

**Update on the Nutrition Situation, 1996 – Summary of results for the  
third report world nutrition situation**



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# Update on the Nutrition Situation, 1996 – Summary of results for the third report world nutrition situation

UNITED NATIONS



NATIONS UNIES

ADMINISTRATIVE COMMITTEE ON  
COORDINATION – SUBCOMMITTEE ON  
NUTRITION

## UPDATE ON THE NUTRITION SITUATION, 1996 – SUMMARY OF RESULTS FOR THE THIRD REPORT ON THE WORLD NUTRITION SITUATION

New estimates of trends in malnutrition show some improvement worldwide, but at a substantially slower rate in the last few years than in the 1980's.<sup>1</sup> This slowdown is cause for concern. It means that, while the end of hunger and malnutrition had been coming into sight in the distant future, this prospect is now receding again. For example, at the 1990's rate malnutrition would not be overcome in South Asia for the next 200 years. Goals from the World Summit for Children of 1990, and the International Conference on Nutrition of 1992, of halving the prevalence of malnutrition between 1990 and 2000 are becoming even less likely to be met as the decade goes on. More than ever, further action is needed.

Some of the reasons for this slowdown can be quite readily understood – as touched on in this summary – while others are less clear and need to be elucidated. This is important in order to know how to reverse the falling rate of progress. Poor economic performance in recent years has led to failure to further reduce poverty in many countries, in contrast to the 1980's, having a direct effect on nutrition. Drought in parts of Africa and Asia has also contributed.

At the same time, some important interventions for child health, notably immunization, reached nearly maximum population coverage, so that most of these benefits to nutrition have been achieved, and further progress becomes more difficult.

The proportion of children underweight provides the commonest indicator of malnutrition, and is the main one used here. Being underweight – even mildly – increases risk of death, and inhibits cognitive development in children, leading to less fit and productive adults; moreover it perpetuates the problem from one generation to the next, through malnourished women having low birth weight babies.

As can be seen in Figure 1, the underweight prevalence in South Asia (of which India is over 70% of the population) is around 50%. This is half again higher than the next region, South East Asia, where around one third (32% in 1995) of the children are underweight. Sub-Saharan Africa, in contrast, has a lower prevalence of nearly 30%. The global prevalence (for developing countries) is estimated as 29% in 1995. Translating these prevalences into numbers of children (see Table 1), we can see that over half of the world's underweight children are in South Asia: 85 million out of a global total estimated at about 160 million.

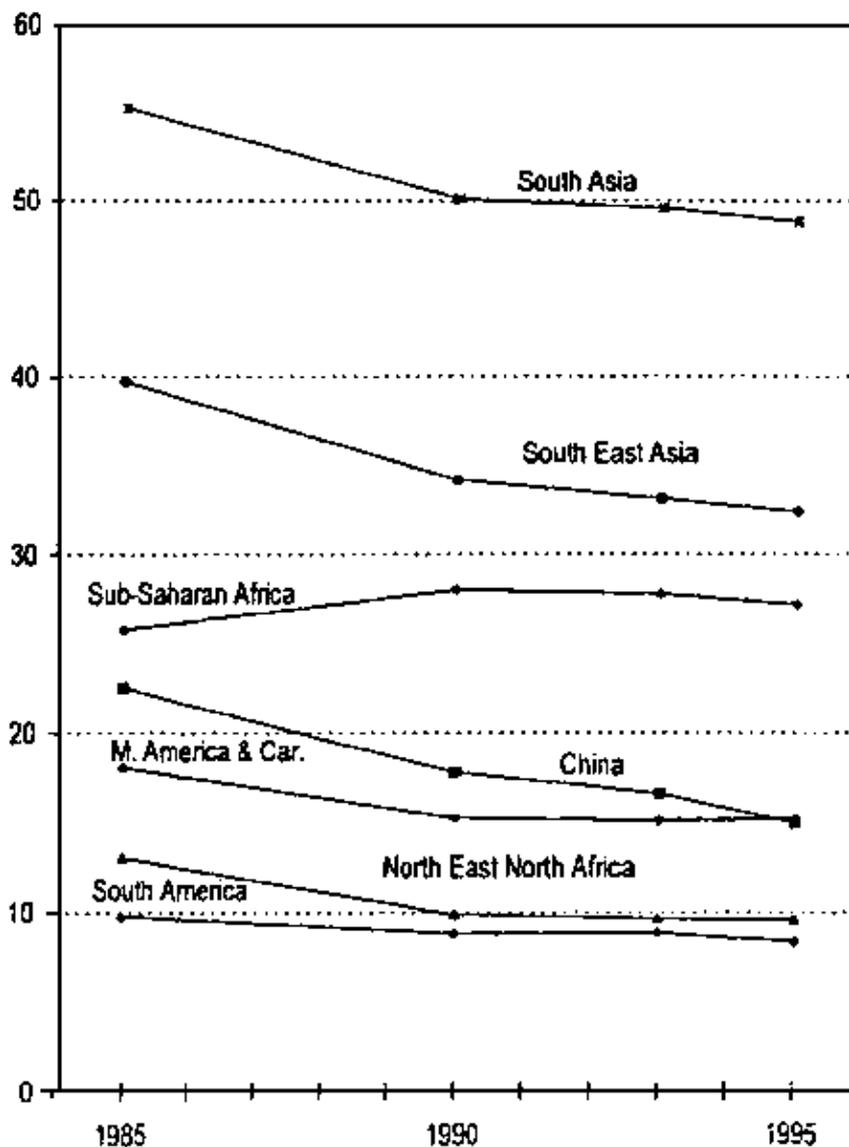


Figure 1. Trends in prevalence of underweight children, 1985–1995

### A MESSAGE

In spite of economic difficulties and setbacks in many countries, major advances in nutrition have been made over the last twenty years in many countries in all regions of the world. Rates of malnutrition have fallen by a quarter, the hidden hungers from micro-nutrient deficiencies have been sharply reduced, new capacities have been established and proved themselves in preventing famine at times of natural disaster – as visibly demonstrated in Southern Africa in the early 1990s.

Of course, the world still has far to go to eradicate malnutrition and all the threats to nutritional security. And at this very moment, millions of refugees and displaced persons are at risk of death from hunger in Central Africa, the result of conflict, chaos and failures of political leadership.

Nevertheless, three important lessons are clear from those areas where nutritional progress has been made:

- many improvements in nutrition and food security are possible at low cost
- most countries can make rapid advances in reducing malnutrition and improving food security, even ahead of achieving economic growth or reductions in poverty
- the sooner improvements in nutrition are achieved, the more rapidly these improvements can contribute to a country's broader development – to the health and productivity of its households, to the strengths and capacity of its labor force and to the growth and education

of its children, including their capacity and motivation to learn in schools.

The international community has much to contribute to nutritional advance in all these respects, by helping to establish and sustain national efforts of food security and nutrition improvement, in addition to providing vital support for food and emergency aid at times of disaster and conflict.

The single most important lesson for accelerating progress in food security and nutrition can be summarized in three words: "Commitment is vital." This is why we all must welcome the Declaration of the World Food Summit. Commitment to reduce malnutrition is needed at the highest political levels in all countries, backed up by leadership and support elsewhere, particularly from governors and mayors and from all involved in the care and upbringing of children.

Those of us involved in the UN's work in nutrition look to the World Food Summit of 1996 to be a major step forward in the march to mobilize action and renew commitment to food security and nutritional progress. We join wholeheartedly in the call to play our part in implementing this plan of action. Hunger and malnutrition can be ended, if we are determined to succeed.

**Richard Jolly**  
**Chairman, ACC/SCN**  
**November 1996**

Trends in underweight prevalences are the key consideration, telling us about progress in nutrition itself, and more generally in human development. The global goal of halving the prevalence from 1990 to 2000 means bringing the 30% prevalence down to 15% in the decade, an overall rate of – 1.5 percentage points per year. The global 1985–90 rate was about half this on average (although some countries could have reached the goal), but the 1990–95 rate has slipped, globally and in most regions, to less than one fifth of that necessary.

The most common pattern seen, either from repeated national surveys or from interpolation methods,<sup>2</sup> is an improving trend in the 1980s, becoming relatively slower in the early 1990s, with some evidence for speeding up again in the last year or two. The full set of survey data is given in Table 3, at the end of this paper, showing directly estimated trends. In Sub-Saharan Africa the situation has been nearly static, on average, for the last decade. As discussed later, different patterns are seen in different countries: some like Zimbabwe and Kenya showing the more usual pattern ('90s trend worse than '80s); others such as Madagascar and Zambia the opposite way round (see Figures 2 and 3). But most of Sub-Saharan Africa is now worse off nutritionally than 10 years ago.

South Asian trends on average depend substantially on the situation in India, which is revising the process of monitoring child malnutrition so that numbers are particularly uncertain at the moment. The present prevalence levels take account of a recent national survey, which lowered the estimates compared to previous results (from around 61% to 53%), but this represents a revised figure, not itself an improvement. Trends for South Asia shown in Figure 1, derived from model estimates, are in line with results from previous time series data in five states in India; these again showed improvement in the 80's followed by reversal in the early 90's. The overall prevalence change in the last decade was just adequate to bring down numbers of children underweight in South Asia, despite population growth.

In South East Asia the overall trend has been of rapid improvement in the 80's, and slowdown again in the 90's. While part of the slowdown is related to some faltering in economic growth, at various times in different places, this does not seem to give the full story, and careful examination of other factors is needed.

In China, while in 1990–93 rates of improvement were reduced, the average rate (to be treated with caution among one billion people) then picked up. Differential patterns of malnutrition are being reported between urban and rural areas.

Countries in Middle America and the Caribbean, South America, and Near East and North Africa have relatively low prevalences of underweight children, and less far to go to eliminate malnutrition. Yet here too accelerated progress is essential; indeed there is cause for concern to ensure that the trend does not reverse and deteriorate, for example in Middle America and the Caribbean.

Possible future scenarios for prevalences can be examined by looking at the implications of continuing the best and worst rates of change of the last ten years. Calculations (given at the end of this paper) illustrate that by the year 2010, if the best rates were re-established, the prevalences on average in most regions would be half or less of those in 1995. But the most affected regions – South Asia and Sub Saharan Africa – even in the

optimistic scenario, would be far from this goal. Poverty reduction coupled with support for agricultural and rural development, for health and education, and with extensive and sustained community based programmes aimed at improving nutrition, have brought about rapid improvement in a number of countries. These have been particularly effective where they have supported and improved the status of women. Such policies could change the scenarios for much of Africa and Asia.

The regional trends in malnutrition are now briefly described in relation to certain causal factors. Conceptually, the framework of the International Conference on Nutrition, itself based on the UNICEF nutrition strategy, which identifies three underlying causes of malnutrition – inadequate household food security, inadequate caring capacity, and insufficient health services and an unhealthy environment – is used to suggest indicators, as shown in the seven regional panels which follow. The choice has also taken account of certain factors known to interact strongly with nutrition, such as female education, expenditures on health and education, and total fertility rate, as well as national income (GNP), poverty levels, and dietary energy supply.

**Table 1 – Underweight children by region (0–60 months), 1985–1995**

Region	Percent Underweight				Numbers Underweight (Millions)				Trend (pp/yr)	
	1985	1990	1993	1995	1985	1990	1993	1995	1985–90	1990–95
Sub-Saharan Africa	25.8	28.0	27.8	27.2	20.9	26.0	28.3	27.8	0.44	-0.16
Near East North Africa	13.0	9.9	9.6	9.6	4.1	3.4	3.4	3.4	-0.62	-0.06
South Asia	55.3	50.1	49.6	48.8	87.2	84.5	86.5	85.2	-1.04	-0.26
South East Asia	39.8	34.2	33.1	32.4	22.3	19.8	19.5	19.1	-1.12	-0.36
China	22.7	17.8	16.6	15.0	23.0	21.1	18.4	16.6	-0.98	-0.56
Middle America & Caribbean	18.1	15.3	15.1	15.2	3.3	2.9	3.0	3.0	-0.56	-0.02
South America	9.8	8.9	8.9	8.4	3.0	2.8	2.9	2.7	-0.18	-0.1
<b>Total</b>	<b>34.3</b>	<b>30.7</b>	<b>30.4</b>	<b>29.3</b>	<b>163.8</b>	<b>160.5</b>	<b>161.9</b>	<b>157.6</b>	<b>-0.72</b>	<b>-0.28</b>
<b>Total 0–4 Population</b>					<b>476.6</b>	<b>523.3</b>	<b>533.5</b>	<b>537.4</b>		

## SUB-SAHARAN AFRICA

The general picture for Sub Saharan Africa (see Panel 1B<sup>3</sup>) averages out differing national patterns to show a static trend in underweight prevalence, but this is associated with quite rapidly rising numbers of malnourished children when population growth is taken into account. Results from countries that had repeated nutrition surveys are given in Table 3 (at the end of the paper) and certain results are plotted in Figures 2 and 3. In Kenya and Zimbabwe (Figure 2) improvement in the mid-80's, with relatively favorable economic conditions, and expansion of public services, was followed by drought and recession in the early 90's, reflected in the pattern of prevalence trends. Madagascar suffered hurricane damage and drought in 1992, recovering later. Elsewhere, Zambia probably had deterioration in the late 80's, with political and economic problems, then stabilized (Figure 3). Ethiopia reached the highest underweight prevalences in Africa (47% in 1992) after many years of internal conflict, exacerbated by drought. Eritrea, Mozambique, and Somalia with prevalence estimated at around 40% in 1993, were the next highest, for similar reasons.

Recent estimates of poverty trends in Africa show an increase from 1987–90 (38.5% to 39.3%), with an essentially static situation 1990 to 1993 (39.1%).<sup>4</sup> This is consistent with the regional average prevalence trends.

The GNP per capita<sup>5</sup> for the region has fallen throughout the last 10 years (see Panel ID), from around US\$350 per head in the 1970s to about \$300 in the 1990s. While unfavorable weather and drought have contributed, worldwide recession and falling commodity prices have had a major effect; structural adjustment programmes have been undertaken in most countries in the region, having at least short term effects on

nutrition for much of the population. The debt service ratio is about 20% for the region, which while less than in the 1980s, still leads to much reduced inflows of badly needed external resources, and squeezes national expenditures for social support.

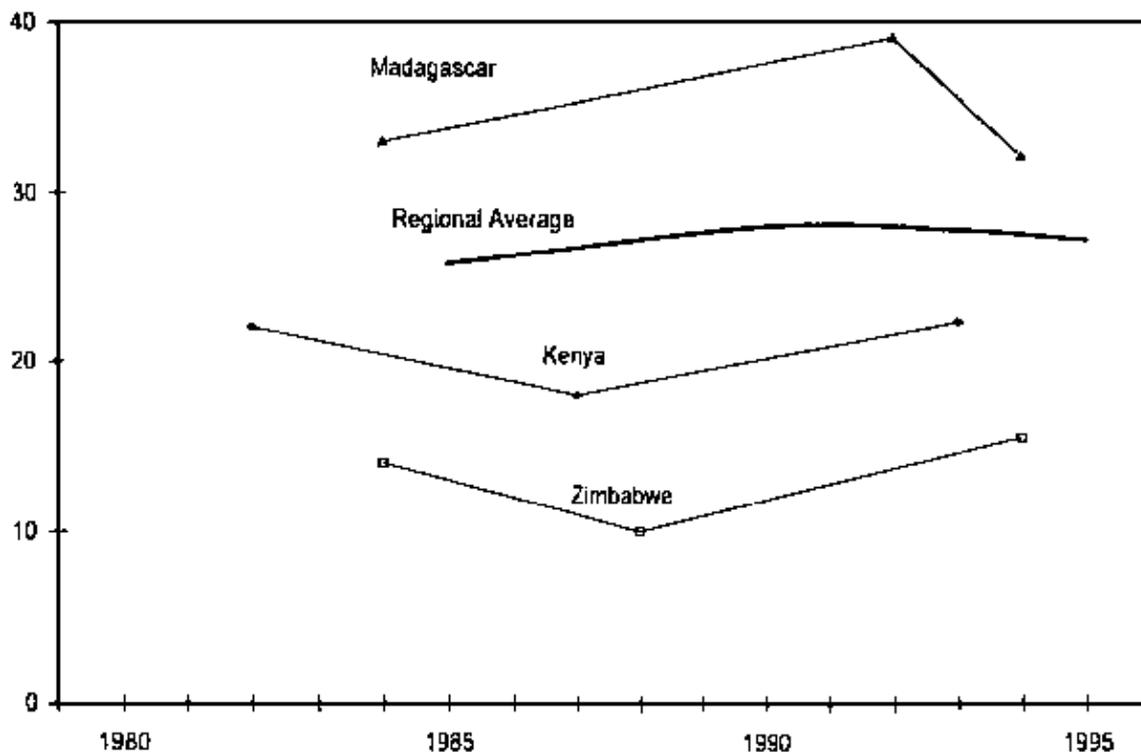


Figure 2. Trends in prevalence of underweight children from repeated national survey results, 1985–1995

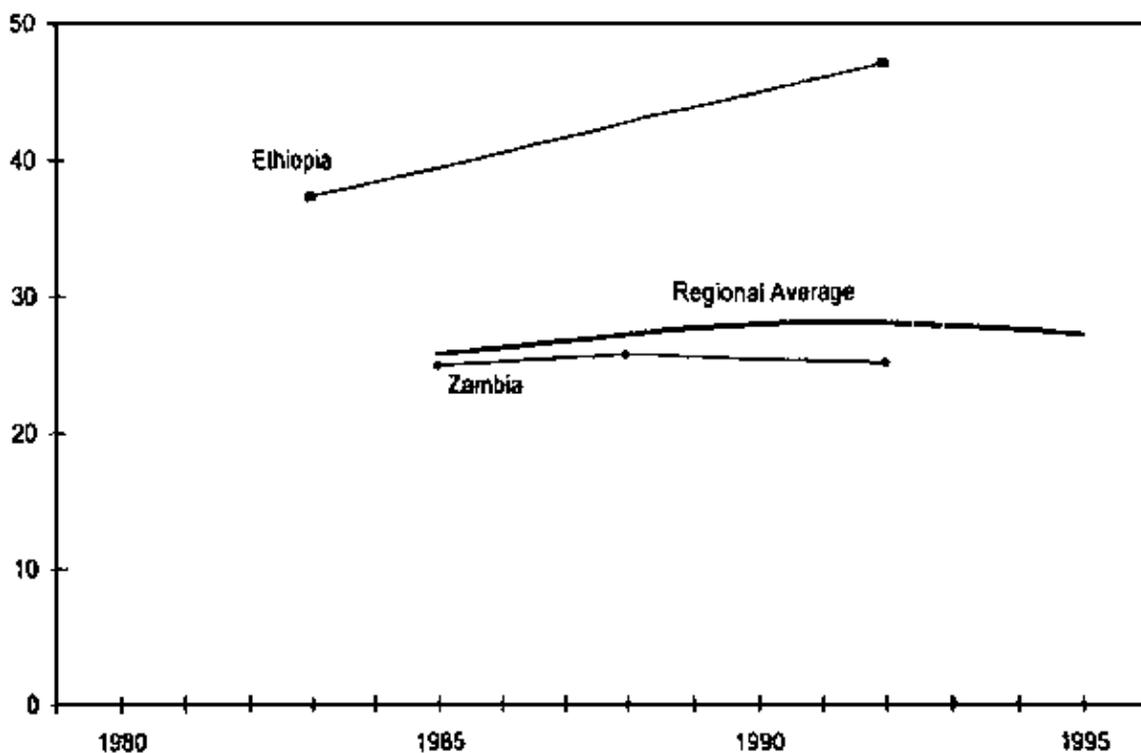


Figure 3. Trends in prevalence of underweight children from repeated national survey results, 1985–1995

A considerable number of countries in the region have experienced civil wars and political unrest that have severely disrupted economies and led to the destitution and displacement of millions of people. Large scale conflicts continue to afflict masses of people in Liberia, Rwanda/Burundi, Somalia, Southern Sudan, and parts of Zaire, while resettlement and recovery proceed but still cause distress in Angola, Ethiopia, and Mozambique.

