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Operationalising Basic Needs: A Few Fundamental Reflections

by Wilfried Lütkenhorst, Bochum*

Development research (not so much practical development policy-making) has been recently marked by an increased orientation towards the satisfaction of basic needs. This raises the question as to whether indicators exist which could adequately provide for a sufficiently exact operationalisation of at least the basic physical human needs (nutrition, health, shelter, clothing and education). This would enable improved measurement of the degree to which target levels have in fact been reached and an evaluation of alternative economic strategies. The following article sets out to examine possible ways of operationalising basic needs.

The legitimacy of classifying certain selected categories of needs as *basic* needs and of fixing their desired *minimum* levels has not remained unchallenged. Strictly liberal-minded economists regard such an approach as necessarily elitist. Not only do they claim that the sovereignty of free consumers is violated, but that there is an infringement of the functioning of the manifestation of needs via the market through purchasing power, demand and the price mechanism¹. This line of argument – which we ourselves do not support² – necessarily regards any attempt at a precise operationalising of basic needs as principally missing the point.

As regards the basic alternatives to such an operationalisation of basic needs, a difference will be drawn between an *indirect* (monetary, one-dimensional) and *direct* (physical, multi-dimensional) approach.

Indirect Indicators: Poverty Lines

Best known in this respect is the attempt, rich in tradition between economists³, to establish empirically the poverty line peculiar to each individual country. While principally still arguing within the National Accounting System, this method tries to enhance its informative value by measuring the changes in the number and proportion of persons registering an

income lower than a previously defined minimum subsistence level.

The standard procedure employed by the World Bank⁴ measures poverty lines as follows:

- ☐ Nutrition is regarded as the starting-point, the central factor in the catalogue of basic needs and the one which entails the greatest amount of spending.
- ☐ With respect to the basic need "nutrition" a minimum level of calorie requirement is fixed. Falling short of this level would lead to malnutrition and therefore cannot be tolerated.
- ☐ The next step is to determine the level of income required to secure this minimum food consumption,

¹ Cf., for example, E.-S. El-Shagi: Weltwirtschaftliche Dissoziation zwischen Industrie- und Entwicklungsländern? Eine kritische Auseinandersetzung mit der These von Senghaas (International Economic Dissociation between Industrialised and Developing Countries? A Critical Appraisal of Senghaas' Thesis), in: List-Forum, Vol. 10 (1979/80), p. 127 ff.

² A considerable part of basic needs can be attributed to the "merit wants" (health, education), the satisfaction of which cannot simply be left to the market mechanism. In addition, unequal opportunities exist with regard to the transposition of needs into demand due to the often extreme inequalities in income distribution. A change in the latter, however, could find a useful point of reference in existing basic needs deficits. Cf. for more details, W. Lütkenhorst: Zielbegründung und Entwicklungspolitik (The Legitimization of Goals and Development Policy), Tübingen 1982, p. 302 ff.

³ On the first calculations of poverty lines cf. C. Booth: Life and Labour of the People of London, London 1891 and B. S. Rowntree: Poverty. A Study of Town Life, London 1901.

⁴ Cf. on this point, M. S. Ahluwalia et al.: Growth and Poverty in Developing Countries (World Bank Staff Working Paper No. 309; revised), Washington, May 1979, p. 4 ff.

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based on *existing* prices. Here, reference is made to household expenditure surveys, which reflect the structure of spending desired by the households themselves.

□ As a result, the amount and proportion of households can be measured in which income does not meet the minimum target level serving as a delineation of the poverty line⁵.

There are mainly two arguments which can be put forward in favour of an indirect operationalisation of the degree of basic-needs satisfaction via reference to poverty lines. Firstly, use is made of an indicator which is easy to work with due to its monetary and one-dimensional character. This indicator relates to and supplements the traditional calculation of national product. Secondly, we are dealing with a potential-oriented indicator, which determines the desired minimum income in an analysis of averages (based on the actual household spending structure), thus at the same time leaving scope for individual freedom of choice with regard to income-spending. However, these two advantages of *simplicity* and *structural openness* do have their price, as will become clear during the following discussion of critical objections raised to the meaningfulness of poverty lines⁶.

Criticism of Poverty Lines

The exact determination of the minimum amount of calories necessary for adequate nutrition presents the first problem. The dependence of this amount on a variety of factors (workload, sex, age, climate, etc.) reveals considerable interindividual fluctuations⁷. Nevertheless, two reasons warn against overestimating this objection: firstly, individual deviations from the calculated average value will tend to balance each other out. This means that the concept of a statistical person of reference can quite legitimately be used in order to

determine a poverty line meaningful on a macro-economic level⁸; secondly, although the individual details of measuring the poverty line may be controversial, this approach can still serve to evaluate the success of development policy measures, as long as the poverty line is kept constant over the course of time.

