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**Basic Needs**  
Planning and Evaluation

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Planning and Evaluation

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## Summary

In international discussion on development there is a growing demand to make basic human needs the point of departure and orientation for analyses, planning and evaluation. This study attempts to add some political, theoretical and empirical arguments to this discussion.

Introduction: In the introduction various formulations of this demand are compiled from very different sources and presented in their proper context. An astonishing convergence exists between the recommendations of international organizations - e.g. World Bank, ILO, OECD, ECOSOC, FAO - and the comparable demands of critical social scientists. This convergence is mainly due to the critical element of the demand for need-oriented planning, policies and evaluation. It may be summarized most clearly in the words of a World Bank advisor: "It is time to stand economic theory on its head and see if we can get any better results." This should be interpreted as an ardent challenge of current economics and economic theory; it is a challenge directed against the inhumanity of present economic theory.

1. The discussion in the ivory tower: In a historically and systematically structured chapter it is shown that the neglect of the needs concept was not recognized as a problem by the social sciences for a long time. An attempt is made to analyze some reasons given in psychology, sociology and economics against an explicit consideration of human needs. Actually, there seems to be a slow revival of the basic law of science and society: this law states that the satisfaction of human needs is the source, the function and the justification of economics and society. Against this background the present study tries to structure, develop and convert the needs concept into a guideline for critical appraisal and action. It finds important hints at the interfaces of different social sciences and at the points of contact between science and politics. Theoretical, empirical and political arguments are confronted with one another. The study analyzes the relevant contributions of older and more recent sociology, of Marxist, liberal and neo-liberal economic theory, and of various psychological and psychoanalytical schools. These theoretical approaches or fragments of theory are confronted in some detail with three lines of discussion which at present deal most clearly and conclusively with the needs concept.

2. The discussion in the East: A chapter on the "Rediscovered basic law of socialism" indicates that currently in socialist countries a coupling of needs with national economic planning is being discussed again. Under the heading "the first basic law of socialism", important aspects of needs research were uncovered: relationships between the socialist and communist principle of distribution, organizational forms of consumption, elaboration of needs complexes, priorities and forecasts, and need-oriented goal functions of economic activity. In particular, the construction of 'rational' consumption budgets - a Soviet planning instrument - appears to be an important starting point for a need-oriented social and economic policy. The aim is to determine a certain quantitative and qualitative level of consumption expressed in natural terms. This rational consumption budget operationalizes human needs - independent of prevailing purchasing power and demand - and can serve as a planning objective or evaluation criterion for economic intervention.

3. The discussion in the West: A chapter on 'Social indicators and (e)quality of life' shows that in capitalist industrialized countries the discussion on needs still lurks behind a growing criticism of the validity of economic indicators. Social indicators or quality of life indicators are compiled as complementary or corrective information. Such indicators are intended to show the status of actual need satisfaction of the majority of the population; descriptive and analytical presentations still dominate this line of research. The progress and perspectives of this research of indicators are presented in this study and are critically evaluated. This discussion is at present still bogged down either in naïve empirical collection of indicators or in vague abstract declarations of intention. The only outcome of this discussion has been a well-developed and comprehensively founded criticism of conventional economic indicators such as those represented by the gross national product.

4. The discussion in the South: In the Third World, models of need-oriented policy, planning and evaluation are seen most clearly in the field of national food and nutrition policy. These are policies which aim at a physical supply of value-in-use items which are nutritionally acceptable and are compatible with consumption habits and production forces. The discovery of the 'protein swindle' and the 'energy swindle' at the beginning of the 'seventies had drastically questioned the utility of traditional nutrition programmes; the connection between malnutrition, poverty and power had become clearer than ever before. In Latin America this led to the establishment and expansion of agencies for national food and nutrition policies and to an attempt to implement corresponding planning cycles. But, a consistent food and nutrition policy necessarily extends beyond the narrow limits of socio-political intervention and the limits of the ruling power structure. This study tries to throw light on the connection between needs, policies and power. But it also indicates that it is possible to make human needs the objective of planning or the criterion of evaluation, if rational budgets for goods and services have first been prepared. Such budgets encompass

varying sources of legitimation and attempts at substantiation of needs. The decisive factor is that they should not be based on monetary macro data.

5. Intermezzo: The resume of these presentations is that the linking of a politically oriented discussion on basic needs with some theoretical approaches of the social or human sciences point to a meaningful and practical definition of need. They refute the current theorems of the infinite multiplicity of needs and the impossibility of empirical assessment. They focus attention on the qualitative differences between need, requirement and demand, which is glossed over by so many economists. They also demand a search for questions about 'true', 'real', and 'false' needs and the various sources of justification and legitimation of needs. The result is that the construction of a rational, material consumption budget for goods and services can lead to an initial operationalization of needs. Here, various sources of legitimation must be considered: democratic, scientific, political, economic, social and normative sources. The stronger the coincidence of such attempts at legitimation, the more one can speak of basic needs. This is the basis, developed theoretically at first, on which the empirical efforts presented and developed in the second part of the study rest, and which try to make human needs into tenable starting and orientation points of social analyses and policy formulation. Here, questions of planning and evaluation are given prominence.

