Planning to Meet "Basic Needs" Some Methodological Problems

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For its World Employment Conference in June 1976 the ILO prepared a report [2] in which it put forward the idea that the development strategy for the future should aim at meeting certain "basic needs" for the poorest 20 percent of the people in the different countries of the world. One point ILO put across was that it would take considerably less time to reach a given set of basic needs targets if income within the different countries could be redistributed for the benefit of the poorest 20 percent. The ILO demonstrated the magnitude of the problem by the help of illustrations drawn from a working paper prepared for the ILO [1].

The minimum basic needs which are listed by the ILO include personal consumption items like food, clothing and housing, and services which in many countries are provided by public authorities like water, health, sanitation and education. In addition the ILO report also stresses qualitative elements of development, and calls for greater participation of the poor in decision-making in matters concerning their own future.

Without further analysis no one can tell whether the goal of meeting the basic needs of the poorest population groups is completely utiopian, or whether, under reasonably realistic assumptions, it can be reached in the course of one generation. The ILO initiative to analyse the problem in quantitative terms is, therefore, timely. The conclusions that may be drawn from such an analysis may have a far reaching impact on the policies of individual nations and international organisations. It is necessary, therefore, to carefully scrutinize

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both the assumptions and the methodology of the analysis. Pioneering work, not least in social and economic forecasting, will inevitably lend itself to serious criticism. In fact, that is one of the purposes or benefits of new departures in analysis. This does not preclude that the positive impact of such work both in the short and in the long run may far outweigh even the most devastating criticism of earlier work.

In trying to illustrate the magnitude of the efforts needed the ILO limited itself to food, housing, education and health. For the first three groups directly quantifiable targets have been listed: calories available per head per day; housing units per family; and percentage of population aged 7 to 18 enrolled in school. As a proxy for progress in health life expectancy at birth has been used as a measure, but no specific targets have been set. The targets for housing and education have been fixed at two levels, A and B, while the food target is the same for A and B, and the health target is indetermined. The ILO study operates with 4 "developed regions", 3 "socialist regions", 5 "underdeveloped regions" and 3 "very underdeveloped regions". Our analysis in this paper is on the whole limited to the 8 "underdeveloped regions". References to other regions are also made where necessary.

The food targets have been taken from FAO's work on calorie requirements by sub-regions. Drawing on recent research the authors maintain that no specific target for protein intake is needed. The lower B level target for housing is 0.75 dwelling units per family as against 1 unit for the A level target. There are considerable difficulties in setting housing targets in terms of size of dwelling and costs per family, and these have been resolved by ILO in a somewhat arbitrary fashion. As regards education the B level target is 9 years universal education against 12 years for the A level. These education targets have been expressed in terms of enrolment in relation to population aged 7 to 18: 98 percent for the A level target, 75 percent for the B level.

The targets are then aggregated and expressed in the form of per capita GNP (in 1960 dollar prices) required for the poorest 20 percent in the various regions. A complex model worked out by the Fundacion Bariloche in Argentine is used to arrive at these figures. While a short description of the model is available,[1] it is not exhaustive enough to allow a proper assessment of relevance and significance of the model. The ILO model has many highly interesting aspects, and the reasoning behind it seems sound enough. But many of the results produced by the model are very puzzling, and raise serious doubts about the validity of the exercise.

In Table 1 we have summarised those results from the ILO study, which are most relevant for the discussion in this paper.[2] It will be seen that the model gives widely different results for the various regions of the world. To reach the B level basic needs, per capita income for the poorest 20 percent must reach $1826 per head in Japan and $1061 in the USSR but only $121 in "Asia—China" (low income socialist countries Asia). The underdeveloped regions fall within the range from $ 173 (Africa, arid) to $ 868 (Africa South). For the

[1] See [1], appendix A 2.

[2] The discussion of the ILO model is based on an earlier draft of the background paper circulated as Population and Employment Working Paper No. 29 in December 1975. The final version contains some changes, none of which affect the basic conclusions. The changes effect particularly Southern Europe, but minor changes in assumptions for population growth lead to some adjustments for some other underdeveloped regions as well.

A level targets we find a range from $ 1359 (socialist countries Eastern Europe) to $ 4407 (North America) for the industrialized regions, and for the underdeveloped regions, including the poor socialist region, from $ 266 (China etc.) and $ 390 (Africa, arid) to $ 1093 (Africa South).

Table 1

Targets for GNP Per Capita by Region, to Fulfil "Basic Needs"
(1960 dollars per capita)

		Target Level B. Lowest quintile	Target Level A. Lowest quintile	Target B Average GNP/ cap. (includes distribution effects)	Target A Average GNP/ cap. (includes distribution effects)
		1	2	3	4
Developed Regions:					
1. North America[a]	less than	3065	4407		13155
4. Europe[a]	,,	1454	2164		7869
9. Asia-Japan[b]		1826	2416	2145 (4743)	6275
15. Oceania[a]	,,	1794	2867		8191
Socialist Regions:					
6. USSR		1061	1602	2002	3023
7. Eastern Europe[a]	less than	703	1359		2613
8. Asia-China (low income)		121	266	214	417
Underdeveloped Regions:					
2. Latin America (medium income)		652	807	2898	3586
3. Latin America (low income)		614	740	2856	3442
5. Europe South (medium income)		706	892	2521	3186
11. Middle East (Africa-Oil)		353	540	1765	2700
14. Africa South (medium income)		868	1093	9137	11505
Very Underdeveloped Regions:					
10. Asia and India (medium/low income)		273	428	1030	1615
12. Africa (arid)		173	390	629	1418
13. Africa (tropical)		259	426	1057	1739

Source: [1], tables 3.2 and 4.1.