Since households, not individuals, serve as reference units, the substantial lack of symmetry in the distribution of consumption within the households often remains unconsidered; however, the fact that the breadwinning head of the household is in a privileged position as regards consumption is a typical observation for low-income households.

The afore-mentioned advantage that the *actual* household spending structure is included in the calculation of poverty lines must also be criticised. After all, the allocation of the household budget for the various goods categories is based on their *given* prices. The latter for their part are inter alia determined by the existing distribution of income, whose influence is thus also felt in the determination of the poverty line.

The most important point of criticism is the extremely rudimentary link with the set of basic-needs objectives. Only the basic need "nutrition" is actually explicitly included in the determination of the poverty line. This means that any income above and beyond this threshold level can merely be interpreted as representing *monetary potential* for realising a satisfactory level of *nutrition*. It does not, however, serve to indicate whether there are considerable basic-needs deficits, particularly with regard to publicly supplied basic-needs goods (medical services; supply of drinking water; education), but also with regard to nutrition itself, since large developing countries in particular have problems in achieving a regionally balanced distribution, storage and stockpiling of food. To put it another way: poverty lines suffer from the fact that they completely fade out the supply side of production (the goods availability aspect) and, in addition, that they generally lose their meaningfulness where basic needs are met by public services outside of the market.

Despite all these conceptional and technical problems, the determination and intertemporal comparison of poverty lines is undoubtedly useful, representing a considerable gain in informative value over bare GNP figures. However, there is a danger that one major quality of the basic-needs concept, namely its recourse to specific categories of economic living

⁵ Anyone who regards poverty as an exclusively relative phenomenon (cf., for example, P. Townsend: *The Concept of Poverty*, London 1970, p. 2) must of course reject the determination of an absolute poverty line. He must also, however, accept the absurd conclusion that the impoverishment of a society is impossible as long as the distribution of income remains constant.

⁶ Cf. also for a critical appraisal of poverty lines N. Hicks, P. Streeten: *Indicators of Development: The Search for a Basic Needs Yardstick*, in: *World Development*, Vol. 7 (1979), p. 570.

⁷ In order to eliminate this factor of uncertainty, Rao suggests a different method for establishing poverty lines. On the basis of empirical evidence that – starting at very low income levels – an increase in income first leads to a slight increase in the proportion spent on food, and then to a definite and continued decrease, Rao suggests taking the income at this turning point as a basis for determining the poverty line. The decreasing proportion spent on food thus serves as an indicator of a satisfactory minimum level of nutrition. Cf. on this point V. V. B. Rao: *Measurement of Deprivation and Poverty Based on the Proportion Spent on Food: An Exploratory Exercise*, in: *World Development*, Vol. 9 (1981), p. 337 ff.

⁸ Cf. A. Sen: *Levels of Poverty: Policy and Change*, (World Bank Staff Working Paper No. 410), Washington, July 1980, p. 4.

conditions, "may be obscured or lost in the mystique of a single income figure"⁹.

Basic-Needs Income

A more refined approach has been developed by the ILO to overcome some of the points brought forward here in criticism of the determination of a simple poverty line. This "Basic-Needs-Income-Approach", which is still in its early stages, can be characterised as follows¹⁰. All basic-needs categories, the satisfaction of which can be organised within the framework of private production for the market, function as a basis for deducing the basic-needs income. Together with "nutrition", so important to the simple poverty line, reference is made to "clothing" and "shelter". The next step is to determine a minimum level of consumption for each of these three categories, so as to subsequently enable the calculation of the income which would just be adequate to satisfy these basic needs, again according to the existing household consumption and spending structure. Since during the course of a development policy which is oriented towards basic needs there will be a change in income distribution and thus in the respective price structures, the basic-needs income will have to be periodically calculated anew so as to loosen its link to the initial income distribution.

With regard to those basic needs which are satisfied in the form of publicly supplied goods, it will be necessary to fall back on direct, non-monetary indicators, if the attempt is not made to "monetarise" their degree of satisfaction by referring to a set of daring premises¹¹.

