Delhi, Manohar, 2000, p.135.

Strategies

- **The Need to Complete the Nuclear Fuel Cycle on thorium and to rapidly expand the Fast Breeder Technology Power Plants. The recent experience on nuclear power clearly demonstrates the economic efficiency of the sector, if the research costs are borne by the State.**
- **Partnerships for a rehab and modernisation policy**
- **The need to rapidly expand hydel projects with state of art project preparation and implementation techniques**
- **The need to complete the HVDC National Grid**
- **And as the Indian Planning Commission say to develop a Regional Energy Policy**
- **The need to Expedite Energy sector economic reform as a part of strategic policies for the sector.**
- **Unfortunately in the privatisation debate, the need for strategic policies and public sector reform is heavily discounted**
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Projections for the Year 2020

POPULATION	1330 million
URBAN POPULATION	Low : 465 million; High : 590 million
SLUM POPULATION	Low : 85 million; High : 130 million
SOLID WASTE DISPOSAL	100 to 110 million tonnes
DEMAND FOR COAL FOR POWER GENERATION	Low : 817 million tonnes; High : 2016 million tonnes
WATER SHORTAGE	Around 10% to 25% between the years 2020/50
NOISE LEVELS	Twice the norms in trend forecast
AIR POLLUTION	Two to two and a half times the norms in trend forecast

Source: UNU/IAS, 2000.

Interregional Cooperation

- . **It is important that a strategic policy framework is established in which market policies and public initiatives can lead to the BIMSTEC producing cost effective and sustainable energy for its millions . Regional water and energy co-operation projects need much greater attention.**
- **A recognition that water and energy is scarce and its long range marginal costs will have to be met, will add a greater degree of realism to the existing attempts at developing inter-country projects. The surplus countries will find export of water or energy more profitable and the deficit countries, particularly India will learn the opportunity cost of the resource.**
- **The Indian experience in working the "availability" tariff, for interregional transfer within the country and the National Grid, provides the basis for such an approach. The process should be reform driven and not with "old style diplomatic negotiations"**
- **The structure of the Mekong Commission, where a high level political machinery is backed up by administrative and technical groups, could provide a solution path.**
- **Cooperation between India and Bhutan is an example**
- **Also emerging trade and road links with Myanmaar.**
- **The larger agreements being signed now are all in the right direction**

Water Problems

- The problem of imposing a hard budget constraint at the local level and helping those who help themselves, is a difficult one to address. Another way of setting the problem, is to harness the great vitality of decentralised markets and integrating them with the growth, process in the core areas of local and regional concern.
- The need is to harness the great vitality of decentralised markets in replicating widespread infrastructure growth, with institutions and organisations which foster limited and well focussed areas of community and cooperative action
- For any infrastructure it has been known that on the demand side, the alternative has to come from management measures and increased end use efficiency ultimately leading to tapering of demand.
- Resource conservation methods can help to a certain extent to reduce the shortages and, therefore, have to be accorded high priority.

priority.

Large Country Initiatives

- At a concrete level:

1. India as the largest country must ensure that the long range marginal price of electicity is paid to the producer, anywhere in the sub-continent and not subject them to “negotiated” lower prices;
2. the “availaibility tariff” must be enforced for short run trade and the Indian HVDC national grid, the Power Trading Corporation, must move the distribution and transmission systems, to market based functioning, with consumers and producers walking in and out of systems in real time;
3. a Mekong kind of political-expert system may be conceived;
4. for the poor and backward regions in the sub-continent, India has set up a Fund of a hundred million dollars in the medium term. We had earlier suggested this to provide comfort to producers for giving a marginal preference to poor areas, say by a 25% premia on wage incomes introduced in economic benefit calculations of LRMC

Partnerships

- In the middle of September, I led a Rajiv Gandhi Foundation delegation to China. With an introduction from the Chair Person of the Foundation, the delegation met some outstanding Chinese scholars and was given access to areas off the beaten track. The developments in the Shengzhens and Shanghai are old hat. What is not so widely known is the policy debates China is going through and the developments in the so called backward areas. Of course towns like Hangzhou in the exploding eastern coast are growing fast, but Cities like Chengdu, Leshan in the “backward West” and of similair size of Pune, Ahmedabad and Lucknow are going through massive investments and growth as also the explosion of infrastructure investments.
- The growth of manufacturing investment and output is again old hat, but what is again less known that a rapidly growing non- agricultural economy is pulling the agricultural economy up by its bootstraps, inspite of all the problems the rural economy in China is facing.
- Rural economies, subsisting on a low yielding cereal economy, are now growing many crops, visible to the naked eye, more so in the so called backward west as compared to the eastern seaboard which given its resource endowments is till the rice bowl. The demand for these rapidly diversifying areas is sustained by the high growth of purchasing power and the improvements in transport infrastructure, bringing larger markets in the purview of the rural economy.
- Private Public patnerships with a regional focus have great possibilities. Transport , energy and social infrastructure are all possibilities. India’s 2005 budget and the ensuing SUVs are steps for this.

Conclusion

- . Public Private Partnerships in Infrastructure have large possibilities. India is now experimenting with around ten billion dollars
- Given the primacy of water rights, storage designs are now smaller and concern for riparian rights much higher. There is also much greater recognition of the rights of project affected persons and rehabilitation . Sensitivity to cultural roots is also emerging although the literature is still of an economistic variety. The economic issues that arise with interbasin transfer of water projects are just emerging, as also techno-economic models which integrate energy and modern water conveyance technologies with agriculture and rural conditions in densely populated countries. The Mekong Agreement was also another approach to conflict resolution with a three tier structure built in for problem solution. At the highest level a political machinery, at the second level a bureaucratic structure and at the third level an expert system, provided new approaches, as compared to earlier more partial systems. There is need for work on such developments and their implications for project design and impacts on energy and food requirements of poor populations.(For details of these and other research issues on the water sector See Y.K.Alagh, Water and Food Security: A Research Agenda in Ibid., van Rinsum and de Ruijters, pp. 25-27.)
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