[a]In four regions level B was already satisfied in 1960 for the population as a whole. 1960 GNP/capita values are shown in column 1. Since the model could not be run backwards, it was not possible to show the exact values under column 1, and no values can therefore be shown under column 3.

[b]The figure under col. 1 was by mistake 826 in an earlier version of the paper. The figure under column 3 was not corrected in the ILO study,—the correct figure shown in brackets.

Table 2

Increases in Per Capita GNP Needed to Reach Target B by Region

	GNP/cap. in 1970 in 1960-dollars	Income share of lowest quintile (percent of GNP)	Average GNP/cap. lowest quintile		Target in percent of actual 1970
			actual 1970 1960-dollars	target B 1960-dollars	
	(1)	(2)	(3)	(4)	(5)
Developed Regions:					
North America[a]	4057	6.7	1359		unknown
Europe[a]	2002	5.5	550		unknown
Asia-Japan	1430	7.7	551	1862	331
Oceania[a]	2287	7.0	800		unknown
Socialist Regions:					
USSR	1200	10.6	636	1061	167
Eastern Europe[a]	1085	10.4	564		unknown
Asia-China	74	11.3	42	121	288
Underdeveloped Regions:					
Latin America (medium)	472	4.5	106	652	615
Latin America (low)	403	4.3	87	614	706
Europe South	490	5.6	137	706	515
Middle East	222	4.0	44	353	802
Africa South	710	1.9	67	868	1296
Very Underdeveloped Regions:					
Asia and India	129	5.3	34	273	803
Africa (arid)	118	5.5	32	173	541
Africa (tropical)	140	4.9	34	259	762

Sources: Columns (1) to (4), from [1], tables 3-1, 3-2 and 4-1.
[a]See footnote (a), table 1.

These inter-regional differences in per capita income levels required by the poorest quintile of the population to reach given basic needs targets reflect wide discrepancies in purchasing power of the different currencies, as well as other factors like climatic variations leading to different food and housing requirements, and existing discrepancies in standards and habits. However, the differences produced by the model are in a number of cases far larger than can be accounted for by the factors mentioned above.

The main cause of these differences lies in the methodology used. In assuming that the poorest quintile must reach the levels of income per head required for the total population to achieve the average satisfaction of basic

needs set as targets, one assumes implicitly that the consumption pattern of the poorest twenty percent will follow the same path of development as that of the population as a whole. This is an entirely unlikely implication, because it would mean that the ability to consume, and therefore the income distribution, amongst the poorest twenty percent would be the same as for the population as a whole at identical income levels. The resulting income distrbution for the poorest twenty percent would be very peculiar compared to all known patterns of national income distribution, and quite bizarre in countries with very uneven income distribution. The consequence of this, is as far as I can see, to inflate the income targets in all cases, but more strongly so in those regions where the income distribution is very uneven. This upward bias is thereupon further strengthened through the in itself fully logical procedure of multiplying the income target for the lowest quintile by the ratio $20 \div p$, where p is the percentage of income accruing to the poorest 20 percent, in order to find GNP per capita for the whole population.

The results of this approach are well illustrated by the figures for North America. At a GNP per capita of $ 4,057 in 1970 (in 1960-prices) the population in that region had on the average reached the A-level targets for food and education, and 91 percent of the target for housing. The model predicted that to reach the A-level target fully, the *poorest* 20 percent would have to reach a GNP per head of $ 4,407 or 9 percent higher than the 1970 GNP per head for the population as a whole. With unchanged income distribution this entails that the GNP per capita would have to grow to $13,155, or by 224 percent. Even on the assumption of completely free choice for the consumers, this appears to be a very drastic precondition for meeting the housing needs of the poorest fifth of the USA and Canadian populations. It also looks rather unlikey that the entire North American population should not have been able to have met its housing needs in 1970 if the then national income had been distributed evenly.

On the basis of the information given in the ILO background paper [1] it is impossible to judge to what extent differences between regions are the results of *real* differences in purchasing power or justifiable variations in needs per capita, and to what extent they result from inherent weaknesses in the approach used and in the type of model that was utilised for this purpose. The general impression, however, is that the methodology leads to an upward bias for the targets of GNP per capita which should ensure satisfaction of basic needs of the poorest twenty percent in different geographical regions.