6. Goal function: In the chapter on "Operationalization of needs through rational budgets" methods for defining needs or for formulation of a goal function of social activities are presented. First, a comparison is made between the validity of a system of social indicators and the construction of a rational consumption budget. Such a budget is developed with the help of data from Peru. If such a food budget, which operationalizes needs for food and nutrition, is compared with present food consumption of the population, certain requirements emerge from the difference between consumption and need; these requirements are particularly noticeable when the present consumption pattern of different classes of society is compared with the rational budget. Meeting such requirements can be taken as a need-oriented and value-in-use-oriented social and economic goal function or as a criterion for evaluation.

7. Planning: In the following chapter health planning is presented as an example of value-in-use planning. Taking health planning as an example which, in keeping with the World Health Organization, refers to physical, mental and social well-being, an information system is developed with the help of which the selection and weighting of health policies can be rationally discussed. Such an information system is theoretically derived and empirically tested; by means of a non-linear optimization procedure recommendations for a rational social and economic policy are formulated. The model presented here operationalizes only health needs at first, but it can also be applied meaningfully to other policy fields. This model tries to

demonstrate that it is possible to take a non-monetary goal function of social policy as a starting point and arrive at economically feasible guidelines for action. This model also shows that it is possible to operationalize needs not only in the sphere of private consumption of goods but also in the field of (collective) consumption of services.

8. Evaluation: One of the aims of such attempts to operationalize individual and collective needs is to identify 'good' policies, programmes and projects within the framework of an integrated and unified planning cycle. Another aim is to evaluate existing projects, programmes and policies on the basis of such goal functions, i.e. to judge them in terms of their relevance for the fulfilment of basic needs. This second aim is perhaps the most important. Because, whatever chances one may give a need-oriented policy and planning in the context of actual power constellation, the elaboration of need-oriented goal functions can at least help in assessing the implications of actual policies. Therefore, special emphasis is laid upon developing need-oriented evaluation methods. The product path analysis which, inter alia, is proposed here, is considered to be an instrument for evaluating the relevance of political, economic and social activities for satisfaction of basic needs. The product path analysis tries to identify empirically whether and to what extent projects, programmes and policies of varied sectoral origin contribute towards a reduction of requirements which were derived and determined from the operationalization of needs outlined in the earlier chapters. For this, the product path analysis follows the economic cycle of production from the manufacture of goods and services through various types of intermediate consumption right up to end consumption by different social classes. The present study demonstrates the practical applicability of product path analysis with many diverse examples. Parallel to this, methods which examine the employment effect of projects, programmes and policies in an analogous manner, are developed and presented. These evaluation methods try to check pragmatically whether and how far policies fulfil basic needs; furthermore, they try to show which social classes they benefit most at present. The outcome of such evaluation is, as a rule, disillusioning; the development activities which have been evaluated so far, serve almost exclusively to satisfy the needs of the small well-to-do minorities.

Conclusion: From the mosaic of highly varied approaches to basic human needs the present study tries to derive a paradigm which will lead to a practice-relevant blend of socio-scientific theory and empiricism. This approach is intentionally provocative. It tries to contribute to the rehabilitation of need satisfaction as the origin, function and justification of economics and society and also to serve as a starting point for critical socio-economic analyses. It is in particular intended to be an approach to a constructive criticism of current economic theory.

## **Introduction: Survival strategies or Why Economic Theory Should be Stood on its Head**

"SURVIVAL, even 'mere' survival is the basic problem of all societies."<sup>1</sup> And not just their problem but that of every human being. Almost all the social sciences and a considerable number of their representatives seem to ascribe a certain theoretical plausibility but not any vital importance to this statement.

The social or human sciences started off from this statement but mostly forgot it since it did not appear to be vital for the societies which they were analyzing. Most of the sociologists of the 'sixties hid this - for them almost biological - statement behind concepts such as "expectation" and "role". Many of the economists of the 'sixties tended to take more interest in the question whether anyone had a demand for survival commodities and, if not, he just happened to have other preferences. For the prevailing psychology of the 'sixties survival in their catalogue of needs was just a motivation like any other, such as the need to sneeze or to go for a walk. The human sciences even reflected supposed truths into environments which were foreign to them. Sociology sought explanations for poverty and under-development in descriptive reporting which was not even precise; economics and psychology followed this example. Dualism, lack of motivation for achievement, inadequate mobility, these were the common imprecise descriptions which were given as explanations. This disastrous lack of understanding of Euro-American science for the problems of impoverishment and under-development is certainly the reflection of a kind of social narcissism on the part of the scientists. Sociological theory-building was often nothing more than an attempt to give a systematized description of group problems on the basis of the naïve truisms and prejudices of the middle classes; there is hardly anything more incomprehensible and less intelligible to the masses than sociological theory. Economic problem categories were almost always related to the environment of male workers and side-stepped matters such as subsistence production and family production as well, as distribution of goods and services. Psychologists seldom realized that their concepts more often than not applied to the middle class only, and that it is hunger and a sense of injustice which motivate the lower class rather than the sexuality which is tucked away by the middle class in all possible corners. In this sense, most of the sciences were a cloud cuckoo land in which the scientists settled themselves comfortably and indulged in (self)reflection.