At this stage we do not wish to go into the controversial details of questions relating to the determination of the basic-needs income, since this approach itself is not very convincing. For example, there is a particular problem of delineation between, on the one hand, those basic-needs goods produced privately and, on the other, those catered for publicly. The specific classification of goods into these two categories varies from one country to the next, a fact which together with the reservations made with regard

to the simple poverty line makes it even more difficult to compare the different basic-needs incomes. Furthermore, there are also likely to be considerable shifts between private and public production within the same country over time (depending on the level of development and the guiding principles of economic policy). It would therefore seem much more useful to measure the degree of satisfaction of all basic-needs categories with the aid of direct indicators instead of trying to monetarise part of them whose content is both fluctuating and controversial.

Distributional Weights

Just to complete the picture, a further means of indirectly measuring changes in the satisfaction of basic needs will be elucidated. It consists of introducing distributional weights into the calculation of GNP¹², aimed at enabling an improved formulation of developmental priorities. If, for example, the growth of income for the bottom 40 % is given disproportionately high weights there will be an implicit increase in the importance of the production of basic-needs goods. However, this procedure cannot serve as a valid indicator for assessing the basic-needs deficits and their reduction, since due to its orientation towards income *distribution*, no information is provided on the *absolute* level of income. The link to the actual fulfilment of basic needs is thus even weaker than in the case of the determination of poverty lines.

Aggregated Basic-Needs Index

Indirect indicators are based on the formulation of an income potential, which presents an *opportunity* for satisfying basic needs. The degree of basic-needs satisfaction determined via direct indicators, on the other hand, is measured directly in terms of physical quantities. The most ambitious and, however, highly controversial approach goes one step further and attempts to combine numerous individual indicators into an overall index. The most well-known of such attempts are the Level-of-Living-Index (LLI)¹³, particularly favoured by UNRISD during the 60s, and the Physical-Quality-of-Life-Index (PQLI)¹⁴, put forward quite

⁹ Cf. D. P. Ghai, T. Alifthan: On the Principle of Quantifying and Satisfying Basic Needs, in: ILO: The Basic-Needs Approach to Development, Geneva 1977, p. 50.

¹⁰ Cf. on this point A. R. Khan: Basic Needs Targets: An Illustrative Exercise in Identification and Quantification with Reference to Bangladesh, in: ILO, Basic-Needs Approach, op. cit., p. 72 ff.

¹¹ Such an attempt can be found in M. J. D. Hopkins: A Global Forecast of Absolute Poverty and Employment, in: International Labour Review, Vol. 119 (1980), p. 568 f. Here the GNP share of public spending on health, education etc. is held *constant*, and subsequently the GNP value is calculated which would guarantee minimum levels of consumption in the corresponding basic-needs categories.

¹² Cf. M. S. Ahluwalia, H. Chenery: The Economic Framework, in: H. Chenery et al.: Redistribution with Growth, Oxford 1974, p. 39 ff.

¹³ Cf. J. Drewnowski: On Measuring and Planning the Quality of Life, The Hague, Paris 1974, p. 34 ff. The LLI actually attempts to develop an aggregated index for the whole spectrum of human welfare. If only the first 5 categories (cf. Table 1) are taken, we are dealing with an aggregated basic-needs index. The methodological problems remain the same in both cases.

¹⁴ Cf. M. D. Morris: Measuring the Condition of the World's Poor, New York 1979.

recently. The construction of both these indices cannot be described here in detail. As regards the LLI, Table 1 gives an outline of its main components and the aggregation procedure. The PQLI is formed via the standardisation and equal-weighted aggregation of the three individual indicators "infant mortality", "life expectancy" and "literacy rate". In line with its objective

"to measure the performance of the world's poorest countries in meeting the most basic needs of people"¹⁵, this approach therefore generally limits itself to culturally invariant, output-related and easily available indicators. The main differences between the two approaches are presented in Table 2.

¹⁵ Ibid., p. 34.