A CRUDE ATTEMPT TO ESTIMATE INCOMES REQUIRED TO COVER BASIC NEEDS

The calculations undertaken by the ILO, and the conclusions drawn from them are so crucial to the proposed strategy and the followup of the World Employment Conference that it is a pity to have to conclude that the results are so questionable and unrealistic, that the whole exercise as presented is useless. Below we will present a set of calculations on the basis of a formally much less sophisticated approach than the one tried out with rather puzzling

results by the ILO.[3] We have chosen to compute levels of per capita income corresponding to the satisfaction of each of the three basic needs specified in the ILO study,[4] admittedly this exercise is very crude and is only meant to establish the orders of magnitudes. We had no time and opportunity to undertake adequate research into all the background data that were needed for a better substantiated set of estimates. Where rather arbitrary assumptions had to be made, the approach was to avoid unrealistically optimistic conclusions. Thus these alternative estimates may easily be on the high side as regards per capita income levels required to meet the chosen set of basic needs. In order to avoid the most serious pitfalls caused by our partial approach to the problem, we have sought to take into account specific constraints and investment requirements. Assumptions reflecting such constraints as well as investment requirements have been built into our estimates in the following manner:

Food

We have assumed that the relative price of food will be doubled. The reason for this is that fulfilling of basic needs for food will require a significant increase of food production which in many regions of the world may lead to considerable increases in costs of production. Also, in order to reduce poverty in rural areas, terms of trade would have to move in favour of the farm population. It is a recognized weakness of our approach that in respect of the relative price of food we have adopted a uniform change to all regions of the less developed world; in the ILO model difference between regions have been allowed for.

Housing

Our approach for housing is extremely simple and somewhat arbitrary, but so is the ILO approach as well. We have, however, checked that the target for the year 2000 is consistent with realistic levels of investments in the intervening years.

Education

Also in the case of education we have assumed higher relative prices. Teacher's salaries represent a high proportion of total expenditure on general education, and the level of teachers' salaries will undoubtedly have to increase in relation to the general price level if teachers are going to share in the increased national income.

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[3]In doing so we are conscious of the dangers of a simplistic approach, as stated by the ILO itself: "It would of course be possible to simply estimate that set of providings basic needs (different in each region) and compute an income target from this. But this is to neglect the complexity of the real world, and many important issues in addition to basic needs to be represented. An economic model thus needs to take into account consumption, behaviour, investment allocation over time, infrastructural requirements and so on, before a reasoned assessment of the income level which corresponds to the satisfaction of basic needs can be obtained." (Source 1, page 16, or page 8 of reprint).

[4]While accepting ILO's targets we wish to point out that the provision of universal education for a period of 12 years is extremely ambitious and should undoubtedly have much lower priority than higher attainments in respect of many other basic needs.

CONDENSED PRESENTATION OF THE FINDINGS

In the following we will only present tables which show the result of our calculations and some few remarks stressing the assumptions used.[5]

Food Consumption

The targets for food consumption by region are given in source [1], table 3.1, which also shows the present (1970) average food consumption per capita. In our calculations we have assumed that food consumption per capita is lower than the average amongst the lowest income groups and we have related food consumption in relation to the average to the percentage of income actually received by the poorest 20 percent. These assumptions are shown in column (1) of table 3. Column (3) shows the ratio of actual food consumption to target consumption for the 8 regions. Two estimates, a low and a high, have been used to calculate the increase in income needed in order to raise the figures in column (3) to one. The low estimate assumes that the income elasticity of demand for food expressed in calories is 0.3. Since we assume that food prices will double, we also had to assume a price elasticity which is put at minus 0.3. Column (7) shows the increase in income per capita amongst the poorest 20 percent needed to reach full satisfaction of food in terms of calories on those assumptions. The high alternative is obtained by assuming that expenditure on food in current prices will increase by 0.3 in relation to the increase in income. This approach yields far higher increases in income needed to reach the food consumption target. In columns (5) and (6) of table 3 we show the impact on the percentage of income going to food resulting from these two approaches. Column (5) shows that the low estimate implies some increase in the proportional income going to food for some of the regions. This is not necessarily an impossible situation since food prices according to our assumptions should double in relation to the average price level. If the consumption pattern was recalculated on the basis of base year prices, we would get a much lower proportion of income going to food than shown in the table. The high estimate is, however, clearly on the very high side. In all regions the percentage of income, or rather of GNP, going to food would be very low indeed.[6] We have therefore rejected the high estimate as unrealistic. Columns (9) to (11) of table 3 compare our low and the high estimates with the ILO estimate. The low estimate is considerably lower than the ILO estimate. The high estimate is of the same order of magnitude as the ILO estimate for most regions. The low estimate can at this stage neither be rejected nor accepted because it is necessary also to look at the impact of housing and education targets on income requirements.

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[5]Full presentation of the calculations and underlying assumptions is contained in DERAP Paper No. 76: Planning to meet "Basic Needs"—some methodological problems and research opportunities by Ole David Koht Norbye. The Chr. Michelsen Institute, DERAP (Development Research and Action Programme), Gamle Kalvedalsveien 12, 5000 Bergen, Norway, October 1976.

[6]In this table we have used GNP instead of personal disposable income. Therefore the percentages are about 10 lower than they would have been if personal income had been used at basis for comparison.