Estimates of dietary energy supply, as kcals/head/day shown in Panel 1E indicate a fall in food availability around 1990. The peak of underweight prevalence at this time is no doubt in part related to this. Despite the very severe drought in the Horn and Southern Africa in 1991–92 it seems that imports and food aid prevented the average food availability from dropping still further.

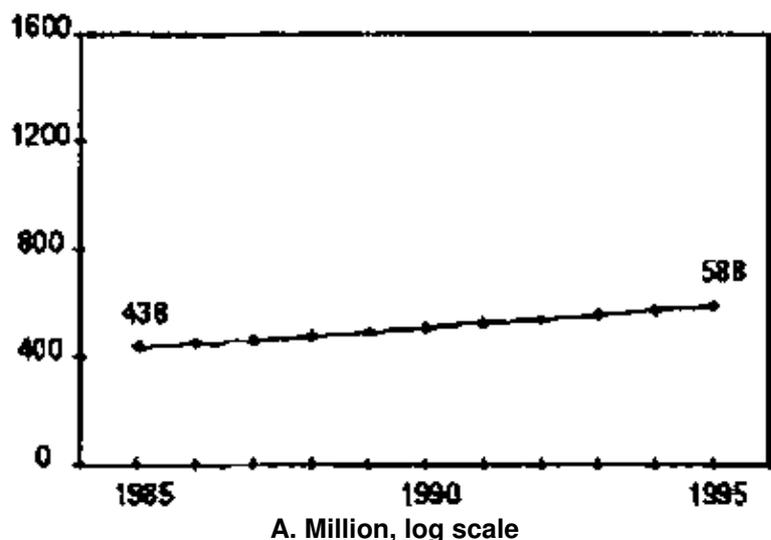
The regional IMR in Sub-Saharan Africa remains the highest in the world (see Panel 1C) falling only slowly. The fact that IMR is highest here, although underweight prevalences are lower than in Asia, stresses the point that some causes and consequences of growth failure in children differ by region, for complex reasons; trends across regions, and levels within regions, should be directly comparable.

**PANEL 1. SUB-SAHARAN AFRICA**



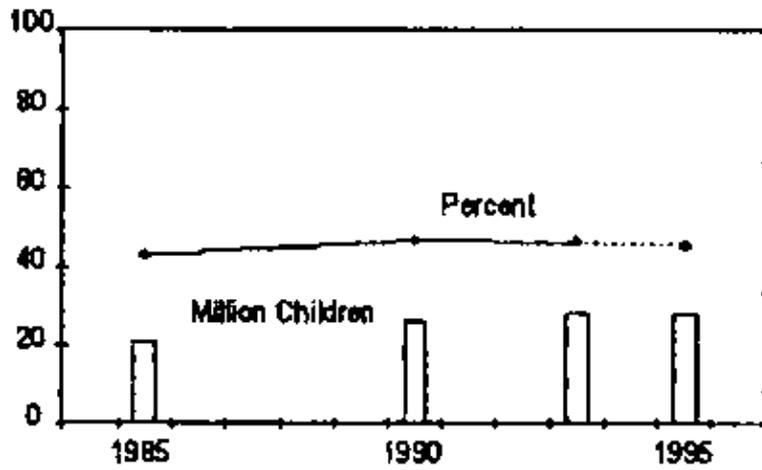
**SUB-SAHARAN AFRICA**

**POPULATION**

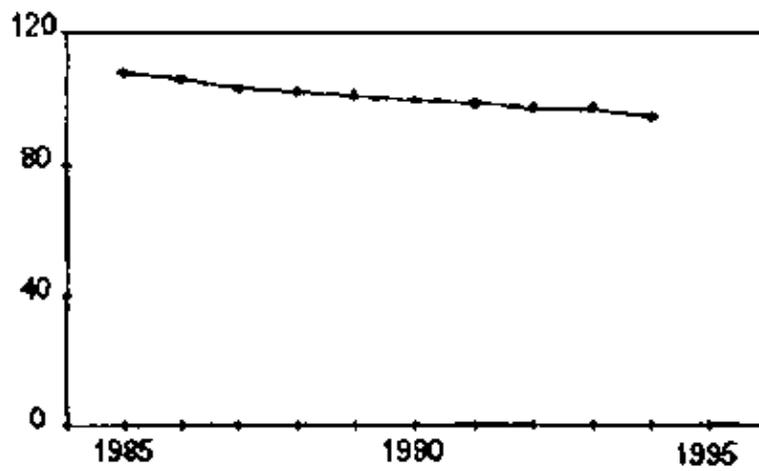


A. Million, log scale

**CHILD GROWTH AND SURVIVAL**

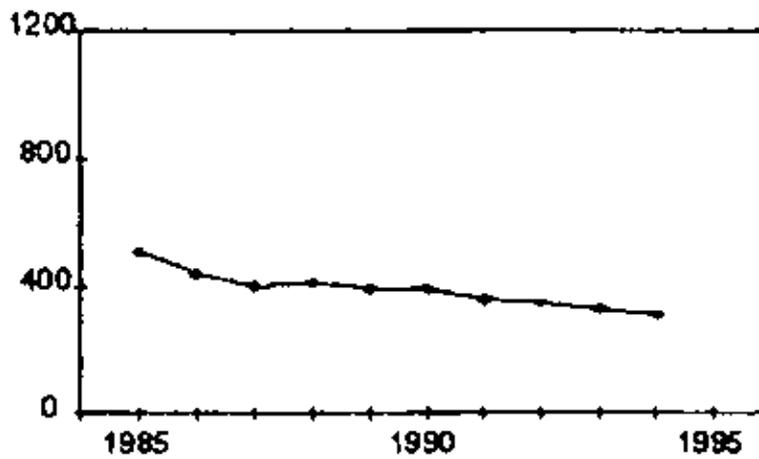


B. Underweight preschool children (Percent below  $-2$  s.d. weight for age)

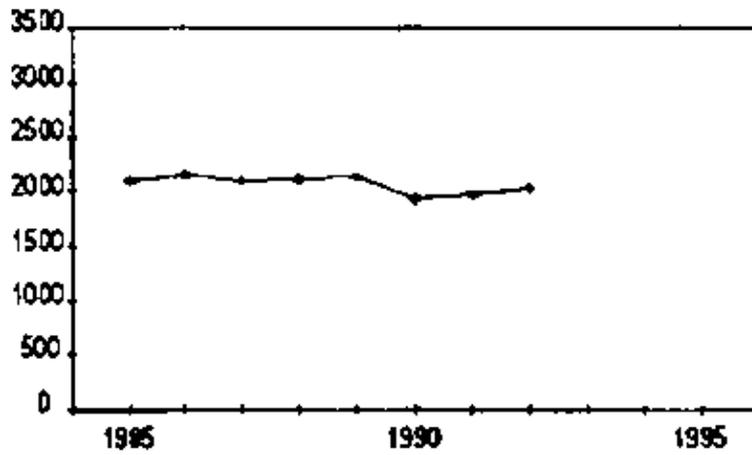


C. Infant Mortality Rate (Per 1,000 live births)

### ECONOMICS AND FOOD

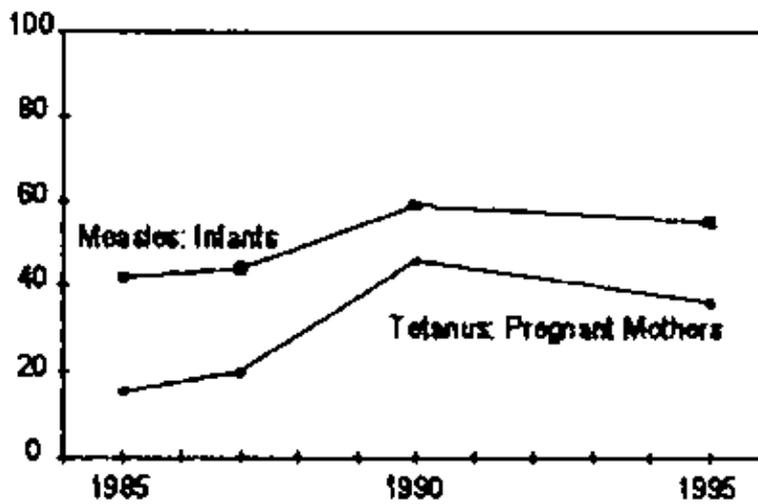


D. GNP per capita (Atlas US dollars)

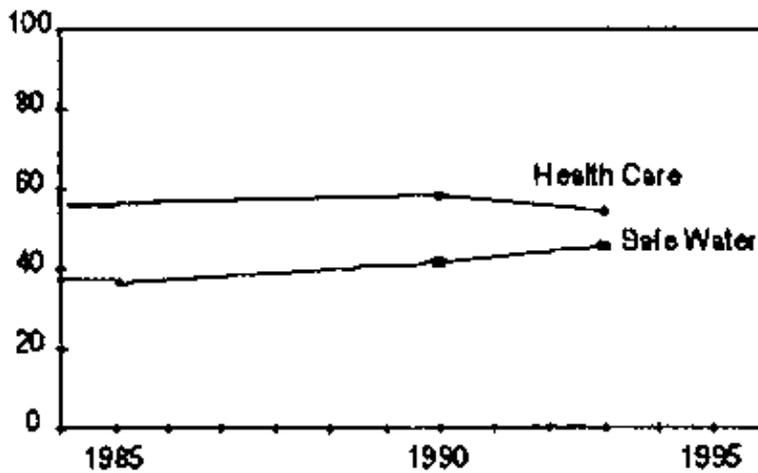


E. Dietary energy supply (Kcals per caput per day)

HEALTH

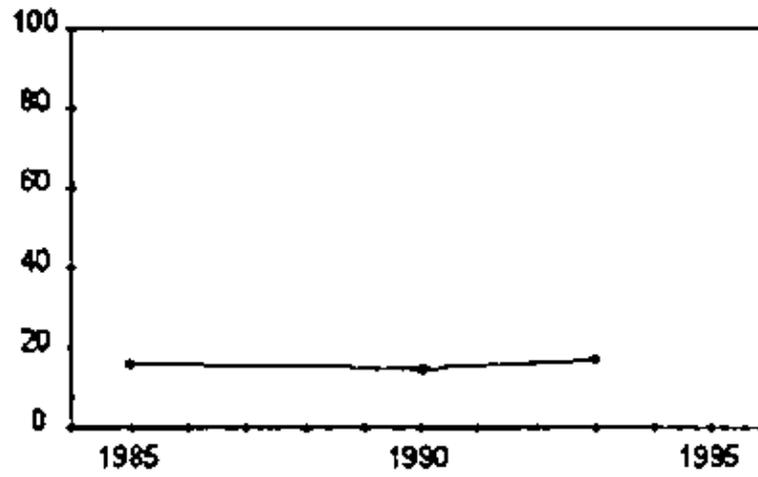


F. Immunization coverage (Percent)

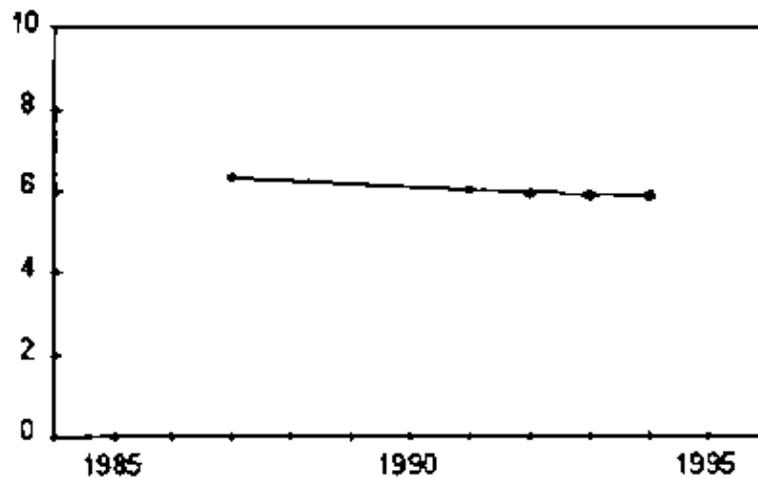


G. Access to health services and potable water (Percent)

WOMEN'S STATUS AND CARING CAPACITY



H. School-age females in secondary school (Percent)



I. Total fertility rate (Births per woman)

Indicators of preventive health measures and health services (Panel 1F & 1G) show a lack of further improvement in the 1990's, in fact a slight deterioration according to the four available indicators. With the lowest coverage of any region, inadequate access to health contributes to poor nutritional performance.

Finally (Panel 1H) female secondary education remains extremely low in Sub-Saharan Africa, with less than 20% secondary school enrollment for girls. Total fertility rate (at nearly six) is the highest of any region and is falling only slowly.

Overall, it is easy to understand in general terms why nutrition has not improved in Sub-Saharan Africa. Knowing how this could be turned around, which is increasingly urgent, is considerably more difficult.

## NEAR EAST AND NORTH AFRICA

Underweight prevalences are around 10% in the Near East and North Africa group of countries, having improved steadily prior to 1990. The largely static trend in the '90s is likely to be due in part to several countries having reached levels similar to industrialized countries so that no further reduction can be achieved; but others like Egypt still have some distance to go, in terms not only of nutrition but of child survival – the IMR in Egypt was reported as 61 deaths per 1000 live births in 1995.

Economies vary greatly in the region, with several high income oil-exporting countries such as Saudi Arabia and Libya, others with middle income like Algeria and Morocco (\$750–2000 per caput per year), with Egypt and Yemen the poorest countries (around \$700). On average poverty levels, already relatively low, are considered to have fallen slightly 1987–90–93 (4.7% to 4.1%).

Oil prices have great influence on the economies in the region, not only for the oil exporting countries. In part in response to this, GNP growth overall faltered in the 1980's although Egypt's economy is reckoned to have

grown during this period. After some recovery in the early '90s, economic growth fell again on average (see Panel 2D), due to several factors. Recession elsewhere in the world affected the region through oil prices; political and civil unrest, and economic sanctions hit levels of living and hence nutrition. Iraq in particular reported a substantial increase in child malnutrition in the general population. Structural adjustment programmes in several countries affected public services, prices, and no doubt nutrition.

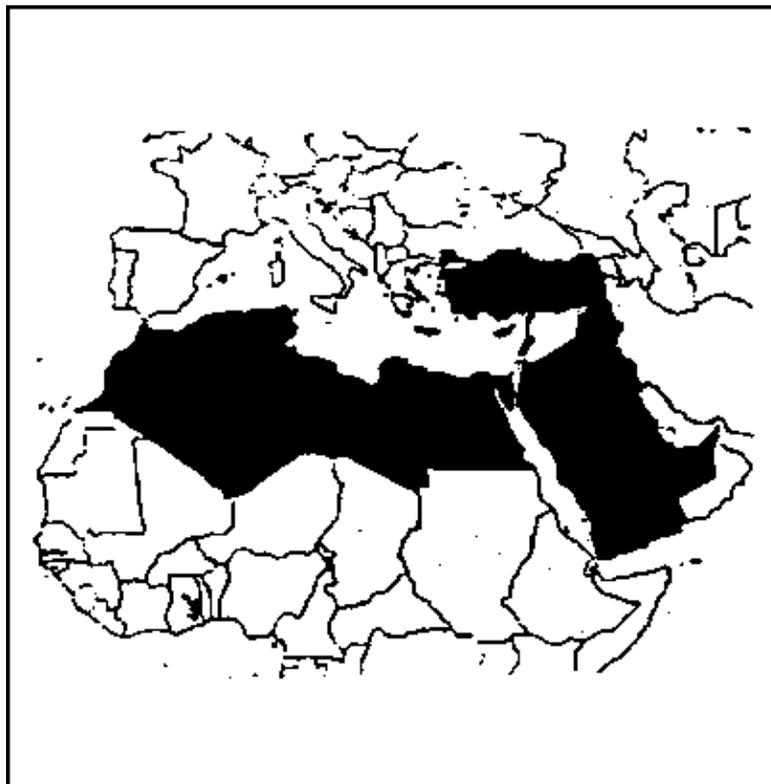
Food availability is higher here than elsewhere in the developing world, averaging over 3000 kcals/head/day. In Egypt the extensive food subsidy contributes to a kcal availability of around 3300 kcals/head/day (contrast with, for instance, less than 2000 kcals/head/day for many Sub Saharan African countries). Household food insecurity must be relatively uncommon, and the persistence of malnutrition is known to be related to infectious disease (notably diarrhea), as well as caring practices.