Table 1
Level of Living Index: Computation Table

	Critical points of indicators		“O”		“100” “M”		“A”				
	Designation of sub-ranges of cardinal indicators expressing respective levels of need satisfaction		Intolerable		Inadequate		Adequate		Affluent		
	Corresponding grades of ordinal indicators		IV		III		II		I		
	Intermediate indicator index values for cardinal indicators		0	0	0<I' <100	100	100<I' <I' _A	I' _A	I' _A		
Intermediate conventional index values for ordinal indicators		0	0	50	100	150	200	200			
Components	Indicators	Units of Measurement	Determination of cardinal indicator sub-ranges and ordinal indicator grades								
1. Nutrition (food intake)	a. Calories intake	Calories intake per day per head as percentage of norm	Below 60% of norm	60% and more but less than 100% of norm		100% and more but less than 133% of norm		133% and more of norm			
	b. Protein intake	Protein intake per day per head as percentage of norm	Below 60% of norm	60% and more but less than 100% of norm		100% and more but less than 200% of norm		200% and more of norm			
	c. Percent of non-starchy calories	Percent of non-starchy calories in food intake	Less than 10%	10% and more but less than 40%		40% and more but less than 60%		60% and more			
2. Clothing (use of clothes)	a. Cloth consumption	Cloth used for clothing sold to consumers and twined into ready-to-wear garments per year per head	none	Less than 15 m ²		15 m ² and more but less than 50 m ²		50 m ² and more			
	b. Footwear consumption	Footwear pairs sold to consumers per year per head	none	Less than 3 pairs		3 pairs and more but less than 6 pairs		6 pairs and more			
	c. Quality of clothing	Ord. ind.	Most primitive	Poor		Satisfactory		Sumptuous			
3. Shelter (occupancy of dwellings)	a. Services of dwellings	Ord. ind.	No permanent dwelling	Rustic or unfit for habitation		Conventional fit for habitation		Conventional with all amenities			
	b. Density of occupancy	Rooms per inhabitant	Less than ¼	¼ and more but less than one		1 and more but less than 1½		1½ and more			
	c. Independent use of dwellings	Housing units per household	Housing unit unidentifiable or less than ½ housing unit per household	Less than one but more than ½ housing unit per household		One housing unit per household		More than one housing unit per household			
4. Health (health services received)	a. Access to medical care	Ord. ind.	No access whatsoever	Access limited		Access adequate		All needs for medical care fully satisfied			
	b. Prevention of infection and parasitic disease	Percentage of deaths not due to infection or parasitic disease	Below 66%	66% and more but less than 96%		96% and more but less than 99%		99% and more			
	c. Proportional mortality ratio	Percentage of deaths which occur at the age of 50 years and over to the total number of deaths	0%	Less than 80%		80% and more, but less than 90%		90% and over			
5. Education (education received)	a. School enrolment ratio	Enrolment as percentage of norm	No enrolment	Less than 100%		100% or more but less than 150%		150% and more			
	b. School output ratio	Not dropped out as percentage of enrolled	All dropped out	Less than 90%		90% and more but less than 100%		100%			
	c. Teacher/pupil ratio	Teacher/pupil ratio as percentage of norm	Tuition not received	Teacher/pupil ratio below 100% of norm		Teacher/pupil ratio at or above 100% of norm but below 200% of norm		Teacher/pupil ratio at or above 200% of norm			

Source: Drewnowski: Quality of Life, op. cit., p. 68 f.

Any attempt at aggregate measurement of a multi-dimensional basic-needs objective is confronted by a number of general problems. The latter relate to the *selection*, the *standardisation* and the *weighting* of the individual indicators. The methods used in this process play a large part in determining the ultimate value of such an index: the procedure determines the result. Exactly which procedure should be selected, however, is hardly a matter of theoretical superiority, but rather more of convention, i. e. general agreement. Thus the *simplicity* of aggregated indices is therefore essential if the procedure is to lend itself to such general agreement. The LLI, however, does not meet this criterion:

□ Admittedly, the actual selection of indicators used in the PQLI has also come up against criticism¹⁶. Despite this, however, it is much more likely to be generally accepted than the extremely controversial indicators used in the LLI. The latter suffers not only from the fact

that certain parts can only be measured on an ordinal scale but also from the fact that some indicators only measure inputs (e.g. teacher-pupil-ratio; access to medical care). Furthermore, the culturally limited character of certain individual indicators means that the LLI remains unsuitable for international application: one prime example can be seen in the attempt to measure the degree of satisfaction of the basic-needs component "clothing" by reference to shoes or to be more precise to the number of worn-out shoes. The number of rooms per household member would also seem to present an extremely unsuitable indicator of shelter, above all being marked by an individualistic "bias".

¹⁶ One main reason is the dominant part played by the health sector, while at the same time there is no direct nutrition indicator, and the allegedly high correlation between PQLI and GNP. Cf. A. P. Ruderman: What Does the PQLI Really Measure?, in: International Development Review, No. 1/1977, p. 38; D. A. Larson, W. C. Wilford: The Physical Quality of Life Index: A Useful Indicator?, in: World Development, Vol. 7 (1979), p. 581 ff.