Table 3

Crude Estimates of Per Capita GNP Required for the Lowest Income Quintiles to Make them Consume the Desired Minimum Amount of Calories Per head Per day, GNP in 1960-Dollars

	Assumed per head calories lowest quintile in % of average	Calorie consumption in % of target 1970		Expenditure on food in percent of GNP; lowest income quintile			Target GNP in % of 1970-GNP lowest quintile		GNP/cap required for lowest quintiles 1960—dollars		
		Un-adjusted	Amongst lowest quintile	Guess 1970	Target year Income Estimate		Income Estimate		B—target		
					Low	High	Low	High	Lowest.	Highest	ILO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Underdeveloped Regions:											
Latin America (medium)	70	110	77	55	59	23	242	632	257	670	652
Latin America (low)	68	100	68	60	54	24	324	747	282	650	614
Europe South	81	107	87	55	74	24	171	533	234	730	706
Middle East	65	90	59	60	47	23	431	897	190	395	353
Africa South	49	113	55	65	48	24	490	979	328	656*	868
Very Underdeveloped Regions:											
Asia and India	78	92	72	60	58	24	285	693	97	236	273
Africa (arid)	80	100	80	60	68	25	219	600	70	192	173
Africa (tropical)	74	96	71	65	62	26	295	706	100	240	259

Sources: Column (2), based on table 3-1 [1]. Column (11)—from table 3-2 [1] (see also table 2). Column (1) based on data from table 4-1, [1] (reproduced in table 2), and on assumption as regard the relationship between income distribution and distribution of food consumption referred to in the text. Column (3) = (1) × (2). Columns (4) to (8) our estimates, Columns (9) and (10) equal columns (7) and (8) multiplied by GNP/cap. 1970 (Column (3), table 2). Column(11) = Column (1), table 1.

Housing

For housing the basic assumption is that in year 2000 new production of houses must be 9 houses per hundred families amongst the poorest 20 percent. This output is broken down as follows: 2-1/2 houses to meet the demand of an increasing population; 2-1/2 houses in order to eliminate the remaining shortage of houses, viz. to raise the target from the B level of 75 houses per hundred families to the A level of 100 houses per hundred families, in the course of 10 years; 2-1/2 houses to replace 1/30 of the existing housing stock; and the equivalent of 1-1/2 house for maintenance purposes. It can be shown that if the rate of building houses for the poorest 20 percent would increase from 1 per hundred families in year 1971 to 7 in year 2000, enough houses would be built during 30 years to supply 75 houses per hundred of the poorest families. If we set a target of 7-1/2 new houses per hundred families in year 2000 we would therefore amply satisfy both current demand and the need to build up the housing stock.[7] The rate of increase of housebuilding, including maintenance, for the poorest 20 percent would have to be of the order of 11 percent a year. This is a very high figure, but undoubtedly feasible on the assumption of a certain shift in the composition of the output of housing from luxury housing and secondary residences to cheap housing for the poorest population groups. Such a shift is likely due to demand limitations for luxury housing etc.

As regards the cost of housing per unit we have used $1400 per unit in 1960-prices, i.e. the figure used by the ILO. This price includes certain auxiliary services like sanitation. 9 houses per hundred families in year 2000 would thus mean $126 per family or if we use a round figure of 5 members per family, $25 per head of population. We have reduced this figure to $ 20 per head for the three poorest regions and increased it to $30 for Southern Europe and Latin America (medium income).

Education

The two targets used by the ILO for education are: Level A: 12 years education, expressed as an enrolment corresponding to 98 percent of the age groups 7 to 18 years. Level B: 9 years education, expressed as an enrolment corresponding to 75 percent of the same age groups.

We assume that these targets shall be met for the poorest 20 percent, which means that their income must be high enough, including the imputed value of free grovernment services, to pay for the financial burden involved.

The B level target raises some serious questions. If the *average* enrolment rate for the age groups 7 to 18 years is 75 percent we may at one extreme have 94 percent enrolment amongst the upper 80 percent income groups of the population and none whatsoever amongst the poorest 20 percent.[8] Of course, we may make the assumption that 9 years of schooling was made compulsory. But in this case the proxy used in the ILO Working Paper does not make sense. Compulsory 9 years primary education implies 98 percent enrolment of the

[7]Our implicit assumption is that all the houses are built in the course of 30 years, and most of them during the last decade; thus the actual replacement need should be lower than we have shown.

[8]Since the poorer population groups in developing countries tend to have more children than the richer ones, the richer ones may on this assumption even have all their children in school.

youngest 9 age groups out of 12. But these 9 age groups probably represent close to 80 percent of the total in the 12 age groups 7 to 18 years. In other words 75 percent enrolment of the age groups 7 to 18 years would not even permit 98 percent enrolment of the age groups 7 to 15 years with no enrolment whatsoever in the age groups 16 to 18 years. (98 percent enrolment amongst the youngest 9 age groups and 49 percent amongst the next 3 age groups, implies an overall enrolment ratio of the order of 87 percent).