Access to health services and safe water are relatively good, estimated to have reached more than 80% in the '80s. Immunization rates for infants reached a plateau of around 80% in the '90s, and tetanus immunization for mothers also stabilized, in this case at the inadequate level of about 50%. Indicators of safe water access showed some decline in the '90s, and this is in line with concerns about cutbacks in health expenditures, for example in Egypt.

Secondary school enrollment for girls has continued to rise, on average being around 50%, substantially higher in Egypt at more than 80%. The total fertility rate has been falling now being approximately four births per woman.

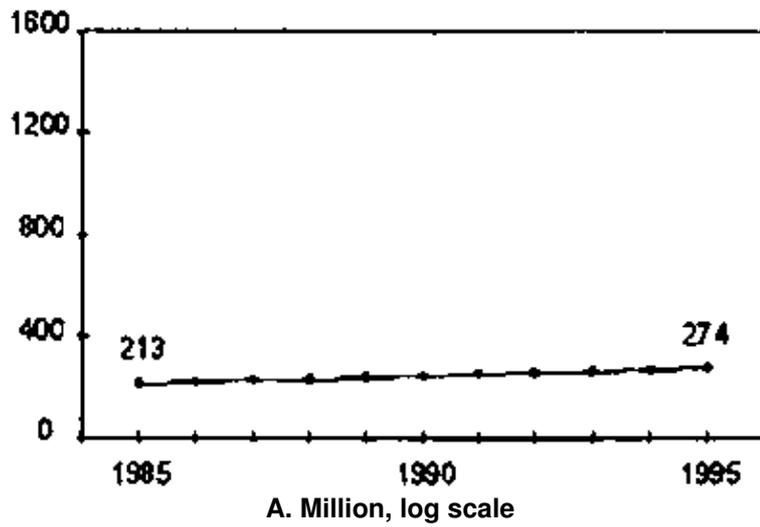
Overall, the population in many of the countries in this groups is approaching the nutritional levels of the industrialized countries. While continued progress in bringing underweight prevalences down is needed, at the same time attention should begin also to be paid to diet-related chronic diseases which are associated with obesity and which can emerge rapidly under the conditions in the Near East and North Africa.

**PANEL 2. NEAR EAST AND NORTH AFRICA**

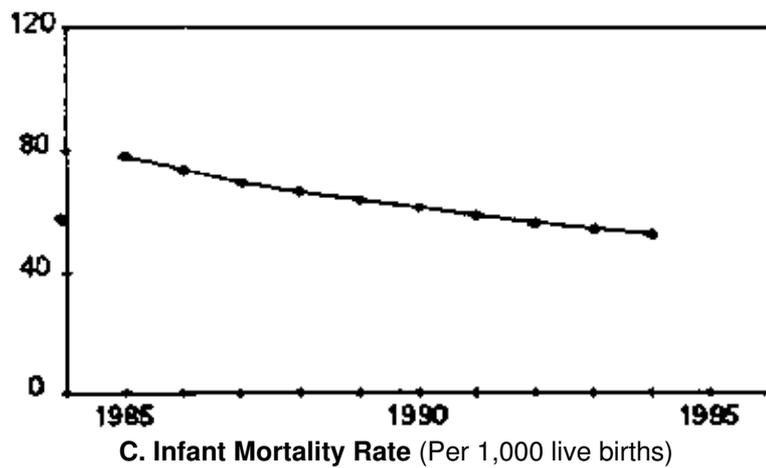
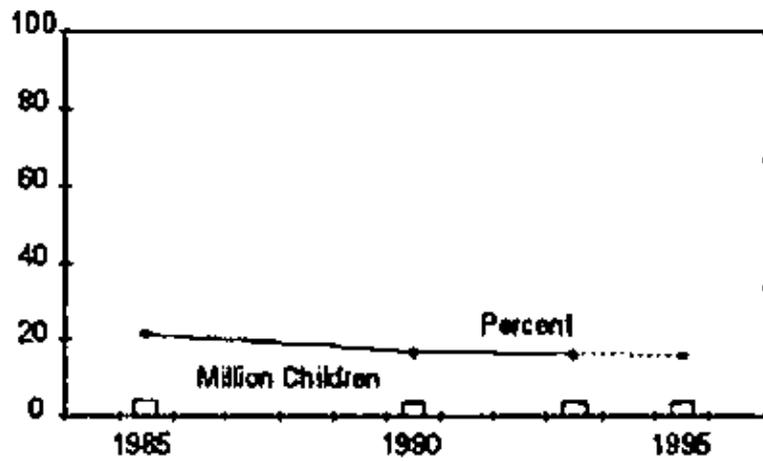


**NEAR EAST AND NORTH AFRICA**

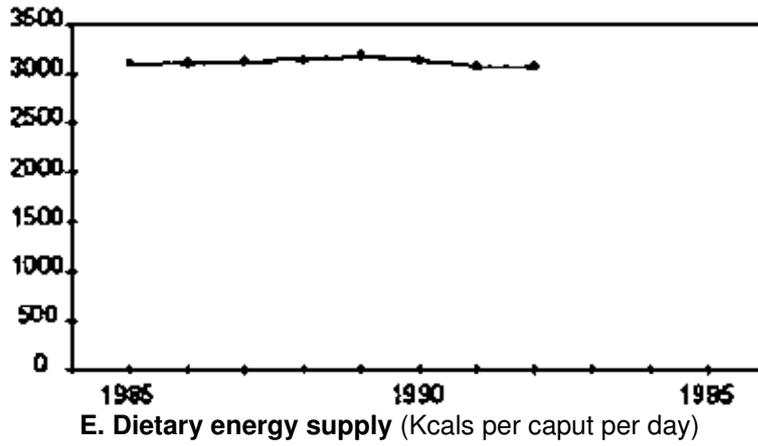
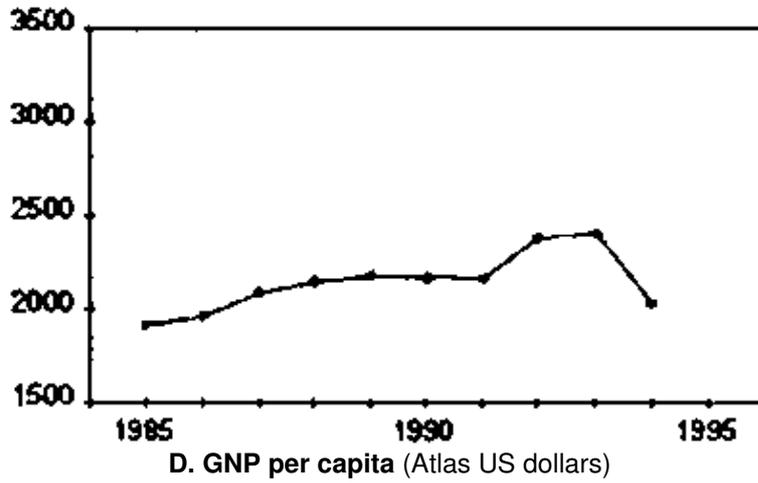
**POPULATION**



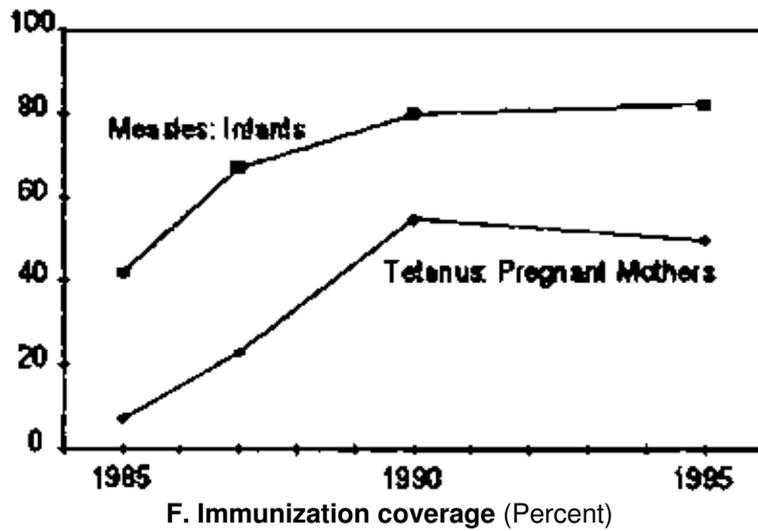
CHILD GROWTH AND SURVIVAL

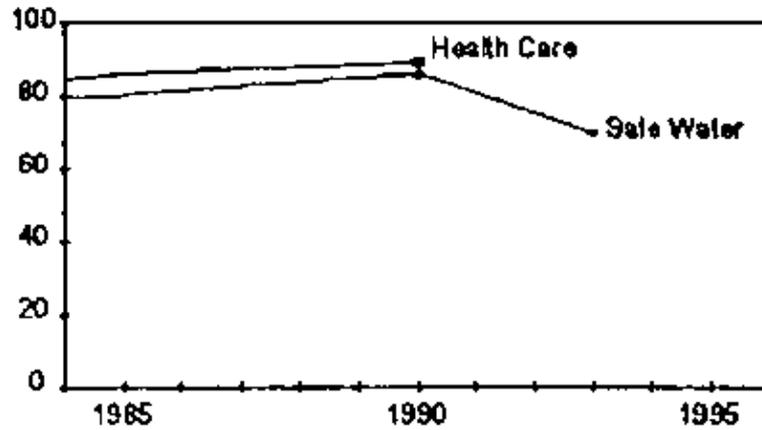


ECONOMICS AND FOOD



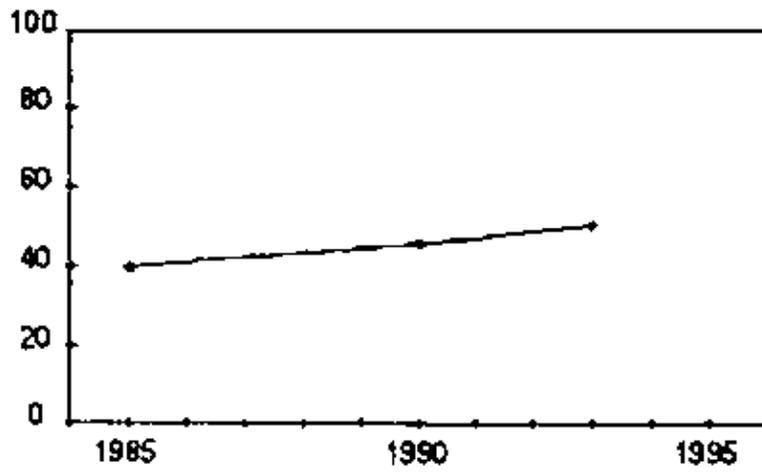
HEALTH



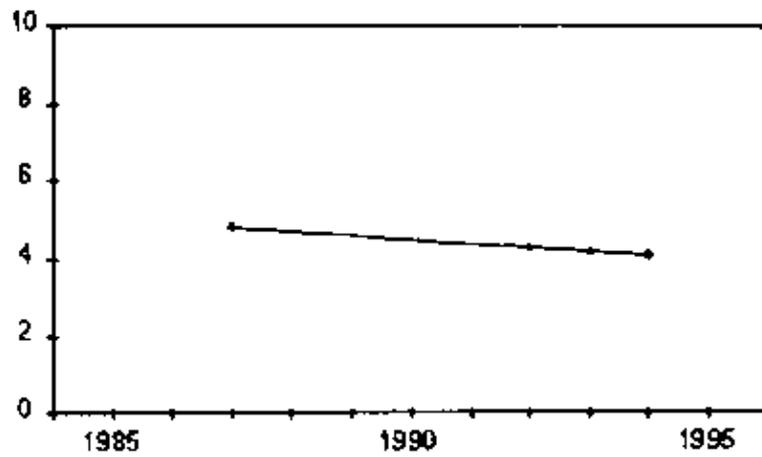


G. Access to health services and potable water (Percent)

#### WOMEN'S STATUS AND CARING CAPACITY



H. School-age females in secondary school (Percent)



I. Total fertility rate (Births per woman)

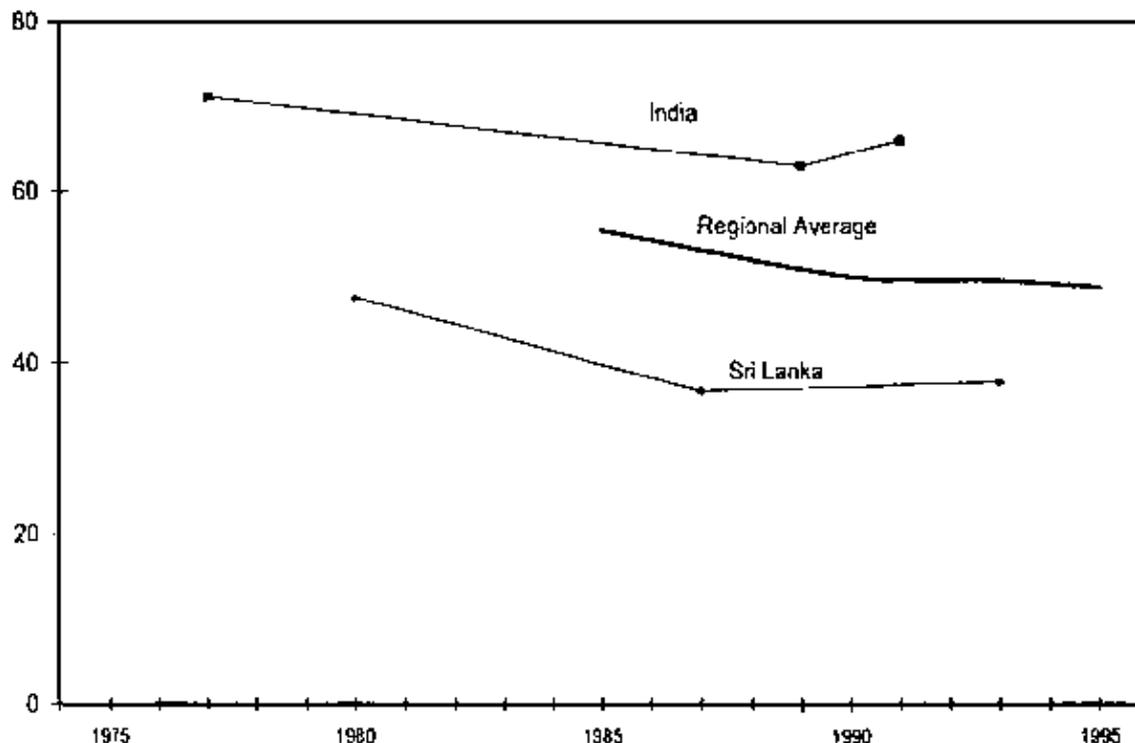
## SOUTH ASIA

Underweight child prevalences improved considerably during 1985–90, with a reduction of around 1 percentage point (pp) per year (see Panel 3B). For 1990–95, however, the regional rate was only about a quarter of this, with particularly poor results in 1990–93. Although comparable national data are scarce, this pattern can generally be seen in Table 3; examples of trend data from India and Sri Lanka are shown in Figure 4.

Calculations of poverty levels in South Asia show a reduction from 1985/87–90 (of about –0.5 pp per year),

but this ceased in 1990–93. The estimated poverty levels were: 1987, 45.4%; 1990, 43.0%; 1993, 43.1%. The malnutrition and poverty data are thus consistent.

The GNP in this region has generally been rising slowly, but a downturn with negative growth occurred around 1988–93, followed by some recovery reported in 1993–5. In part this is attributed to unfavorable weather affecting agricultural output, but economic problems, especially in India, went far beyond this. Moreover, conflicts in Afghanistan and Sri Lanka have been damaging to the economy. The population growth rate has slowed to around 2.3% per year, compared to about 3.3% in the 1970s; still, population growth remains a major issue.



**Figure 4. Trends in prevalence of underweight children from repeated national survey results, 1985–1995**

Aside from occasional setbacks due to drought, the average food availability (dietary energy supply, in kcals/caput/day, from Food Balance Sheet data) has risen up to 1992, which is the most recent data available. Nonetheless, dietary energy availability is the lowest here aside from Sub Saharan Africa of any region, and indicates a low level of household food security, contributing to persistent malnutrition. Indeed, for a substantial number of poor and landless people, access to enough food is an overwhelming need, and enhancing food security is crucial before nutrition can improve.

The regional IMR has continued to fall, reportedly reaching around 80 per thousand live births by 1994. This improvement has taken place in most countries in the region, the likely exception being Afghanistan.

Health indicators give a somewhat inconsistent view, (see Panel 3F & 3G). Access to health care was considered to increase until 1990; immunization rates were reported to increase, faster in fact in 1990–5 than earlier. Access to safe water, on the other hand, is reported to have dropped since 1990, but sanitation has apparently improved.

Secondary school enrollment for girls is increasing slowly (panel 3H), but remained below 40% in 1993. Total fertility rate has fallen to about four projected births per woman, not as low as South East Asia, but welcome progress.