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V E R L A G W E L T A R C H I V G M B H - H A M B U R G

Table 2
Methodological Comparison of LLI and PQLI

	LLI	PQLI
Objective	Comprehensive measurement of welfare	Partial measurement of welfare
Field of application	Global	Primarily developing countries
Number of indicators	High (15)	Low (3)
Type of indicators	Cardinal/ordinal	Cardinal
Standardisation method	Scaling with "critical points"	Simple scaling
Fixing of range limits	By expert judgement	By empirically founded extremes
Consideration of the distributional dimension	Explicitly via distributional coefficients	Implicitly via indicator selection
Weighting	Equal weights for individual indicators Sliding weights for component indicators	Equal weights

□ The fixing of three "critical points" used by the LLI in its method of standardisation is based on a quite complicated procedure which provokes objections. A closer look at the individual "critical points", which are determined by expert judgement, indicates seemingly arbitrary delineation. This is particularly the case for "shelter" and "clothing": why are two pairs of shoes per year inadequate, three pairs on the other hand adequate? Why should the fact that each inhabitant has one room at his/her disposal indicate the quality of a dwelling (irrespective of the size of the dwelling)? Specific cultural norms would also seem to have played a part in fixing the "critical points": solid mud huts, for example, are regarded as adequate, bamboo huts, however, as inadequate, even though their respective suitability depends on the existing climatic conditions. Finally, the assumption that no more welfare gains are possible after the "point of affluence" has been reached (point "A" in Table 1) must be viewed as a political demand rather than a realistic hypothesis. The simple, convincing and generally acceptable method used in

the standardisation procedure employed by the PQLI (determination of the range limits by means of empirically founded extreme values)¹⁷, on the other hand, is more appropriate.

□ Due to the differing concepts behind these two indices, the LLI has to carry out double weighting (weighting of the individual indicators and weighting of the component indices), whereas the PQLI only requires weighting of its three individual indicators. Both the LLI and the PQLI opt for equal weights¹⁸. Each weighting scheme could, however, be accused of being arbitrary, since it is not theoretically deducible but at best plausibly justifiable. This, of course, also applies to the case of equal weights which although being attractive in practice must be theoretically assessed no differently than any unequal distribution of weights.

National Product

Are we thus to conclude that an aggregated basic-needs index is destined to fail because of the insolubility of the selection and weighting problems, thus implying an obvious superiority of the GNP-measure (supplemented by poverty-oriented additional information)? Not in the least, for the calculation of the national product is equally faced with the necessity of selecting and weighting:

□ The quantitative framework of the national product – i.e. the goods included in its calculation – is not an independently given factor. It only emerges following a specific delimitation between the sphere of production and the sphere of non-production. This delimitation was standardised within international organisations (OECD, UNO) by general conventions at the beginning of the 50s. It is based (public goods being the important exception) on the concept of production for the market, thus corresponding in the main to the economic structures of developed industrialised countries. For most developing countries, which are characterised by a substantial share of subsistence production outside the market, it is at least partly unsuitable¹⁹. The national product calculation thus has a similar problem to that of indicator selection: the determination of the productive activities to be included. This is a particularly difficult problem to solve in developing countries, and can only be overcome by "an agreement on definition amongst statisticians"²⁰. In practice, application has differed.

□ The market prices for individual goods serve as weighting factors for the calculation of the national product. The immediate advantage is that an *explicit agreement* on the weighting scheme thus becomes superfluous, since weighting is delegated to the *procedure* of price formation. However, this method

¹⁷ Infant mortality: 229 per thousand live-births = scale value 0
7 per thousand live-births = scale value 100
Live expectancy: 38 years = scale value 0
77 years = scale value 100
Literacy rate: adoption of percentages for scaling.

¹⁸ As mentioned in Table 2, in the case of the LLI the alternative suggestion is made of using sliding weights for the component indices. The envisaged inverse relationship between the weighting factor and the index value applies, however, to the same extent to all components so that even using this method the components remain equally weighted.

¹⁹ Cf. on the associated problems G. A d d i c k s : Aussagefähigkeit wirtschaftlicher und sozialer Indikatoren der Entwicklungsmessung (Informative Value of Economic and Social Indicators for Measuring Development), Augsburg 1977, p. 91 ff.

²⁰ R. B l u m : Das Sozialprodukt als Entwicklungsindikator (National Product as an Indicator of Development), in: H. P r i e b e (ed.): Beiträge zur Beurteilung von Entwicklungsstrategien, Berlin 1974, p. 46.

harbours an implicit *value judgement* favouring the existing income distribution, which influences the prices of goods via purchasing power and demand structure. However, since income distribution itself is a component of social welfare, market prices represent weighting factors, which for their part cannot be viewed independently from that which is to be measured²¹.