One additional factor complicates the estimation of educational costs linked with age specific target enrolment rates. In countries in which enrolment is expanding rapidly but enrolment still is well below 100, we find a very significant difference between the gross enrolment rate (i.e. total enrolment in a specific type of schools divided by the number of children from age groups who normally would attend such schools) and the net enrolment rate (i.e. enrolment of children in age groups included in the denominator divided by the total number of children in those age groups). These differences exist even in countries with age specific (net) enrolment around 100 where gross enrolment ratios frequently exceed 100 percent due to repeaters. This phenomena must be taken into consideration in projecting actual educational costs in developing countries. The ILO appears to have neglected this factor. In estimating educational costs it would have made sense to have used a gross enrolment ratio of, say, at least 105 rather than a net enrolment ratio of 98.

All these observations suggest indeed that the ILO model underestimates educational costs.

In this paper we are trying to work out the effects of the targets used in the ILO Paper. On the basis of available international educational statistics, we have tried to estimate the percentage of the 1970 GNP needed to raise enrolment ratios in primary schools to 98 percent and in secondary schools to 60 percent. Presently the length of primary and secondary education is roughly the same in a large number of countries (6 years in both cases is frequent). Our assumption entails perhaps an enrolment in excess of 80 percent instead of the 75 percent used in the ILO Working Paper for the B level target. As in the case of food and housing we prefer to err on the high side in estimating income levels required for the poorest 20 percent. International statistics are available for total *public* expenditure on education as a percentage of GNP (for a majority of countries 1970 figures were given), and for the distribution of these expenditure between levels of education [3]. These figures have been used to compute the percentage of GNP used for public expenditure on primary and secondary education separately for the 8 regions.

On this basis it is fairly straight forward to compute the necessary *public* expenditure on education in percentage of GNP if this specified target were to be met. This operation is shown in columns (1) to (8) of Table 4. Following adjustments have to be made, however, and these are shown in columns (9) to (11) of table 4. Firstly, some very crude estimates have been done to include costs of private education. International data are not available in UNESCO publications and our figures in column (9) are nothing but "guesstimates". Other private costs like books etc. have been calculated on the basis of some available data. Furthermore we have assumed that teachers' salaries will increase by 180 percent in relation to the base year figures, expressed

Table 4

Estimate of Per Capita Expenditure on Education if the B Level Target Set by ILO Shall be Met

	School enrolment in percent of B level targets, 1970 or earlier		Public expenditure on education in percent of GNP			
	Primary	Secondary	Primary		Secondary	
	(1)	(2)	Actual (3)	Target (4)	Actual (5)	Target (6)
Underdeveloped Regions:						
Latin America (medium)	100	47	0.9	0.9	0.7	1.5
Latin America (low)	90	40	1.5	1.6	0.8	2.2
Europe South	94	69	1.9	1.9	0.9	1.5
Middle East	50	21	2.0	4.0	0.9	7.6
Africa South	94	50	(1.0)	(1.1)	(1.1)	(2.2)
Very Underdeveloped Regions:						
Asia and India	61	28	0.9	1.5	1.0	3.9
Africa (arid)	50	30	2.0	4.5	1.4	8.3
Africa (tropical)	70	10	2.0	3.4	1.4	17.3

	Public exp. target, percent of GNP	Public exp. target dollar per cap.	Adjustments dollars per capita			Adjusted total, 1960 dollars per capita
			Private schools and fees	Other private costs	Changes in teacher salaries	
	(7)	(8)	(9)	(10)	(11)	(12)
Underdeveloped Regions:						
Latin America (medium)	2.5	12	12	4	26	54
Latin America (low)	3.8	15	8	4	23	50
Europe South	3.4	17	6	4	27	54
Middle East	11.6	26	—	4	18	48
Africa South	(3.3)	(23)	(5)	(4)	(18)	(50)
Very Underdeveloped Regions:						
Asia and India	5.4	7	3	2	11	23
Africa (arid)	12.8	15	3	2	14	35
Africa (tropical)	20.7	29	1	2	10	43

Sources: Figures in columns (1) to (6) calculated on the basis of [3], tables 2.2 (and 1.1 for population), 5.1 and 5.2 Col. (6) = [col. (5) ÷ col (2)] × 100. Col. (4) = [col. (3) ÷ col (1)] × 100. Col. (7) = (4) + (6). Col. (8) = [col. (3), table 2 × (7)] ÷ 100. Col. (12) = (8) + (9) + (10) + (11). The figures under (col. (9) to (11) are explained in the text. B level targets: 98 percent enrolment in primary schools; 60 percent in secondry schools.

in 1960-prices. For the first three regions and for Asia we have assumed that teachers' salaries represent 60 percent of public and private school expenditure, that is columns (8) plus (9) of table 4. For the remaining regions we consider that the per capita expenditure are out of line with the other regions, partly because of relatively high teachers' salaries at present, due to historical circumstances. The adjusted total per capita expenditure for the poorest 20 percent given in column (12) of table 4 differs very considerably from the figures under column (8). Still, these figures would represent a fairly low percentage of per capita incomes in the year 2000. This is in itself no objection against these figures since they merely represent the minimum level needed to assure education for the poorest 20 percent of the population.