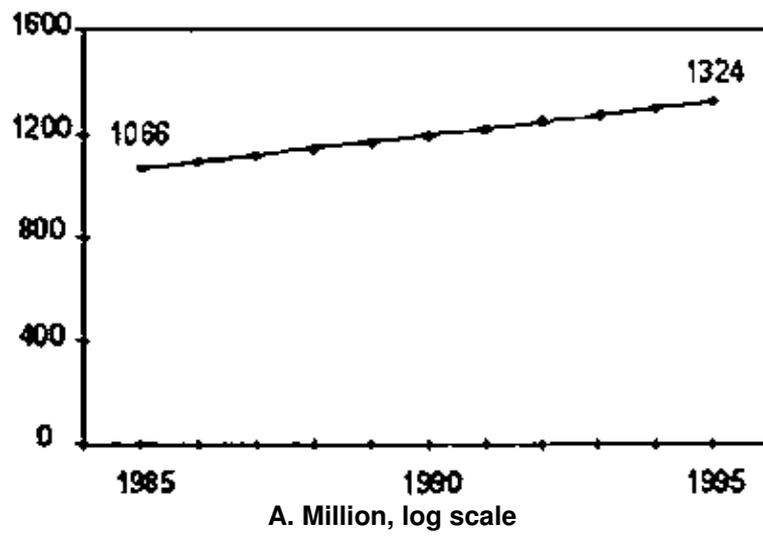
Not shown in these statistics are data on direct programmes intended to improve nutrition, like the Integrated Child Development Services in India. As these gain wider coverage, the results can be expected to show up in the prevalence estimates; indicators such as outreach and expenditure should begin to be included in future in assessments such as this.

**PANEL 3. SOUTH ASIA**

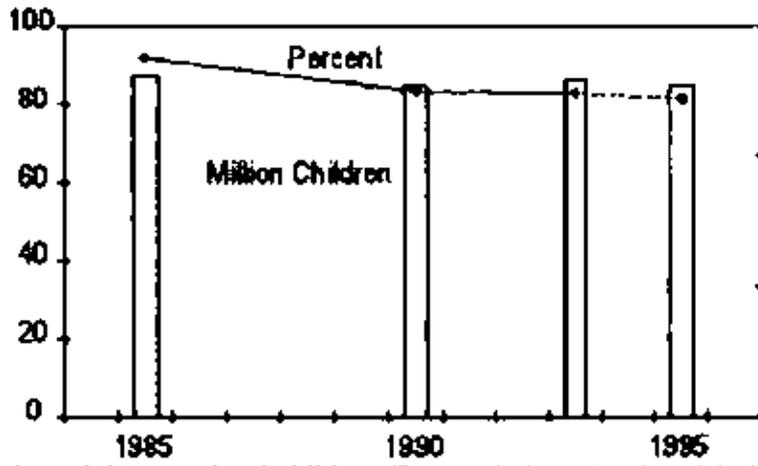


SOUTH ASIA

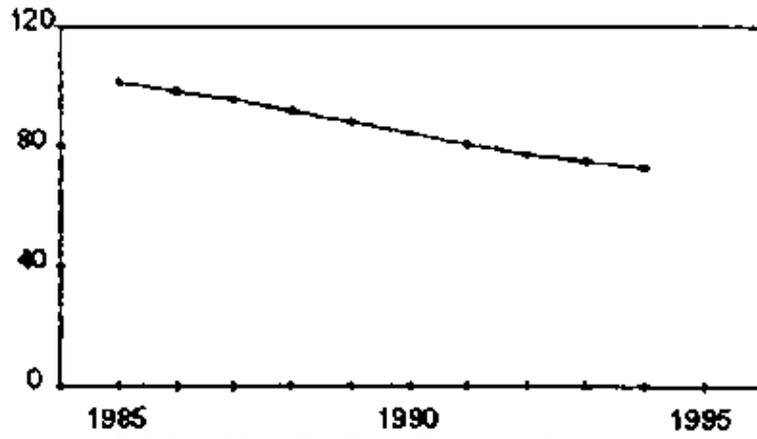
POPULATION



CHILD GROWTH AND SURVIVAL

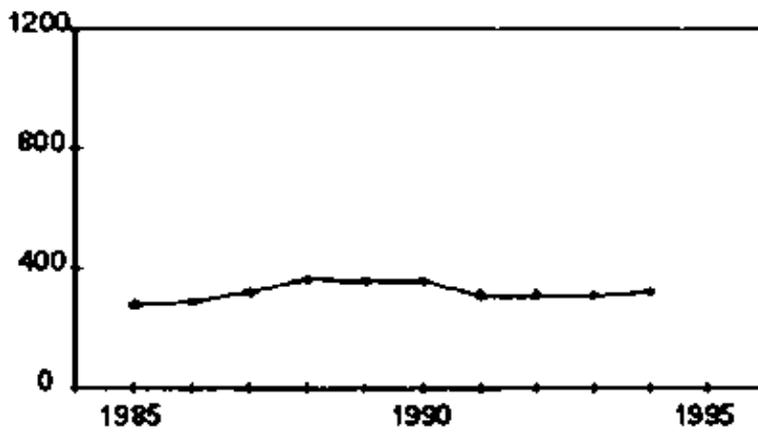


B. Underweight preschool children (Percent below  $-2$  s.d. weight for age)

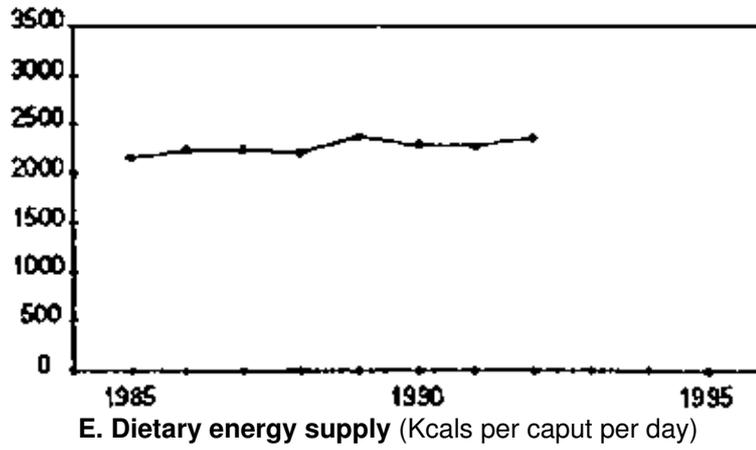


C. Infant Mortality Rate (Per 1,000 live births)

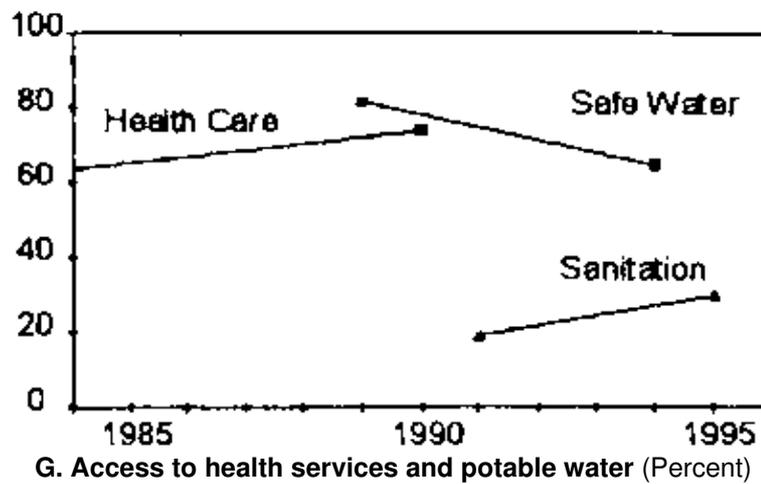
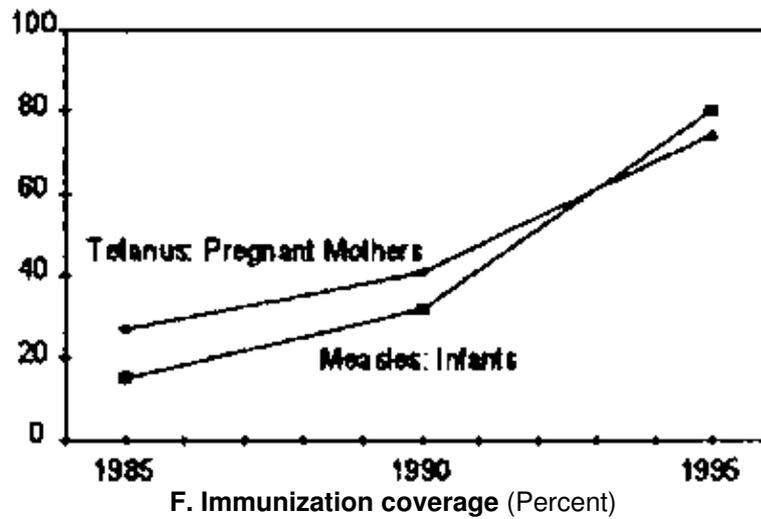
### ECONOMICS AND FOOD



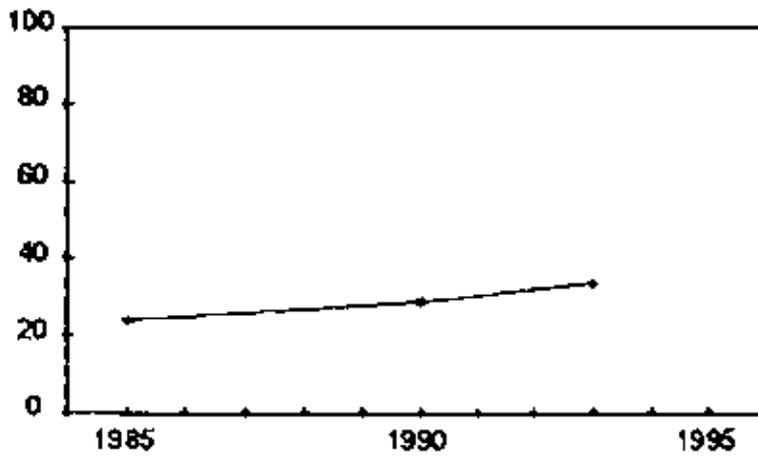
D. GNP per capita (Atlas US dollars)



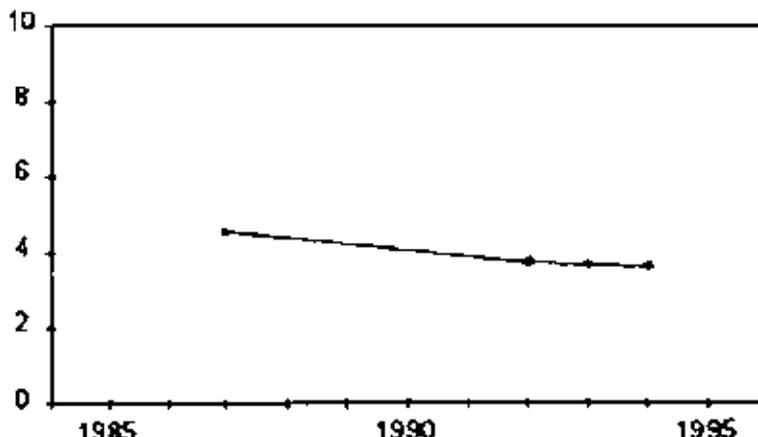
HEALTH



WOMEN'S STATUS AND CARING CAPACITY



H. School-age females in secondary school (Percent)

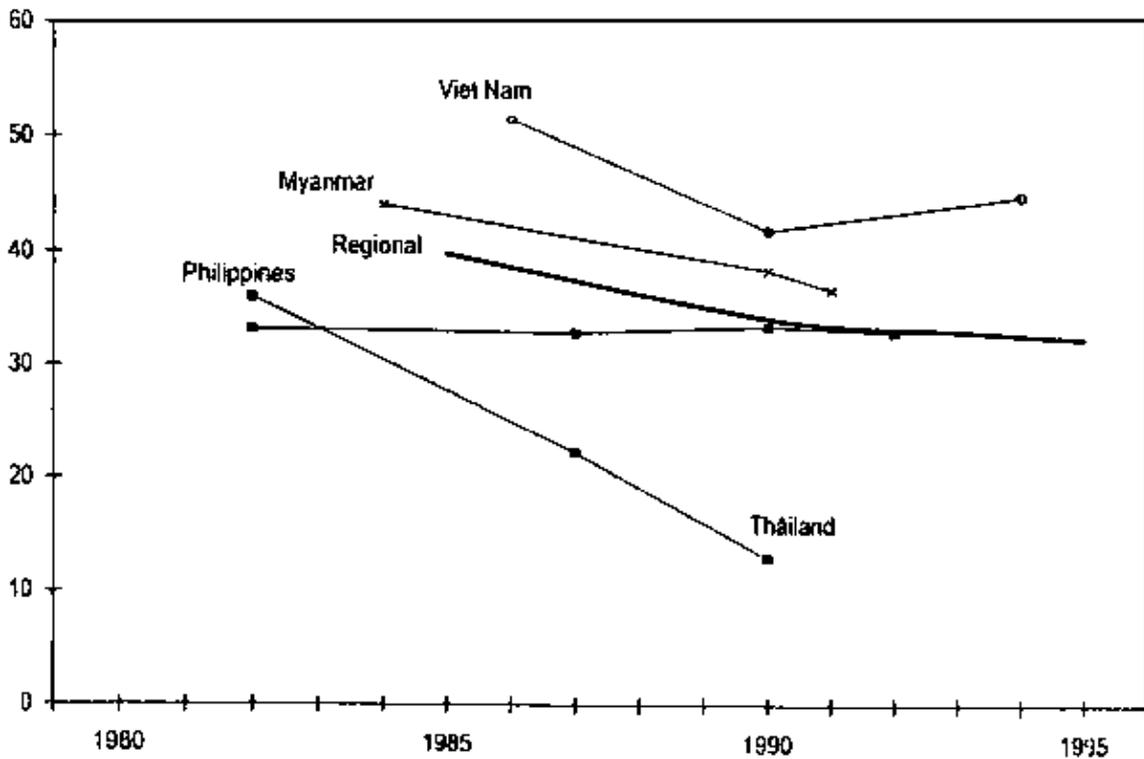


I. Total fertility rate (Births per woman)

## SOUTH EAST ASIA

In the 1980's rapid improvement in nutrition took place in a number of countries in SE Asia – Thailand in particular, as well as Myanmar, Indonesia, and probably Malaysia. In the Philippines improvement only started after 1992. From Vietnam the data are less clear; probably nutrition improved in the 1980s but perhaps less in the 1990s. Thailand, having reached 13% prevalence in 1990 is bound to show slower rates of decrease as the prevalence tends to near zero. Improvement in Indonesia may have slowed recently, although the reasons are unclear. Some of these results are shown in Figure 5.

The average trend results here (see Panel 4B) do less than justice to the diversity in the region. Overall, the high mean rate of underweight prevalence change in 1985–90 of –1.1 percentage points per year slowed to –0.4 pp/year in 1990–95. These general trend directions are largely consistent with poverty changes, which are estimated to have dropped by 1.9 pp/year in 1987–90, then by 1.3 pp/year in 1990–93. It should be stressed that poverty incidences are derived from household surveys, independently from nutritional estimates. Estimates of poverty levels for East Asia (excluding China) are: 1987, 23.2%; 1990, 17.6%; 1993, 13.7%.



**Figure 5. Trends in prevalence of underweight children from repeated national survey results, 1985–1995**

Economic expansion has been rapid in many countries in the region, rising on average from US\$650 per caput GNP in 1985 to around \$1100 US in 1994. Growth in the region has been particularly marked in Indonesia, Malaysia and Thailand, but some have yet to achieve sustained growth – such as the Philippines – and others remain extremely poor, like Cambodia, Laos, and Vietnam. Overall growth faltered in 1992–94 (see Panel 4D), but seems to have restarted recently.

Food availability measured as kcals/caput/day (DES, see Panel 4E) increased somewhat in the region, providing for a reasonable degree of food security. Interestingly, the rapid improvement in nutrition in Thailand in recent years occurred with an almost unchanging dietary energy supply, while Thailand became a major food exporter.

Infant mortality rates have fallen steadily, now reaching around 50 deaths per 1000 live births on average. The range is quite wide, Malaysia for instance reported an IMR of 12 for 1995, similar to many industrialized countries, while Myanmar reported a figure of 78. Health indicators showed some continuing improvement in the 1990s (see Panel 4F & 4G). The immunization programmes for children reached greater than 80% coverage, and thus cannot increase much more, which could account in part for the slower decrease in underweight since most of the benefit from immunization has now been achieved. A similar situation is thought to apply to decreases in IMR, which tend to slow down as the most readily preventable deaths are reduced.

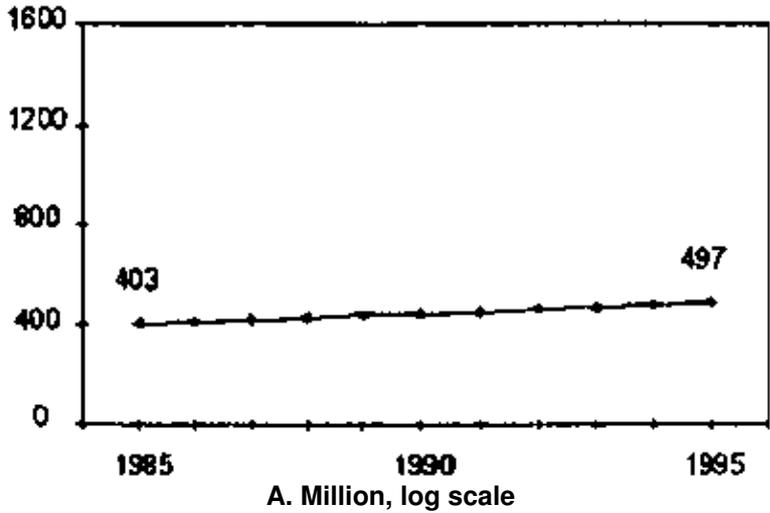
As measures of the role and status of women – as well as being important in their own right – the indicators of girls secondary school enrollment and total fertility rates showed continued improvement in the 1990s. Total fertility rate is now below 3 on average for the region. Reduced TFR tends to improve nutrition, but will also flatten out presumably around two, another reason that further improvements in nutrition may become harder to achieve.