In principle, therefore, the problems facing the creation of an aggregated index are no different to those facing the national product calculation. The only major difference is the particularly accentuated form in which they occur.

Loss of Information

For this reason a quite different aspect is of greater importance to a final assessment. The advocates of an aggregated basic-needs index maintain that it achieves a considerable reduction in complexity, presenting information in a condensed form. It thus provides an artificial measure of welfare, which in its one-dimensionality can equally match the usefulness of the GNP. At the same time, however, this gives rise to the danger that such an index might pay for its direct comparability with the GNP by sharing its principal weakness, this being the very fact that one-dimensionality covers up relevant structures and thus causes a serious loss of information²².

How this general dilemma between a desired reduction in complexity and an unacceptable loss of information is to be solved can only be decided on from case to case and from problem to problem. With regard to the special case of basic human needs there are quite obviously more disadvantages to such an aggregation. After all, an index which is made up of basic-needs categories virtually by definition exclusively contains those components which – each taken individually – are indispensable to the welfare of an individual. They thus, however, violate the fundamental precondition for meaningful aggregation: substitutability. At best, the thesis of a partial substitutability of individual indicators can be tested after certain critical minimum values have been exceeded. As far as unfulfilled minimum standards are concerned, on the other hand, every compensation principle must fail: the negative effects of insufficient nutrition cannot be prevented by an adequate supply of

drinking-water; satisfactory living conditions are no substitute for illiteracy.

Should such attempts at aggregated measurement of welfare prove to be unsuitable for the specific nature of basic-needs objectives, a possible alternative would seem to lie in the selection of representative individual indicators, as an adequate method of operationalisation²³. However, the actual realisation of this approach in the form of a specific selection of a set of indicators is a task which can only be fulfilled by referring to specific cultures and countries. Only a few indicators can be used and compared globally at a high level of abstraction. Examples are calorie and protein intake and access to drinking-water as nutrition indicators, life expectancy and infant mortality as health indicators, literacy rate as education indicator and access to sanitary facilities as a rough indicator for housing conditions. Further indicators of the basic-needs components “shelter” and especially “clothing” can only meaningfully be deduced in the context of specific case studies; the international comparison of cloth consumption and dwelling sizes in sq. metres has hardly any informative value and is more likely to provide legitimate points of criticism. Indeed, the exact quantification of basic-needs objectives and the adoption of adequate strategies of economic policy do not represent adequate fields for *global* arithmetic exercises²⁴.

Some authors have expressed their hopes that it might be possible to obtain a one-dimensional indicator of the basic-needs objective, even by avoiding the afore-mentioned aggregation problems²⁵. This would be the case if the central indicator, “life expectancy”, proved itself sufficiently representative for all the main components of basic needs. Even though further empirical analyses of such problems should be welcomed, the attempt to squeeze the basic-needs objective into the restricted perspective of one-dimensionality must be viewed sceptically. Too much importance in this respect seems to be attached to the criterion of international comparability. This means that there is a danger of placing greater value on the simplicity in use of indicators than on their informative value.

²¹ Cf. W. Elsner: *Mehrdimensionale Bestimmung und Ermittlung von Wohlfahrt mit Hilfe von Sozialindikatoren-Systemen* (Multi-dimensional Determination and Measurement of Welfare Using Social Indicator Systems), in: *Jahrbuch für Sozialwissenschaft*, Vol. 31 (1980), p. 375.

²² Cf. also C. Leipert: *Gesellschaftliche Berichterstattung. Eine Einführung in Theorie und Praxis sozialer Indikatoren* (Social Accounting. An Introduction to the Theory and Practice of Social Indicators), Berlin 1978, p. 76 ff.

²³ This conclusion is also reached by Hicks, Streeten, op. cit., p. 577 f.

²⁴ Cf. as a negative example J. McHale, M. McHale: *Basic Human Needs. A Framework for Action*, New Brunswick 1978, esp. p. 98 ff.; and on the dubious attempt made by some members of the World Bank to calculate the global costs of satisfying basic needs up until the year 2000, J. H. Weaver: *Measuring and Meeting Basic Needs*, in: M. E. Jegen, C. K. Wilber (eds.): *Growth with Equity*, New York 1979, p. 23 f.

²⁵ For example, Hicks, Streeten, op. cit., p. 578 f.