The Overall Picture

Table 5 shows the total expenditure on food, housing and education as derived from the previous estimates. Table 6 includes the ILO figures needed to reach B level targets, and our own estimates on the basis of food consumption only columns (1) and (2). The data in this table refer to income per head not GNP—for the poorest 20 percent of the population. The figures for GNP have been reduced by 15 percent to account for the poor income groups' share of investments. Column (5) suggests that our own estimates, based on food consumption only, clearly are too low, because expenditure on education and housing to reach the basic need targets would be comparatively high in relation to food consumption. On the other hand, a comparison between column (4) and column (6) seems to indicate that the ILO income targets are far too generous, since income available for other consumption in all but one case will exceed private expenditure on food and housing by large margins.

An Alternative Estimate

In Table 7 we present an alternative estimate. It is based on the assumption that in the more well-to-do underdeveloped regions, expenditure on other consumption items would be as high as expenditure on food and housing.

We have excluded from the housing expenditure an assumed amount of government subsidies. However, it should be made clear that in other consumption expenditure there will certainly be an element of imputed income from services, like health services, provided free by government institutions. For the very underdeveloped regions we assume that food and housing less government subsidies, will constitute 60 percent of the disposable income, including imputed income from other government services than housing and education. Column (2) shows the imputed income from government services and subsidies in the fields of housing and education, and column (3) is therefore the total income for the poorest 20 percent, including income in money, in cash and imputed income from government services. Column (4) is the corresponding figure expressed in gross national product per capita of the poorest 20 percent. The figures in column (4) should be compared to the figures in column (4) of table 2, which shows the ILO target figures to reach the B level basic needs. The ratios between the ILO figures and our own estimates are: Latin America (medium) 1.34, Latin America (low) 1.31, Europe South 1.32, Middle East 1.11, Africa South 1.8, Asia 1.6, Africa (arid) 1.03 and Africa (tropical) 1.26. We consider that our estimates are very generous and therefore on the high side,

Table 5

Minimum Desired Consumption Per Head: Expressed in 1960 Dollars on Food, Shelter and Education

	Estimated expenditure			Total	Of which	
	Food	Housing	Education		Govt. Expenditure	Private Expenditure
	(1)	(2)	(3)	(4)	(5)	(6)
Underdeveloped Regions:						
Latin America (medium)	152	30	54	236	60	176
Latin America (low)	152	25	50	227	56	171
Europe South	173	30	54	257	60	197
Middle East	89	25	48	162	54	108
Africa South	157	25	50	232	56	176
Very Underdeveloped Regions:						
Asia and India	56	20	23	99	31	68
Africa (arid)	48	20	35	103	43	60
Africa (tropical)	62	20	43	125	51	74

Sources: Column (1) equals column (9)x column (5) table 3. The estimates for housing column (2) are given under that heading in the text. Column (3) equals column (12) table 4. Column (5) is estimated on the assumption that government will provide (in money or kind) $ 10 per head for housing for the poorest 20 per cent, and that all education expenditure except "other private costs" will be financed by government.

Table 6

Comparison Between Projected Expenditure on Food, Shelter and Education and Two Different Estimates of Minimum GNP Per Capita to Ensure Satisfaction of "Basic Needs"

1960 dollars per capita

	GNP per capita, less investment lowest quintile		Expenditure on food, housing & education	Available for other consumption		Private expenditure food, housing education
	ILO	Norbye	Norbye	ILO	Norbye	Norbye
	(1)	(2)	(3)	(4)	(5)	(6)
Underdeveloped Regions:						
Latin America (medium)	554	218	236	318	−18	176
Latin America (low)	522	240	227	295	13	171
Europe South	600	199	257	343	−58	197
Middle East	300	162	162	138	0	108
Africa South	738	279	232	506	47	176
Very Underdeveloped Regions:						
Asia and India	232	82	99	133	−17	68
Africa (arid)	147	60	103	44	−43	60
Africa (tropical)	220	85	125	95	−40	74

Sources: Columns (1) and (2) are based on columns (11) and (9) in table 3. 15 percent have been deducted from the GNP accruing to the poorest 20 percent, as their part of investment expenditure, to arrive at the income which accrues to the poorest, either as disposable income or as access to government services, subsidies etc. Columns (3) and (6) are the same as columns (4) and (6) in table 5.

Table 7

An Alternative Estimate of GNP Per Capita for the Poorest Quintile to Meet Their Basic Needs

(1960 dollars per capita)

	Total "private" consumption expenditure	Govt. Exp. on housing and education	Total income incl. imputed income	GNP per capita
	(1)	(2)	(3)	(4)
Underdeveloped Regions:				
Latin America (medium)	352	60	412	485
Latin America (low)	342	56	398	468
Europe South	394	60	454	534
Middle East	216	54	270	318
Africa South	352	56	408	480
Very Underdeveloped Regions:				
Asia and India	113	31	144	170
Africa (arid)	100	43	143	168
Africa (tropical)	123	51	174	205

Sources: Column [1—first five regions, table, 5, column (6)÷0.50; bottom three regions table 5, column (6)÷0.6. Column (2) = table 5, column (5). Column (3) = column (1)+column (2). Column (4) = column (3)÷0.85].

and the ratios quoted above show that the ILO figures, except in one case, are considerably higher than our estimates. These absolute figures will have a fundamental impact on growth rates and income re-distribution needed in order to meet basic needs. The purpose of our calculation has merely been to show that another approach could give significantly lower figures than the ILO approach, without introducing unrealistic and optimistic assumptions.