#### **PANEL 4. SOUTHEAST ASIA**

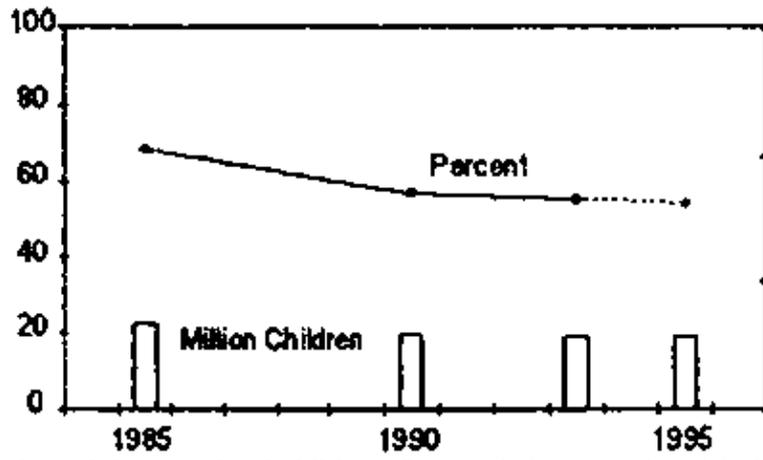


SOUTHEAST ASIA

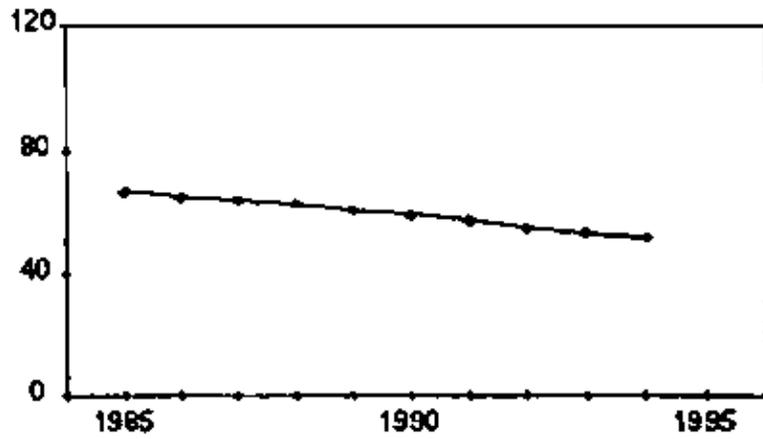
POPULATION



CHILD GROWTH AND SURVIVAL

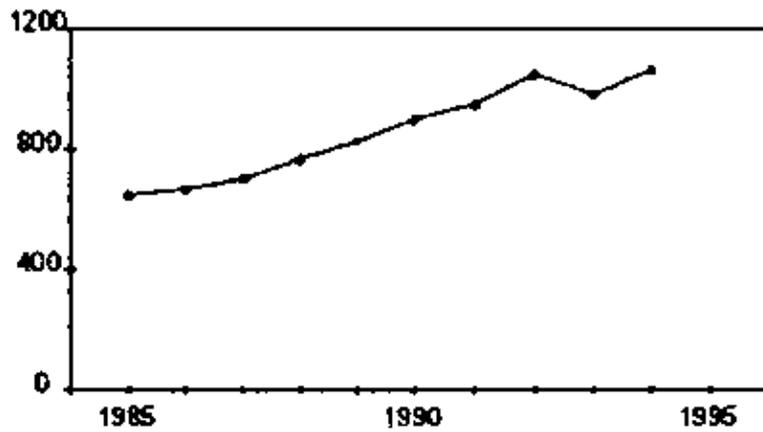


B. Underweight preschool children (Percent below  $-2$  s.d. weight for age)

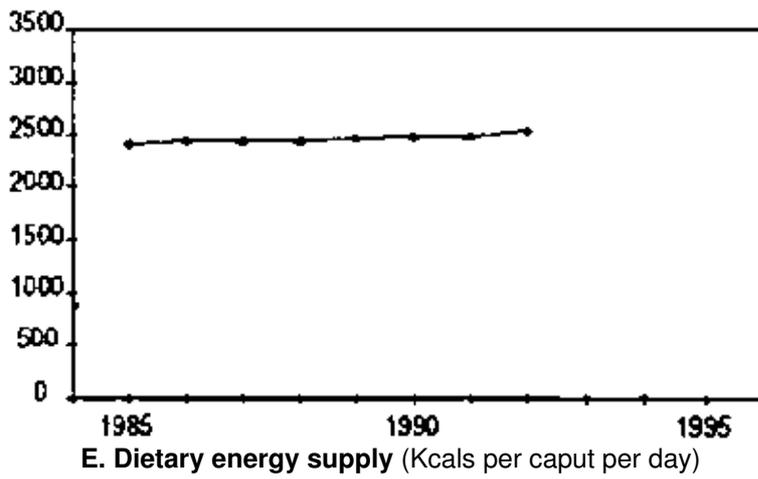


C. Infant Mortality Rate (Per 1,000 live births)

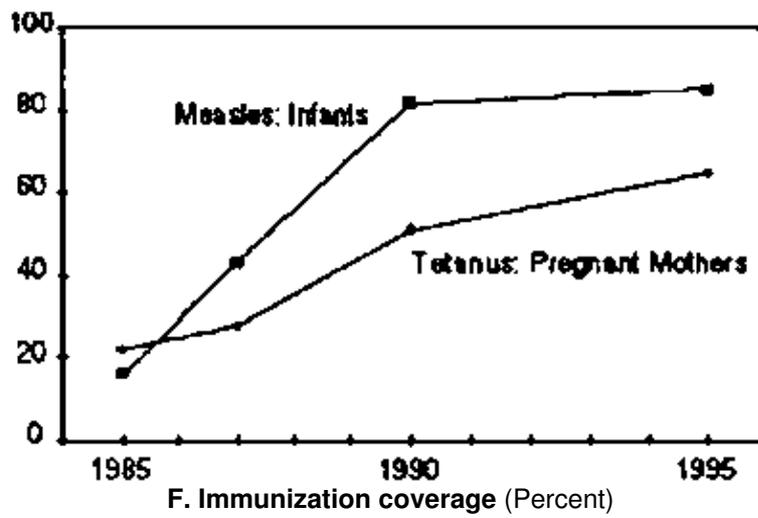
**ECONOMICS AND FOOD**



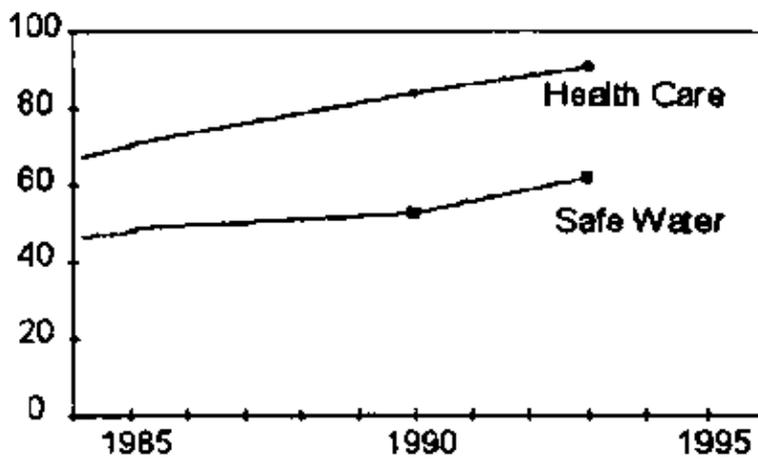
D. GNP per capita (Atlas US dollars)



**HEALTH**

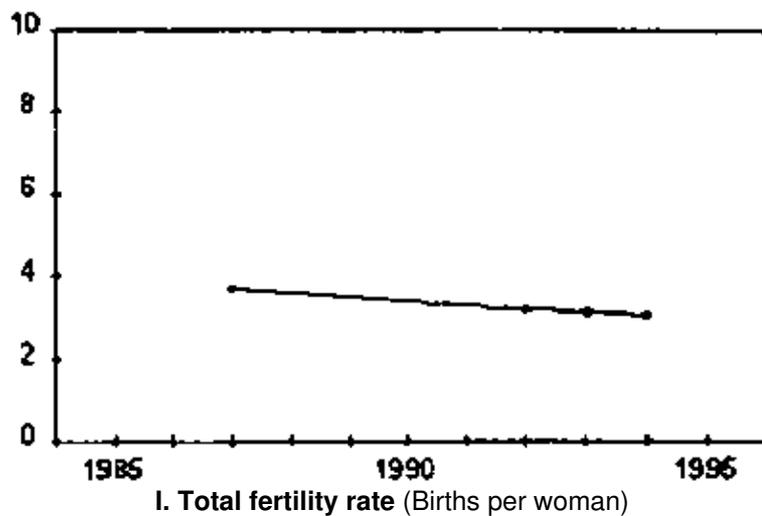
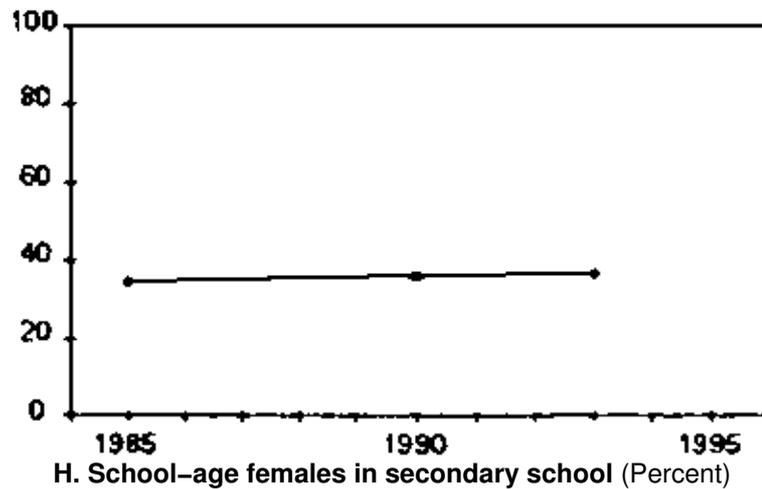


F. Immunization coverage (Percent)



G. Access to health services and potable water (Percent)

**WOMEN'S STATUS AND CARING CAPACITY**



## CHINA

Nutrition survey results show generally good progress in reducing the prevalence of underweight children in China. The reduction is estimated as about  $-1.0$  percentage points (pp) per year in the '80s, then  $-0.6$  pp/year in the '90s. At such rates the prevalence will reach nearly zero in the next 15–25 years. Other data have shown differential trends in urban and rural areas, with the problem of malnutrition becoming primarily one of rural areas. In fact, stunting (but not underweight) is reported to have actually increased in rural areas in nine provinces where repeated surveys were carried out in 1987 and 1992.

With geographical and economic diversity, prevalences of underweight children vary substantially by province. Results analyzed by the Chinese Academy of Preventive Medicine are shown in Figure 6.<sup>6</sup> Prevalences by province are reported to range from less than 2.5% in some urban areas, to 40% or even 50% in some rural areas, notably in the southwest.

The determined population policies have by now actually reduced the total numbers of preschool children in China, so that the numbers underweight have fallen faster, from around 23 million in 1985 to 17 million in 1995.

Infant and child mortality rates have continued to drop, with perhaps some faltering in the early '90s, to around 40 deaths per 1000 live births, a comparatively low figure considering the GNP, for example – as is the underweight prevalence. China's extensive health care access contributes to both these achievements.

China's economy has grown rapidly in the last ten years, averaging about 8% in GNP/caput terms from 1986–1993, in part responding to market-oriented economic reforms. Food production and availability have continued to increase, food production reaching record levels in 1994, with a dietary energy availability of around 2800 kcals/head/day.

Health services are extensive, with very high immunization rates for children, although tetanus immunization rates for mothers are reported to have declined. Access to safe water is reportedly high and being maintained. On average for the country, about half the girls are enrolled in secondary education, and the proportion continues to increase. The total fertility rate is about two births per woman, itself an important driving force for improving nutrition.

While in a country as vast and populous as China there are disadvantaged areas and people, overall China seems set to largely eliminate malnutrition in the foreseeable future.

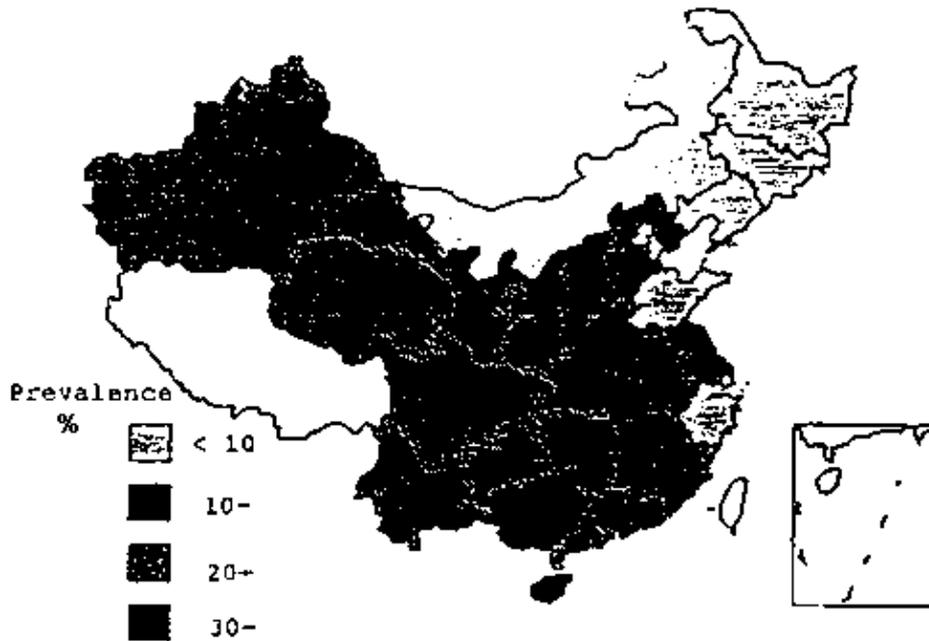
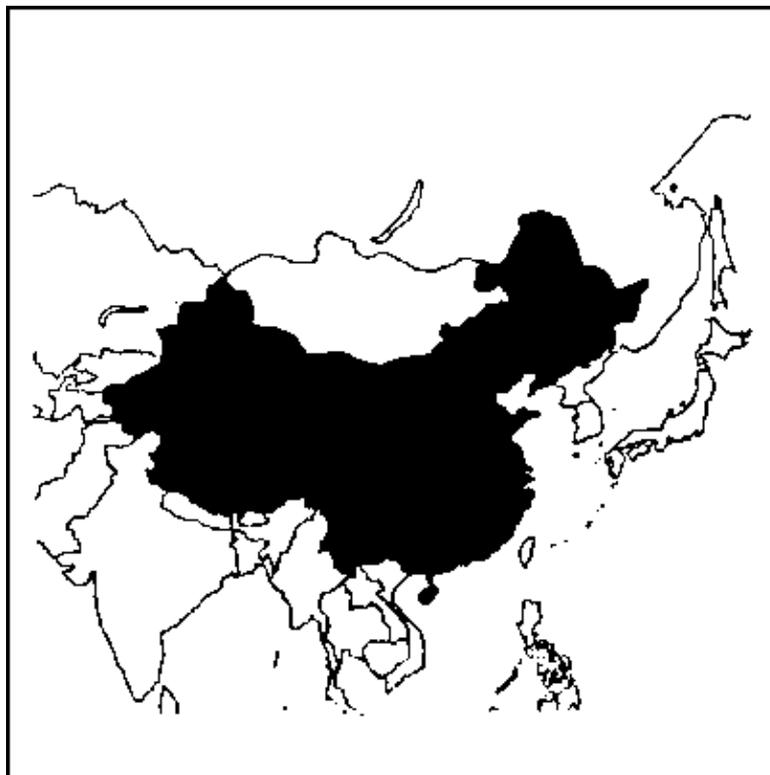


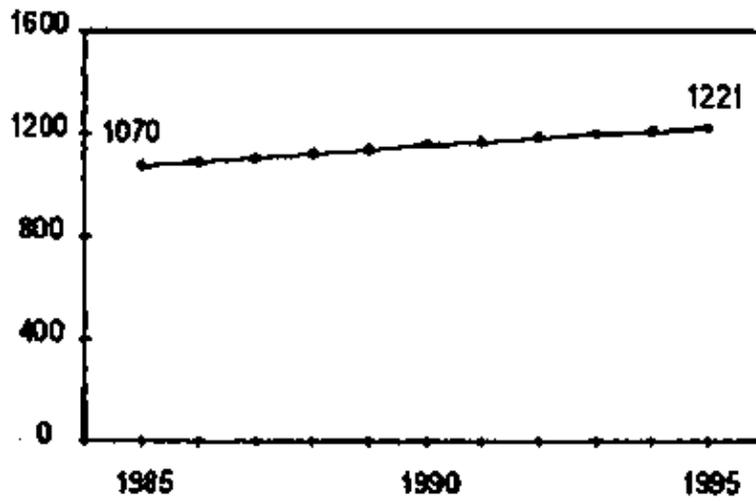
Figure 6. Prevalence of underweight preschool children under five by province in China, 1992\*

PANEL 5. CHINA



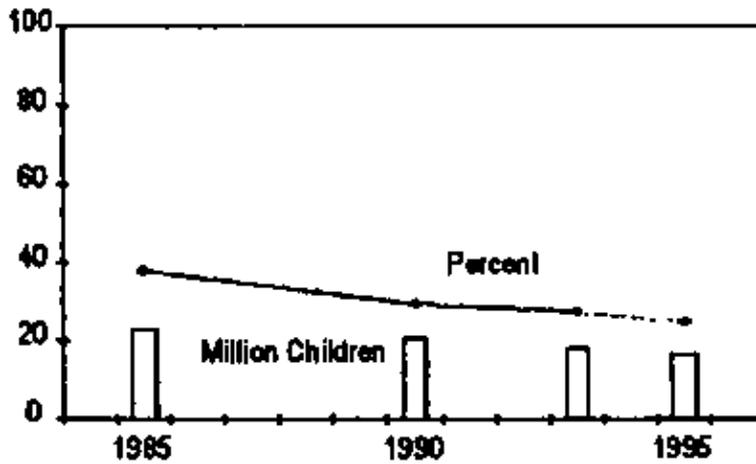
CHINA

### POPULATION

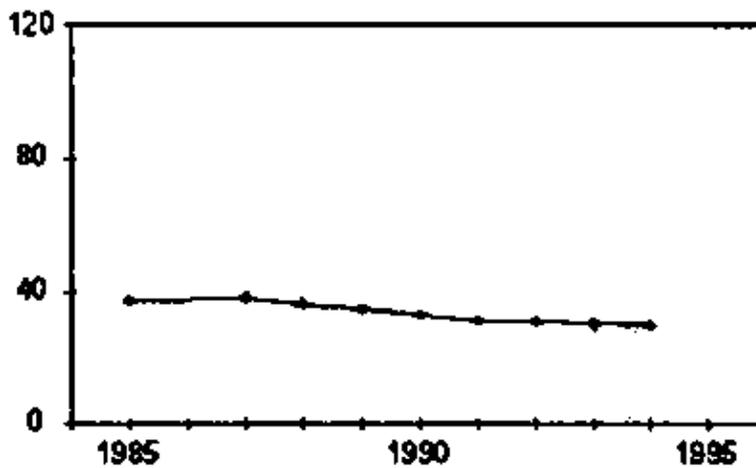


A. Million, log scale

### CHILD GROWTH AND SURVIVAL

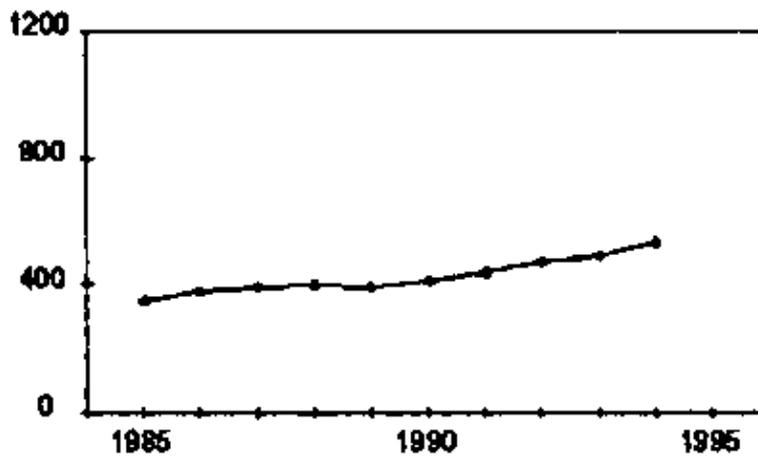


B. Underweight preschool children (Percent below -2 s.d. weight for age)

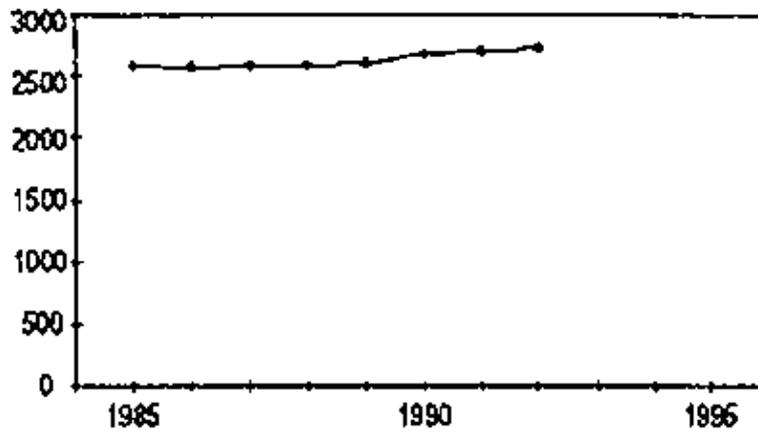


C. Infant Mortality Rate (Per 1,000 live births)

### ECONOMICS AND FOOD

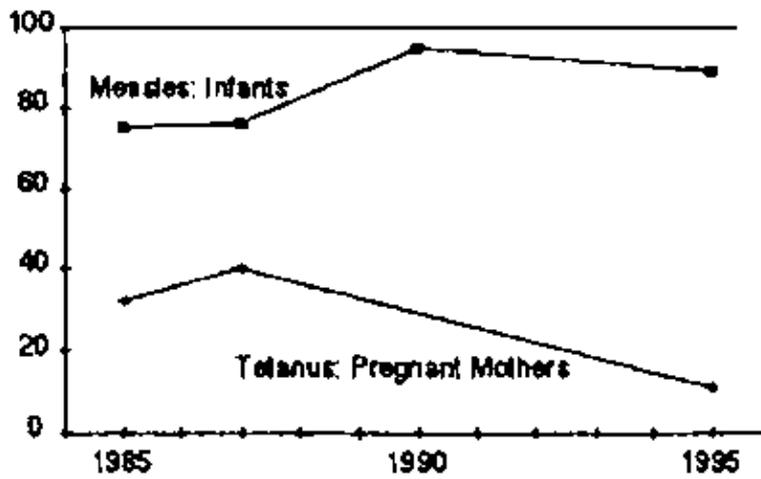


D. GNP per capita (Atlas US dollars)

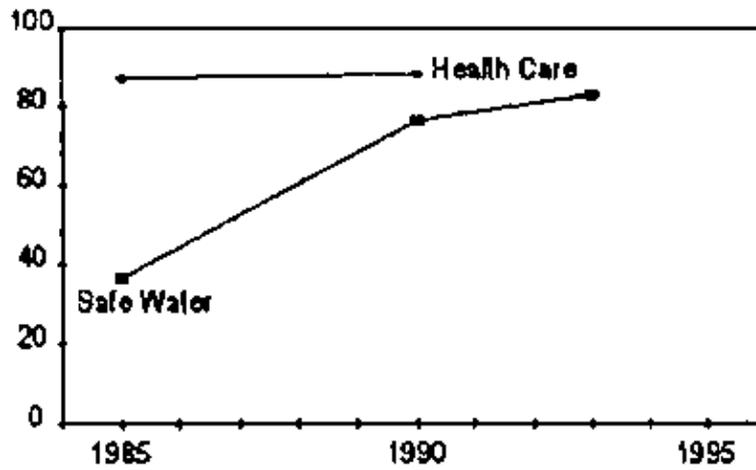


E. Dietary energy supply (Kcals per caput per day)

HEALTH

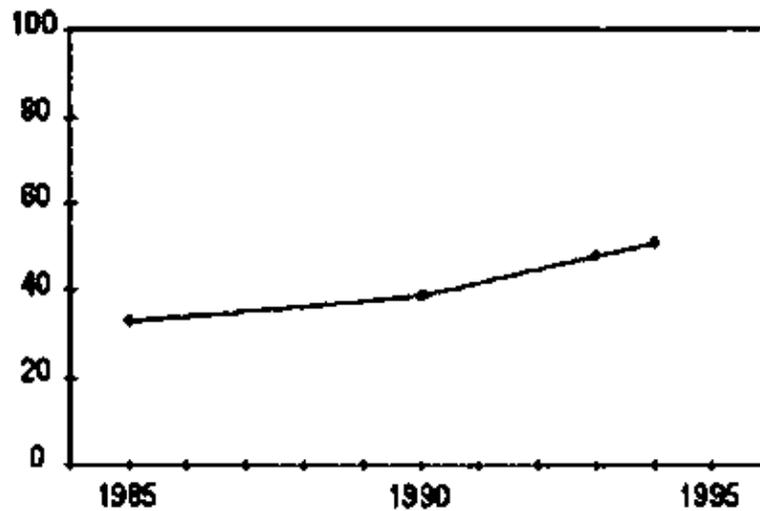


F. Immunization coverage (Percent)

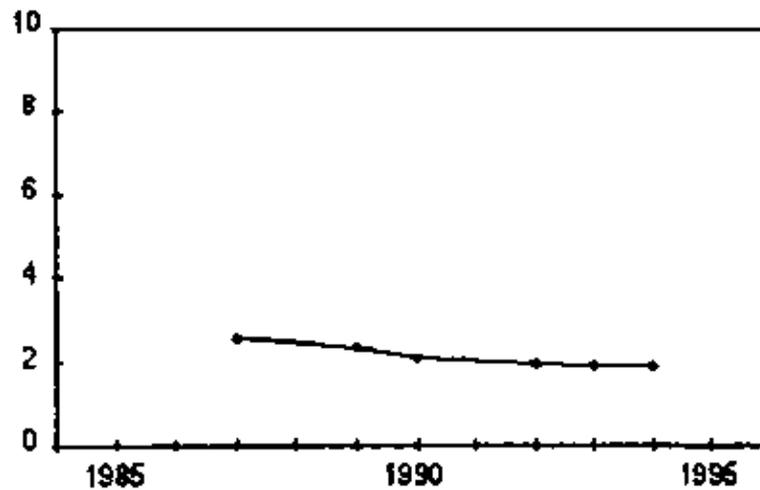


G. Access to health services and potable water (Percent)

#### WOMEN'S STATUS AND CARING CAPACITY



H. School-age females in secondary school (Percent)



I. Total fertility rate (Births per woman)

### MIDDLE AMERICA AND CARIBBEAN

Trends in Middle America and Caribbean depend heavily on what happens in Mexico and Cuba, as they have the predominant populations, but survey data are scarce in these countries. Underweight prevalences are generally fairly low, and the impression from existing data is that they fell more rapidly in the '80s than in the '90s. In Jamaica, for example, the improvement was rapid from 1985 to 1989, but the prevalence increased

since then, as shown in Figure 7. The calculated average trend in underweight is shown in Panel 6B, essentially static in the 1990s.

Although average GNP per caput grew substantially in the last ten years, poverty levels (estimated for Latin America and the Caribbean together) remained at around 23%, which may explain the persistent underweight in the '90s. Another possible reason that underweight may not have fallen in response to economic growth is that while the average relationship shows a steep slope below around \$700 GNP/caput/year, this slope is much less pronounced above that, and nearly flat around \$2,000; in other words, at relatively low prevalences and higher GNP, economic growth does not appear to translate to any great extent into lower underweight.<sup>7</sup>

Food availability stayed at nearly 3000 kcals/head/day, indicating that food security should not be a major constraint to further improving nutrition in the region. The health indicators equally show reasonable access to health services and safe water. Girls' secondary education is more than 50%, and total fertility rate is approaching three. In general the conditions exist for further improvement in nutrition in the near future.

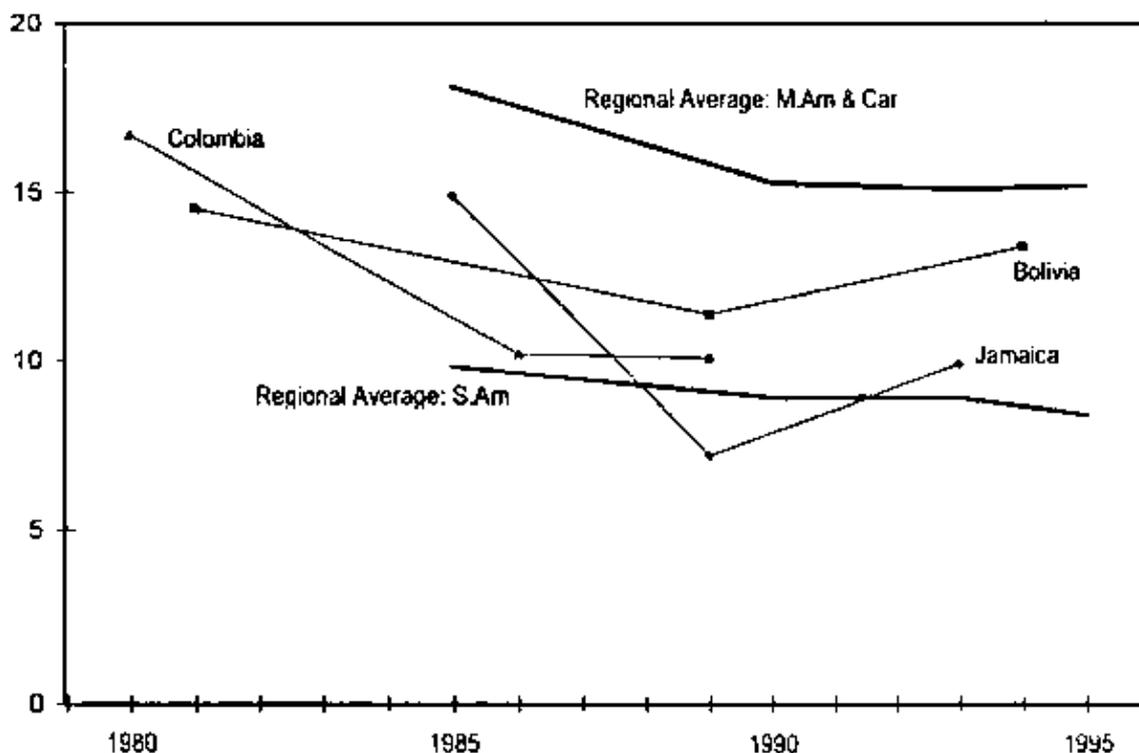
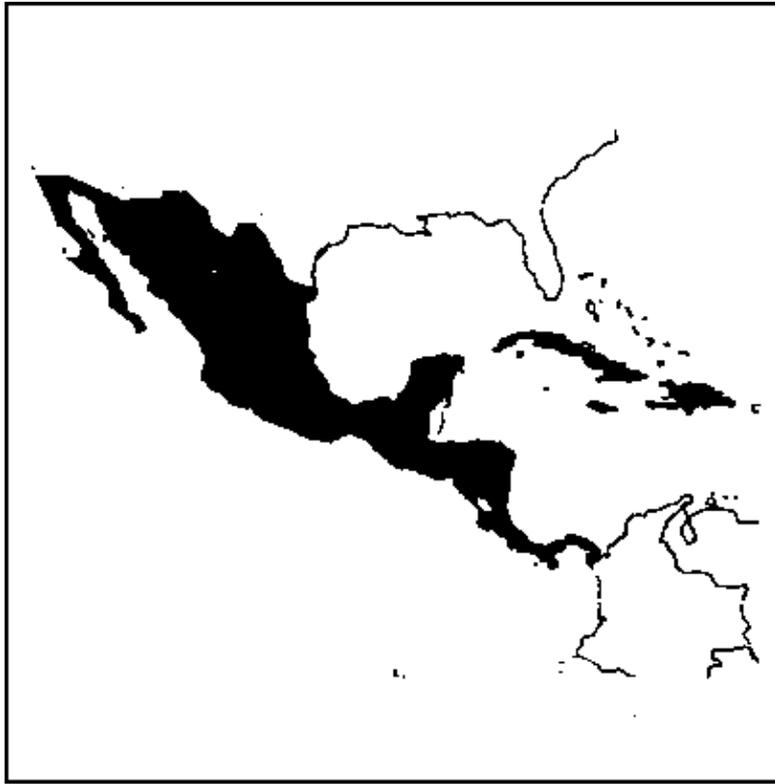


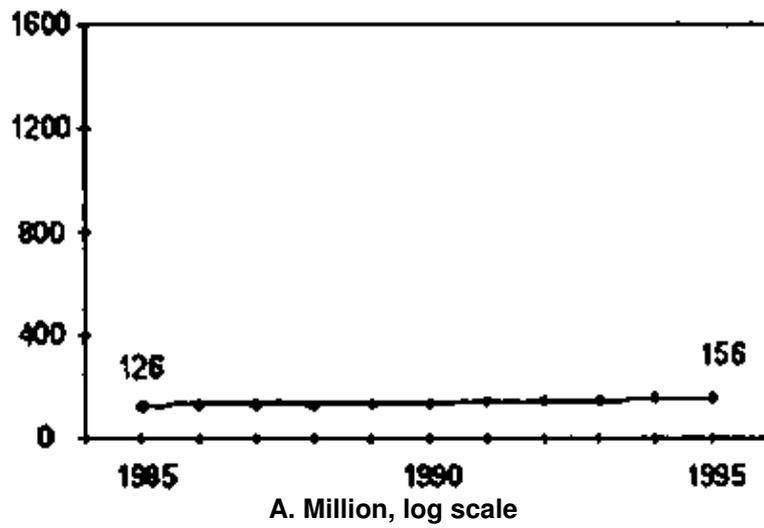
Figure 7. Trends in prevalence of underweight children from repeated national survey results, 1985-1995