Can "Basic Needs" be Met Within a Reasonable Period of Time?

Part A of Table 8 shows the gross national product (in 1960 dollars) required in different regions in order to meet the A and B level targets according to the estimates done by ILO and ourselves. We have estimated the A level requirements in a very crude manner by assuming that the income per capita to reach level A must be 1/3 higher than for level B. The justification for using this ratio is that the targets under level A for housing and education are 1/3 higher in quantitative terms than for level B. In the case of housing this would mean that expenditure on housing would not have to be more than 1/3 higher, but in the case of education the lengthening of the school period by 1/3 would undoubtedly increase education costs by more than a third, because secondary education is more expensive than primary education. Our assumption therefore may implicitly entail some shift in the pattern of consumption towards housing and education taken together. But it still assumes a significant increase in consumption of food and of other goods and services.

Table 8

Absolute Levels of Gross National Product and Growth Rates Required to Meet A and B Level Basic Needs Targets. Assumption: Unchanged Income Distribution

A. Targets Billion 1960 dollars

	GNP 1970	Target A ILO	Norbye	Target B ILO	Norbye
	(1)	(2)	(3)	(4)	(5)
Underdeveloped Regions:					
Latin America (medium)	89.3	1365.2	1093.8	1103.3	820.8
Latin America (low)	34.1	650.5	548.5	539.8	411.5
Europe South	52.8	487.5	388.9	385.7	291.9
Middle East	27.4	808.1	634.5	528.3	475.9
Africa South	14.3	532.7	311.9	423.0	234.0
Very Underdeveloped Regions:					
Asia	135.1	3288.9	1741.2	2097.6	1307.4
Africa (arid)	13.9	404.7	232.6	179.5	174.4
Africa (tropical)	16.5	524.8	336.8	319.0	252.6
Total of above	330.4	8062.5	5288.2	5576.2	3968.3

B. Implied Growth Rates 1970-2000

	Actual 1960/70	Target A ILO	Norbye	Target B ILO	Norbye
	(6)	(7)	(8)	(9)	(10)
Underdeveloped Regions:					
Latin America (medium)	5.3	9.5	8.8	8.7	7.7
Latin America (low)	5.2	10.3	9.7	9.6	8.7
Europe South	6.7	7.7	6.9	6.9	5.9
Middle East	8.5	11.9	11.1	10.4	10.0
Africa South	6.0	12.8	10.8	12.0	9.7
Very Underdeveloped Regions:					
Asia	5.3	11.2	8.9	9.6	7.8
Africa (arid)	4.1	11.9	10.0	9.0	8.8
Africa (tropical)	5.1	12.2	10.6	10.4	9.5
Total 8 Regions	(6.6)	11.2	9.7	9.9	8.6

Sources: Col. (1)—data on GNP per capita (table 3.1 reference [1] and population in 1970 (from U.N. sources) multiplied by each other. Columns (2) and (4)—the ILO targets are reproduced in columns (4) and (3) in table 1 of the present paper. Those figures have been multiplied by the corresponding figures for population 2000 (from U.N., low population projections). Column (3) - column (5) × 1.333. Column (5) = column (4), table 7, multiplied by the corresponding figures for population 2000. Column 6, from [1] table 4.1.

Part B of the table shows the growth rates of GNP needed if these target figures for gross national product should be reached in the year 2000, without any change in income distribution in favour of the poorest 20 percent. The required growth rates are compared to the actual growth rates in the period 1960 to 1970. This comparison shows that the required growth rates are indeed very high, and probably not realistic except for a couple of regions.

Income Re-distribution Enhances the Possibility of Meeting "Basic Needs"

Part A of Table 9 shows the changes in income distribution required if the different regions should be able to reach A and B level targets for basic needs satisfaction in the year 2000 under an average annual growth rate of their GNP of 6 percent per year. In order to evaluate its meaning, we will consider that a change of income distribution so that the poorest 20 percent will receive up to 9 percent of the total Gross National Product will be possible with strong reformist policies, whereas "revolutionary actions" would be required to improve the income distribution so that up to 12 percent of the total Gross National Product will accrue to the poorest quintile.[9] On the basis of this we find that the ILO target A, or "full satisfaction of basic needs", is outside the reach of all regions except Southern Europe and, on the condition of "revolutionary changes", also the Middle East. For the poorest regions the A level target would imply an illogical income distribution, that is that more than 20 percent of the income would have to go to the poorest 20 percent, who therefore would no longer be the poorest. Our own figures for the A level target give a more optimistic picture, and with "revolutionary changes" or "reformist policies" all but two regions should be able to meet the A level target under "realistic" growth assumptions. As regards the B level target as calculated by the ILO, the three poorest regions would not even be able to reach that target by "revolutionary changes" in their structures. Such changes would be required for three of the five more favoured underdeveloped regions. Based on our own estimates only one region, that is tropical Africa, would be unable to reach that target even with "revolutionary changes", and "revolutionary changes" would only be required in arid Africa, whereas all the six remaining regions should be able to reach the target with stronger or weaker reformist policies.