PANEL 6. MIDDLE AMERICA AND CARIBBEAN

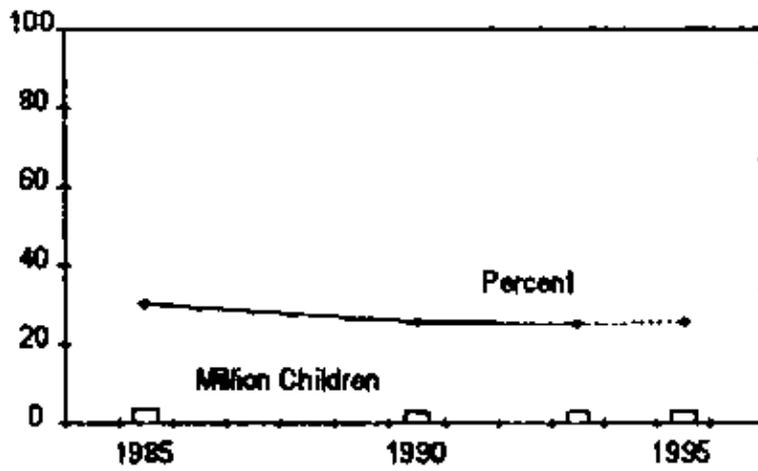


MIDDLE AMERICA AND CARIBBEAN

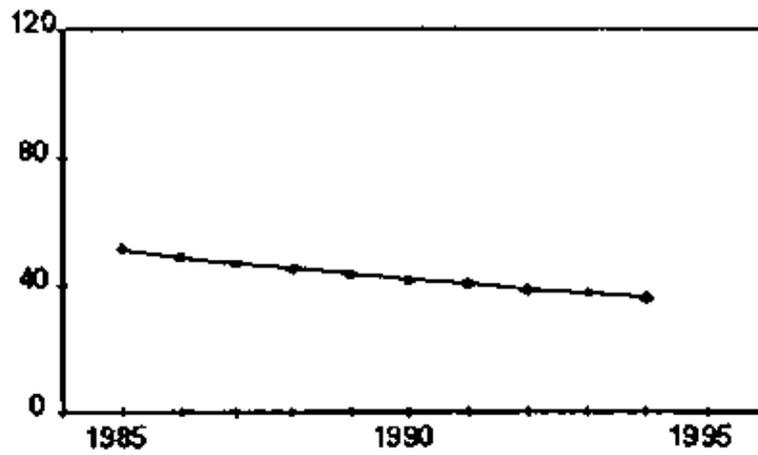
POPULATION



CHILD GROWTH AND SURVIVAL

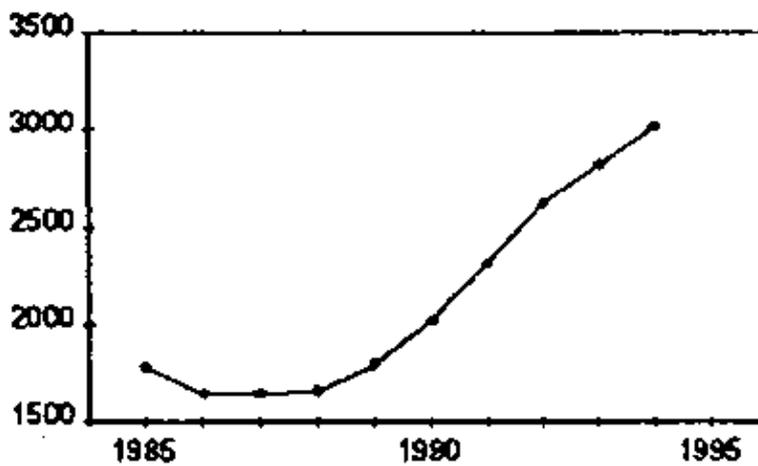


B. Underweight preschool children (Percent below  $-2$  s.d. weight for age)

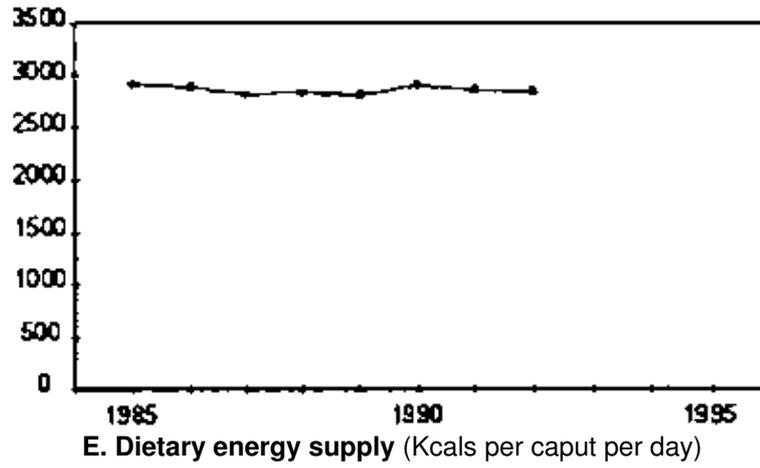


C. Infant Mortality Rate (Per 1,000 live births)

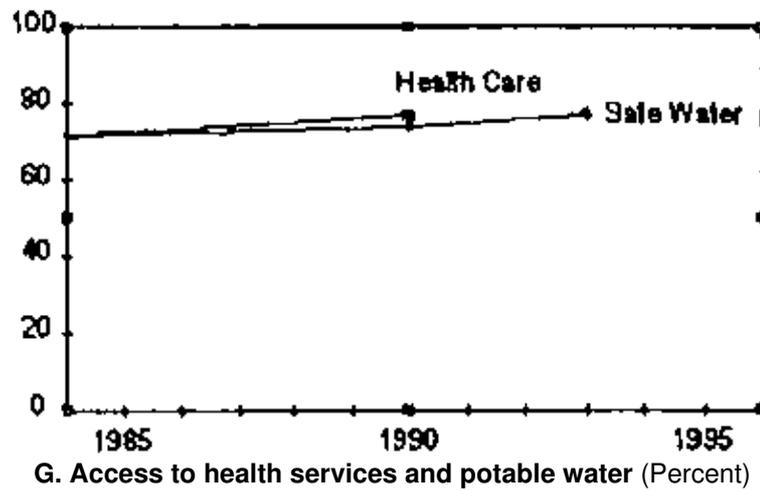
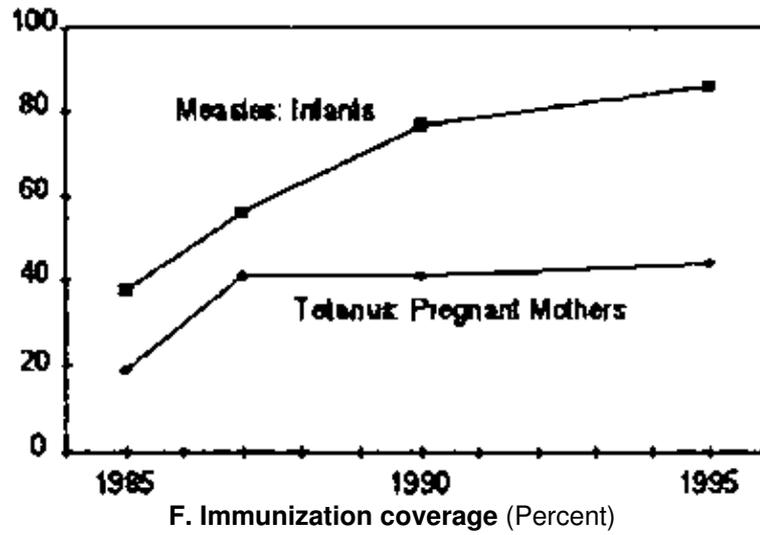
### ECONOMICS AND FOOD



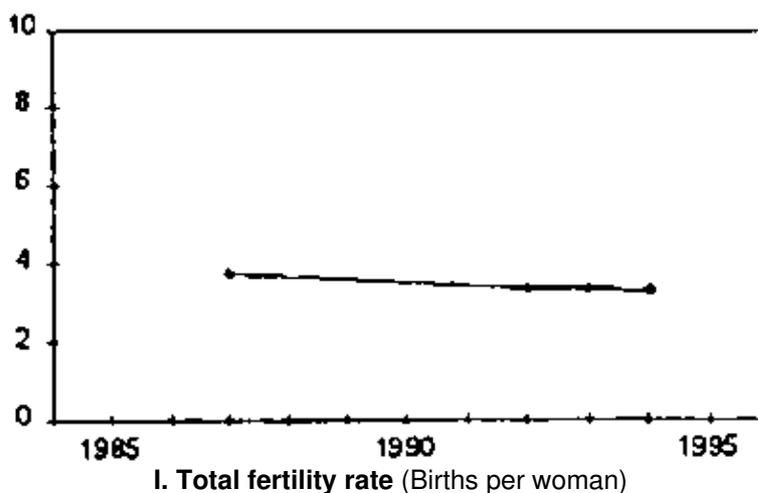
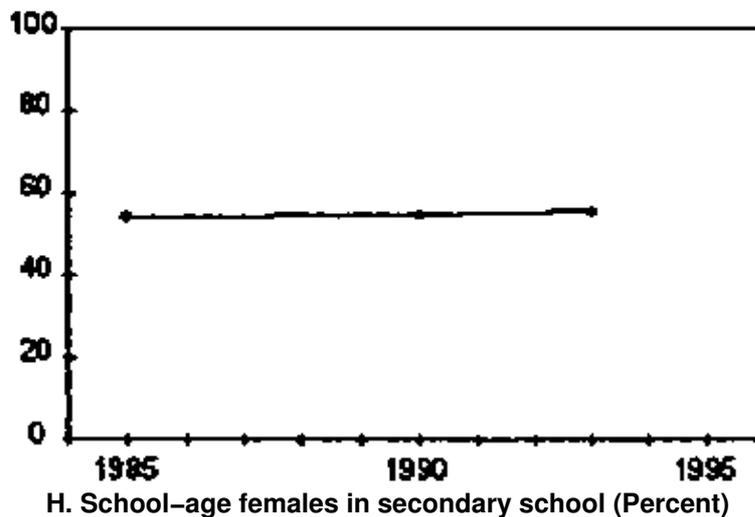
D. GNP per capita (Atlas US dollars)



HEALTH



WOMEN'S STATUS AND CARING CAPACITY



## SOUTH AMERICA

Underweight prevalences in South America are the lowest in the developing world. Malnutrition could be largely eliminated in the foreseeable future, but rates of improvement will nonetheless have to increase to achieve this – progress has been slower than elsewhere, except for Sub Saharan Africa, in the last ten years. Examples of trends in Bolivia and Colombia are shown in Figure 7 and others in Table 3 at the end of the paper. Estimates of poverty levels indicate a small increase in the period 1987–90–93 (from 22.0% to 23.5%), which is in line with the underweight trends. Further, as seen in the Middle America and the Caribbean, GNP growth in middle income countries seems to have only a minor effect on underweight prevalences. On the other hand, infant mortality rates have come down steadily in the last ten years.

Estimates of per capita GNP growth point to significant increases on average in the last ten years (see Panel 7D), although the poverty data indicate a worsening income distribution. In fact some of the most unequal income distributions anywhere are recorded in South America – for example in Brazil where the lowest 40% of households have only 7% share of the income – and regional disparities, like for North Eastern Brazil, are extreme. Structural adjustment programmes, responding to severe economic problems marked by hyperinflation in some countries, succeeded in reducing the debt burden, but often with a cost to nutrition and health. Nonetheless, over the course at least of the '80s nutrition improved in countries such as Brazil, in line with major investments in health infrastructure (like sanitation) and education, and (it is argued) as a result of the mobilization of civil society at the local level, often despite a lack of official support.

The food availability in South America has been at a reasonably high level throughout this period, and even during periods of hyperinflation the nutritionally important ratio of food price to consumer price indices did not generally rise greatly, and in fact actually fell in Brazil in 1986–93.

Access to health services and environmental health have improved and tended to remain at a high level, and immunization rates have been maintained with a reasonable coverage. Girls secondary education has grown, enrollment now estimated at about 60%. Total fertility rates continue downward, now passing a value of 3 births per woman.

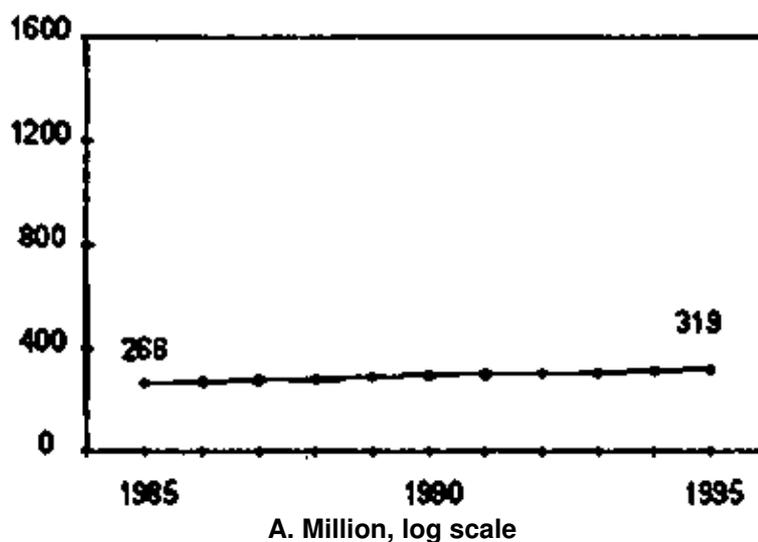
Depending on developments, South America is set to largely eliminate malnutrition in the population during the early part of next century – although large pockets of poverty, regional and in the massive and rapidly expanding slum populations, will require sustained efforts.

#### PANEL 7. SOUTH AMERICA

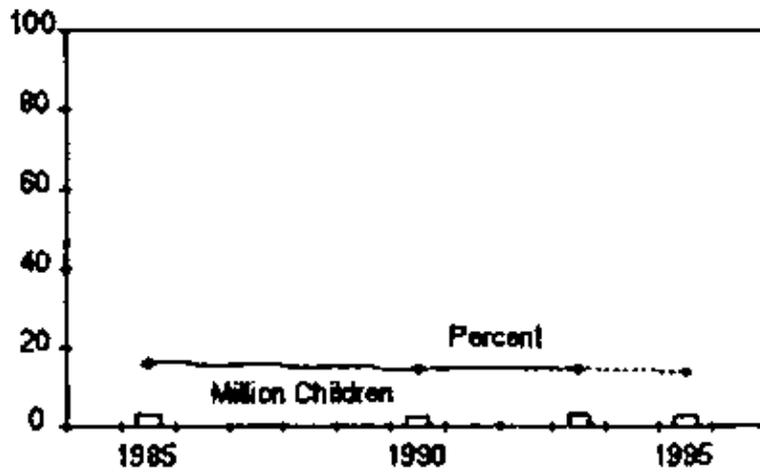


SOUTH AMERICA

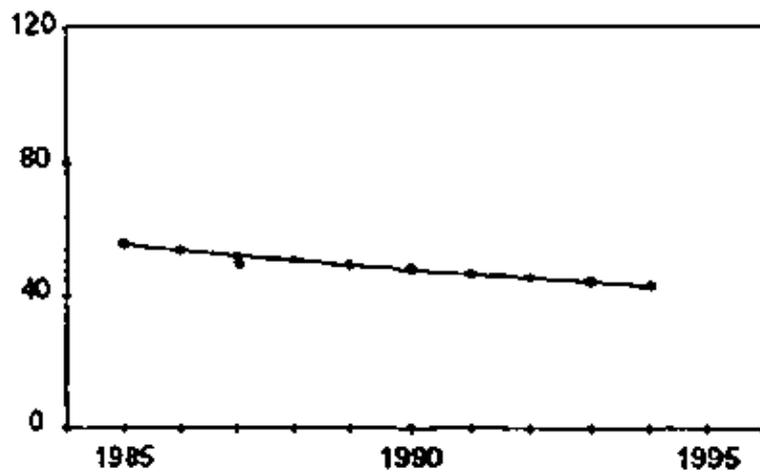
#### POPULATION



#### CHILD GROWTH AND SURVIVAL

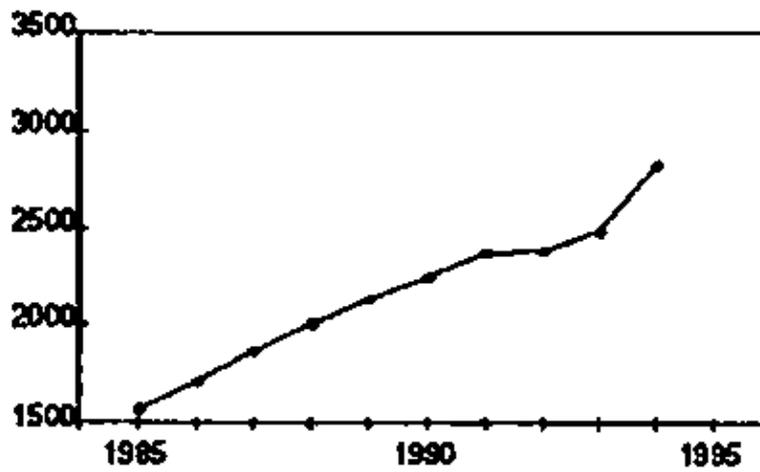


B. Underweight preschool children (Percent below -2 s.d. weight for age)

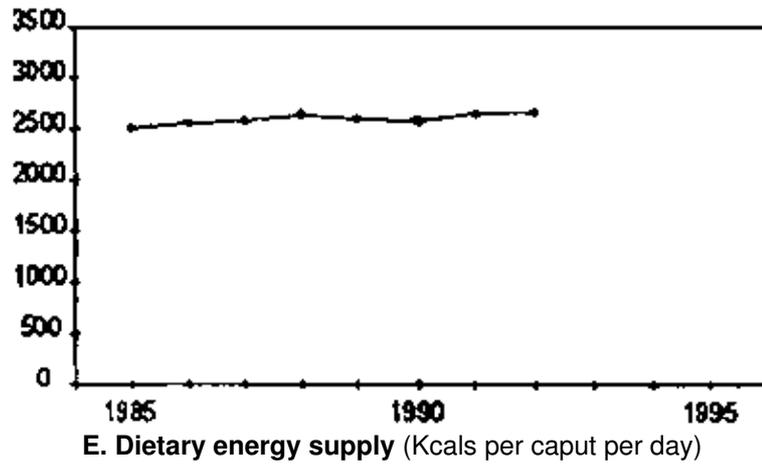


C. Infant Mortality Rate (Per 1,000 live births)

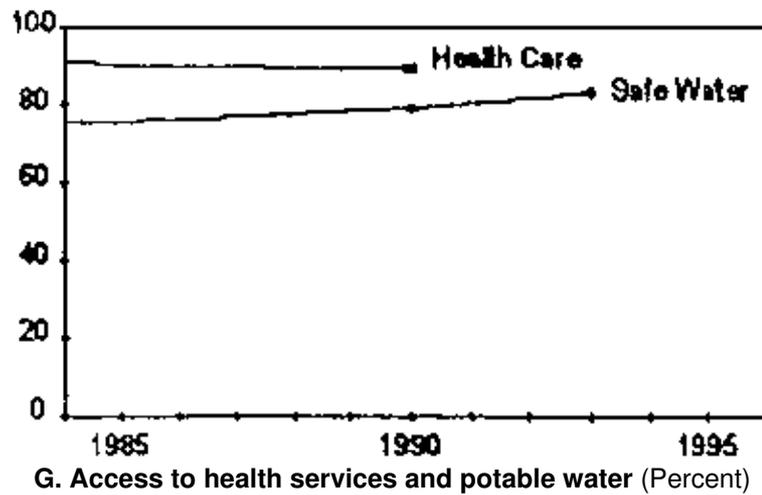
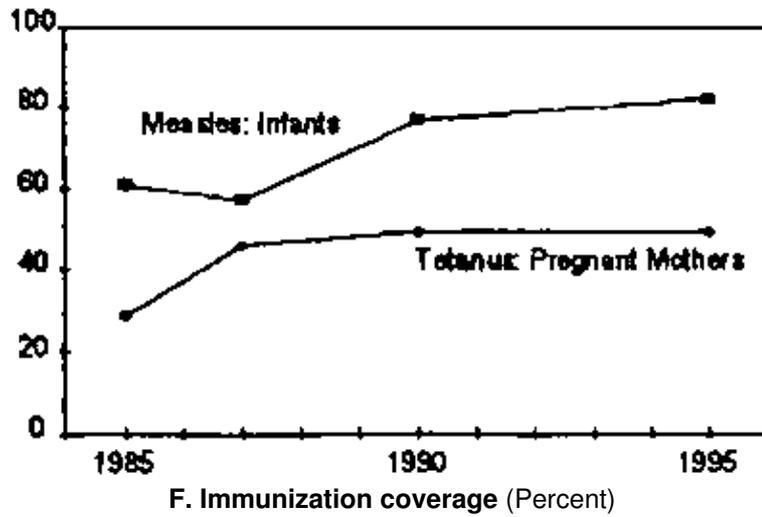
ECONOMICS AND FOOD



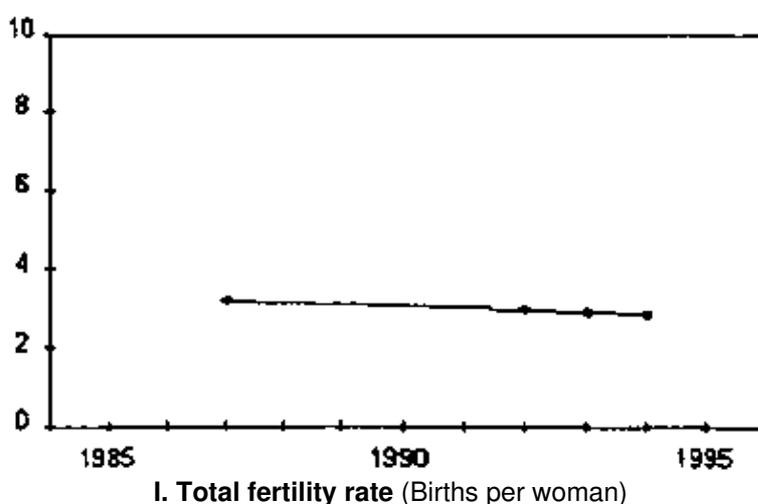
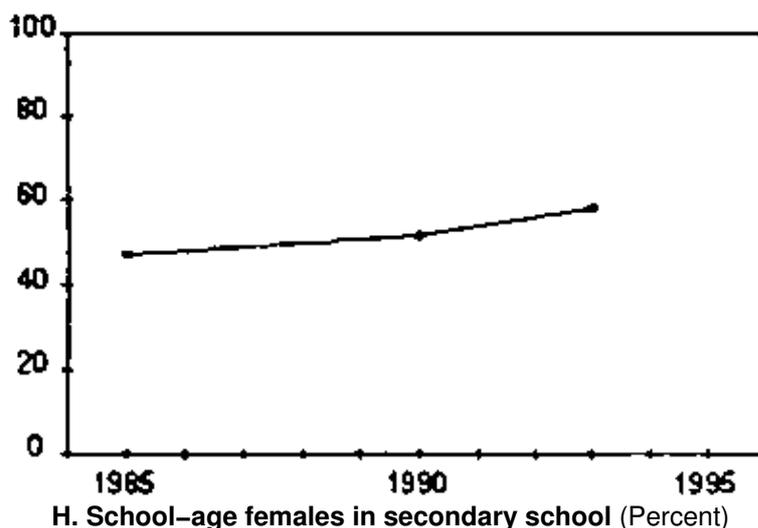
D. GNP per capita (Atlas US dollars)



**HEALTH**



**WOMEN'S STATUS AND CARING CAPACITY**



## FUTURE SCENARIOS

Goals have been put forward for reducing malnutrition, by half (in prevalence terms) between 1990 and 2000 at the World Summit for Children (1990) and the International Conference on Nutrition (1992). The World Food Summit is expected to propose reducing the numbers of malnourished people by half by 2010 or if possible 2015. Such goals of reducing the problem by half can be seen in the light of present trends, at its simplest by examining how prevalences would change if the highest and the lowest rates of change in recent years continued, for example to 2010. Results of such calculations are shown in Table 2.

In Near East and North Africa, South East Asia, China, Middle America and Caribbean, and (nearly) South America, re-establishing the 1985–90 trends would meet such goals by 2010 – the “optimistic scenario” in Table 2. On the other hand, in the regions with the most malnutrition – Sub-Saharan Africa and South Asia – much faster progress is needed than has been seen in the last ten years (or indeed since trend measurements began 20 years ago).

Progress in many of the countries showing rapid improvement has come from a number of factors that can be affected by policy. Economic growth that generates employment, reduces inequality, and brings down poverty is essential; investment in agricultural and rural development, health and education, can be shown to have an important impact on malnutrition, especially when supportive of women. In most countries with rapid progress, local programmes specifically designed to reduce malnutrition have been widely and vigorously carried out. Future progress to sharply lower malnutrition prevalence and numbers of undernourished will require such intensified and broad based efforts, in overall development and community-based action. There is ample experience of how nutrition improves – this needs to be applied with determination to meet future goals.

**Table 2 – Scenarios for 2010: Projections of underweight prevalences by region**

Region	1995	2010: "Optimistic"	2010: "Pessimistic"
Sub-Saharan Africa	27	25	34
Near East and North Africa	10	0	9
South Asia	49	33	45
Southeast Asia	32	16	27
China	15	0	7
Middle America and Caribbean	15	7	15
South America	8	6	7

Note: Scenarios projected on basis of applying best and worst rates of prevalence change observed 1985–90 and 1990–95 to the 1995 prevalence estimates.

#### Notes:

<sup>1</sup> This report updates a preliminary document available at the ACC/SCN meeting in February 1996, the results of which were also included in UNICEF's Progress of Nations, 1996.

<sup>2</sup> The modeling methods used for these estimates, described in other publications, involve using correlations of nutritional survey data (174 national results were available for the present study) with other data available for each country and year, to interpolate estimates by country for the standard years (1985, 1990, 1993, 1995 here) when nutritional data were not available for that year, and to estimate the likely prevalence for those countries lacking data.

<sup>3</sup> Panels can be compared directly between regions; note that for GNP only the scales differ between certain regions.

<sup>4</sup> Estimates of poverty are compiled by ILO, and those quoted here stem from World Bank calculations. It is important to stress that the poverty figures are both derived from household surveys different to those providing the nutritional data, and moreover independent variables used for interpolating nutritional data are also not related. These two estimates are thus independent of each other, and their consistency provides useful corroboration of the plausibility of each.

<sup>5</sup> All GNP estimates referred to here are World Bank Atlas methodology data, taken from STARS 1996, the World Bank data base.

<sup>6</sup> Chen Chunming. Country Report of China. Paper presented at ADB–UNICEF meeting, Manila, May 1996.

<sup>7</sup> The important relation between GNP and underweight prevalence on a cross-country basis is shown in the ACC/SCN Second Report on the World Nutrition Situation, Volume 1, page 9, (1992).

**Table 3 – Estimated trends in prevalences of underweight children**

Country	Year, Prevalence				Trend	Rate (pp/yr) (rate for goals)	
	Earlier		Later				
<i>Sub-Saharan Africa</i>							(–1.5)
Cameroon	1978	17.3	1991	13.6	Falling	–0.28	
Ethiopia	1983	37.3	1992	46.9	Rising	+1.07	
Ghana	1988	27.1	1994	27.4	Static	+0.05	

Kenya	1982	22.0	1987	17.5	Falling	-0.80	
Kenya	1987	18.0	1993	22.3	Rising	+0.72	
Kenya	1993	22.3	1994	22.5	Static	+0.20	
Lesotho	1976	17.3	1981	13.3	Falling	-0.80	
Lesotho	1981	13.3	1992	15.8	Rising	+0.23	
Lesotho	1992	15.8	1993	21.4	Rising	+5.60	
Madagascar	1984	33.0	1992	39.0	Rising	+0.75	
Madagascar	1992	39.0	1994	32.1	Falling	-3.45	
Malawi	1981	24.0	1992	27.0	Rising	+0.27	
Rwanda	1976	27.8	1985	27.5	Static	-0.03	
Rwanda	1985	27.5	1992	29.2	Static	+0.24	
Senegal	1986	17.5	1992	20.1	Rising	+0.43	
Tanzania	1987	33.0	1992	28.0	Falling	-1.00	
Togo	1977	20.5	1988	24.4	Rising	+0.35	
Zambia	1985	26.5	1991	26.8	Static	+0.05	
Zambia <sup>1</sup>	1990	27.8	1992	29.0	Static	+0.60	
Zimbabwe	1984	14.0	1988	10.0	Falling	-1.00	
Zimbabwe	1988	10.0	1994	15.5	Rising	+0.92	
<i>Near East and N. Africa</i>							(-0.6)
Algeria	1987	8.6	1990	9.2	Static	+0.20	
Algeria	1990	9.2	1992	9.2	Static	0.00	
Egypt	1978	16.6	1988	10.0	Falling	-0.66	
Egypt	1990	10.4	1992	9.4	Static	-0.50	
Jordan	1990	6.4	1991	9.7	Rising	+3.30	
Morocco	1987	12.0	1992	9.0	Falling	-0.60	
Tunisia	1975	20.2	1988	7.8	Falling	-0.95	
Tunisia	1988	7.8	1994	8.7	Static	+0.15	
<i>South Asia</i>							(-2.9)
Bangladesh <sup>2</sup>	1975	84.4	1981	70.1	Falling	-2.38	
Bangladesh	1981	70.1	1989	66.5	Falling	-0.45	
Bangladesh <sup>3</sup>	1990	71.0	1993	67.0	Falling	-1.33	
India	1977	71.0	1988/90	63.0	Falling	-0.67	
India <sup>4</sup>	1988/90	63.0	1991/92	66.0	Rising	+1.00	
Pakistan	1977	54.7	1990	40.4	Falling	-1.10	
Sri Lanka	1980	47.5	1987	36.6	Falling	-1.56	
Sri Lanka	1987	36.6	1993	37.6	Static	+0.17	

<i>South East Asia</i>							(-1.6)
Indonesia	1978	43.6	1987	41.4	Falling	-0.24	
Indonesia	1987	41.4	1989	38.7	Falling	-1.35	
Lao, PDR	1984	36.5	1994	40.0	Rising	+0.35	
Malaysia <sup>2</sup>	1983	26.6	1990	25.0	Falling	-0.23	
Malaysia <sup>2</sup>	1990	25	1993	23.3	Static	-0.57	
Myanmar <sup>5</sup>	1982	42.1	1990/91	34.6	Falling	-0.83	
Myanmar	1990/91	34.6	1994	31.2	Falling	-1.13	
Philippines	1978	33.3	1982	33.2	Static	-0.03	
Philippines	1982	33.2	1990	33.5	Static	+0.04	
Philippines	1990	33.5	1993	29.6	Falling	-1.30	
Thailand	1982	36.0	1987	22.2	Falling	-2.76	
Thailand	1987	22.2	1990	13.0	Falling	-3.07	
Vietnam	1987	51.5	1994	44.9	Falling	-0.94	
<i>China</i> <sup>6</sup>	1987	21.7	1990	17.5	Falling	-1.40	(-1.1)
	1990	17.5	1995	15.8	Falling	-0.34	
<i>Middle America/Caribbean</i>							(-0.8)
Costa Rica	1978	16.0	1982	6.0	Falling	-2.50	
Costa Rica	1982	6.0	1992	2.3	Falling	-0.37	
Dominican Republic	1986	12.5	1991	10.4	Falling	-0.42	
El Salvador	1975	21.6	1988	15.5	Falling	-0.47	
El Salvador	1988	15.5	1993	11.2	Falling	-0.86	
Guatemala	1980	43.6	1987	28.5	Falling	-2.16	
Haiti	1978	37.4	1990	26.8	Falling	-0.88	
Honduras	1987	20.6	1992	18	Static	-0.26	
Jamaica	1978	15.0	1985	14.9	Static	-0.01	
Jamaica	1985	14.9	1989	7.2	Falling	-1.93	
Jamaica	1989	7.2	1993	9.9	Rising	+0.66	
Nicaragua	1982	10.5	1993	11.9	Static	+0.13	
Panama	1980	16.0	1992	7.0	Falling	-0.75	
Trinidad/Tobago	1976	16.3	1987	5.9	Falling	-0.95	
<i>South America</i>							(-0.4)
Bolivia	1981	14.5	1989	11.4	Falling	-0.39	
Bolivia	1989	11.4	1994	13.4	Rising	+0.40	
Brazil	1975	18.4	1989	7.1	Falling	-0.81	
Brazil (NE)	1989	12.7	1992	9.2	Falling	-1.17	

Chile	1978	2.1	1986	2.5	Static	+0.01	
Chile	1986	2.5	1994	0.9	Static	-0.18	
Colombia	1980	16.7	1989	10.1	Falling	-0.73	
Guyana	1981	22.1	1991	26.6	Rising	+0.45	
Guyana	1991	26.6	1993	18.3	Falling	-4.15	
Peru	1975	16.1	1984	13.4	Falling	-0.30	
Peru	1984	13.4	1992	10.8	Falling	-0.33	
Venezuela	1982	10.2	1987	5.9	Falling	-0.85	

<sup>1</sup> Zambia 1990–1992, rural.

<sup>2</sup> Surveillance data.

<sup>3</sup> Bangladesh data for 1981/1989 from surveys, 1990/1993 from surveillance, thus levels not comparable but trends should be reliable.

<sup>4</sup> Data from: Karnataka, Maharashtra, Gujarat, Kerala, Tamil Nadu, Andhra Pradesh, and Orissa.

<sup>5</sup> These data are for 0–36 months. The 190/1991 figure is an average for the two years.

<sup>6</sup> 1987, nine provinces; 1990, seven provinces. Five provinces have data for both years; in these, the prevalences trend (weight of average by sample size) was -1.1 pp/yr.

**Note:**

Recent trends with later data in 1990's are bold italicized.

The purpose of this table is more to give prevalence trends than levels comparable across countries. Most prevalences given are of children 0–59 months, <-2 SDs by NCHS standards. In some of the recent cases, however, this indicator was not available and could not be estimated (e.g. 0–36 month age range, <80% w/a cut-off), in which case priority was given to deriving identically-defined prevalences comparable within country across time. This has minor effects on the estimated rates, in percentage-points per year (pp/yr), which are considered generally comparable across countries.

Trend is described as static if there is less than a two percentage point difference between the earlier and later prevalence. This cut off was chosen as it represents a significant difference given a sample size of 2000.

**UNITED NATIONS – ADMINISTRATIVE COMMITTEE ON COORDINATION – SUBCOMMITTEE ON NUTRITION (ACC/SCN)**

The ACC/SCN is the focal point for harmonizing the policies and activities in nutrition of the United Nations system. The Administrative Committee on Coordination (ACC), which is comprised of the heads of the UN Agencies, recommended the establishment of the Subcommittee on Nutrition in 1977, following the World Food Conference (with particular reference to Resolution V on food and nutrition). This was approved by the Economic and Social Council of the UN (ECOSOC). The role of the SCN is to serve as a coordination mechanism, for exchange of information and technical guidance, and to act dynamically to help the UN respond to nutritional problems.

The UN members of the SCN are FAO, IAEA, IFAD, ILO, UN UNDP, UNEP, UNESCO, UNFPA, UNHCR, UNICEF, UNRISD, UNU, WFP, WHO and the World Bank. From the outset, representatives of bilateral donor agencies have participated actively in SCN activities. The SCN is assisted by the Advisory Group on Nutrition

(AGN), with six to eight experienced individuals drawn from relevant disciplines and with wide geographical representation. The Secretariat is hosted by WHO in Geneva.

The SCN undertakes a range of activities to meet its mandate. Annual meetings have representation from the concerned UN agencies, from 10 to 20 donor agencies, the AGN, as well as invitees on specific topics; these meetings begin with symposia on subjects of current importance for policy. The SCN brings certain such matters to the attention of the ACC. The SCN sponsors working groups on inter–sectoral and sector–specific topics.

The SCN compiles and disseminates information on nutrition, reflecting the shared views of the agencies concerned. Regular reports on the world nutrition situation are issued, and flow of external resources to address nutrition problems are assessed. State–of–the–Art papers are produced to summarize current knowledge on selected topics. SCN News is normally published twice per year. As decided by the Subcommittee, initiatives are taken to promote coordinated activities – inter–agency programmes, meetings, publications – aimed at reducing malnutrition, primarily in developing countries.

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