The bottom part of the table shows growth rates required if a moderate change of income distribution would take place so that the poorest 20 percent in all regions would have at least 6 percent of the Gross National Product in year 2000. If we consider that 7 to 8 percent annual growth is the maximum feasible growth rate for any region over a period of 30 years (perhaps with exception of Middle East oil producing countries, for which the oil incomes create an extraordinary strong impetus to economic growth), we find that only Southern Europe which is relatively well-to-do already now, and where population growth is moderate, will fall inside the range of possibilities for all four targets, that is target A and B, both based on the ILO and on our own assumptions. The ILO A target is unrealistic in all other cases. On our assumptions the medium income countries of Latin America and South Africa may have

[9]These qualitative judgements are based on the data in table 2, which shows that in the socialist regions which have undergone revolutionary changes, the poorest quintile received between 10 and 12 percent of GNP. It should be added, however, that these figures do not necessarily tell the whole story, neither of social services in favour of the poor, nor of special privileges in favour of the powerful.

Table 9

Effects of Changes in Income Distribution on the Conditions for Meeting Basic Needs of the Poorest 20 percent in 2000

A. Percent of income which must accrue to the poorest 20 percent if basic needs shall be met by 6 percent growth.

	Percent of GNP to lowest quintile				
	Actual income distr.	Target A ILO	Norbye	Target B ILO	Norbye
	(1)	(2)	(3)	(4)	(5)
Latin America (medium)	4.5	12.0	9.6	9.7	7.2
Latin America (low)	4.3	14.3	12.0	11.9	9.0
Europe South*	5.6	7.4	5.9	5.8	4.4
Middle East*	4.0	10.2	8.0	6.6	6.0
Africa South	1.9	12.4	7.2	9.8	5.4
Asia	5.3	[22.4]	11.9	14.3	9.0
Africa (arid)	5.5	[27.8]	16.0	12.4	12.0
Africa (tropical)	4.9	[27.2]	17.5	16.6	13.1

B. Growth rates required for the period 1970 to 2000 to meet basic needs if income was redistributed so that the poorest 20 percent would get 6 percent of GNP.

	Actual % p.a. 1960-70	Implied growth rates 1970 to 2000			
		Target A ILO	Norbye	Target B ILO	Norbye
	(6)	(7)	(8)	(9)	(10)
Latin America (medium)	5.3	8.5	7.7	7.7	6.6
Latin America (low)	5.2	9.2	8.5	8.4	7.5
Europe South	6.7	7.4	6.6	6.6	5.6
Middle East	8.5	10.4	9.6	8.9	8.5
Africa South	6.0	8.6	6.7	7.8	5.6
Asia	5.3	10.8	8.5	9.1	7.4
Africa (arid)	4.1	11.6	9.5	8.6	8.5
Africa (tropical)	5.1	11.5	9.8	9.6	8.8
All 8 regions	(6.6)	10.4	8.8	9.0	7.7

* Actual 1960-70 growth rates.

some possibilities of reaching the A level target. Also the B level targets as calculated by the ILO seems to be unrealistic for five out of the eight regions. On the contrary, on our assumptions the B target only seems to be out of reach for the two large African regions. Therefore, the differences in estimates

do have significant influence on the apparent prospects of the different developing regions to meet certain given basic needs for the poorest part of their people in the course of this century.

PRELIMINARY CONCLUSIONS

A quick and preliminary review of the results presented in the ILO background papers [1] leads to the conclusion that the model used, and may be also some of the assumptions, produce exaggerated income targets required in order that the developing countries shall be able to satisfy the "basic needs" of the poorest 20 percent of their people. The conclusion applies both to the higher A level, which entails "full satisfaction", and the lower B level. Therefore, the report to the ILO World Employment Conference in 1976 appears to present an unduly pessimistic picture of the outlook for reaching the basic need targets at the end of this century, both on the assumption of unchanged and very unequal income distribution, and also if income distribution were to become far more equal. This observation of ours does *not* weaken the important point in the ILO report, that the prospects of meeting the basic needs would be far better if income distribution would become more equal. On the contrary, our own estimates show that some significant albeit not "revolutionary changes" in income distribution would make it feasible to meet basic needs at least at the lower B level in most regions of the world in the course of the next 25 years on the assumption of a "realistic" growth rate of 6 percent per annum of the GNP of the developing countries.

Because we suspect that the ILO income targets are unnecessarily high we have prepared alternative, but very crude estimates. We consider that even these estimates are on the high side, because we have postulated very large relative price increases for two of the three consumption items which have been reviewed, that is food and education. Thus even our estimates may give an unduly pessimistic picture of the prospects.

We have on some points pushed the analysis a bit further than what has been published in the ILO reports. That part of the analysis merely reconfirms and strengthens the conclusions already reached.

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