If the specialized social sciences were relatively blind to a need-oriented approach which made the problem of the survival of all the crystallization point of theory, empiricism and practice, a need-oriented frame of reference could only develop within the framework of the scientific policy advice given to the state. The needs concept asserted itself almost spontaneously to the extent to which the human sciences tried to support or at least to

understand economic and social practice. Many of the so-called typical functions of the state can, after all, be considered as need-oriented functions. Wherever the spontaneity of the market and investment decisions too obviously brushed aside the basic needs of large groups of the population, intervention by the state to correct such spontaneity seemed called for. Especially in times of crisis, the capitalist state intervened not only with the almost traditional instruments of economic and social infrastructure policy but also with the rationing of survival goods and even of means of production. In war-time England, for example, the excise duties were raised in inverse proportion to their utility for the fulfilment of basic needs; that is, the state interpreted needs and reoriented its policies accordingly<sup>2</sup>. During the international economic crisis at the beginning of the 'seventies, a similar step seemed to be necessary. "In a study on inflation the Technical Group for Economic and Financial Questions of the EC Economic and Social Committee advocates that the profitability criterion which in the past was primarily applied to investment projects be supplemented or even replaced by a criterion on the general utility value of planned production".<sup>3</sup>

Embryonic forms of need-oriented planning and policy are already to be found in societies with a market economy. In times of crisis in particular, the call for need-oriented intervention by the state is loudly voiced, and so is the call for a contribution by the human sciences to such need-oriented analysis and planning. It is in this context that the demand for an early warning system of social indicators should be seen which, based on a refined system of social reporting, will draw timely attention to possible social crisis points which - if the spontaneity of the market becomes too spontaneous - can trigger off corrective action by the state.

What seems to be a cyclical crisis in the capitalist industrialized nations, is a permanent condition in most of the developing countries: malnutrition, disease, ignorance, unemployment of the masses and not merely of a few marginal groups. This probably demonstrates most clearly that a spontaneous economic practice is anything but need-oriented, and that those human sciences which made a contribution to economic practice and economic policy also tended to overlook this for a long time. It was in fact proved that such economic practice and the theory that supported it was based on the principle of "survival", but only "of the fittest". In the license enjoyed by the development politician, who in reality remains a banker, this was clearly recognized by McNamara, the World Bank president. He says: "It is important to remember that indices of the increase in gross national product implicitly weigh the growth of each income group according to its existing share of total national income. Since in the developing countries the upper 40 % of the population typically receives 75 % of all income, the growth of GNP is essentially an index of the welfare of these upper income groups"<sup>4</sup>. Not all such implications of central economic concepts which reveal the necessity for - probably fundamental - corrective measures will be discussed in detail here. Few clear-headed economists would disagree.

"It is time that we stand economic theory on its head and see if we can get any better results"<sup>5</sup> sums up Mahbub ul Haq. And at the same time, he describes quite clearly and precisely how this is to be done. Hundreds of other comparable demands which arose in a similar context could be cited. At the same time, another hundred, which came up during the analysis of the social implications of multinationals in developing countries could be added. A hundred other resolutions and recommendations of international organizations could also be presented. A few examples of diverse origin from different institutional authorities will suffice to outline the problem.

Ul Haq says: "First, the basic problem of development should be redefined as a selective attack on the worst forms of poverty. Development goals must be defined in terms of progressive reduction and eventual elimination of malnutrition, disease, illiteracy, squalor, unemployment and inequalities. We were taught to take care of our GNP as this will take care of poverty. Let us reverse this and take care of poverty as this will take care of the GNP. In other words, let us worry about the content of GNP even more than its rate of increase."<sup>6</sup>

"Second, the developing countries should define minimum or threshold consumption standards that they must reach in a manageable period of time, say a decade. Consumption planning should move to the centre of the stage: production planning should be geared to it. And consumption planning should not be in financial terms but in physical terms, in terms of a minimum bundle of goods and services that must be provided to the common man: minimum nutritional, educational, health and housing levels, for instance. The demand concept which weighs the basic needs of different groups by their ability to pay will only distort the pattern of production and consumption in favour of the 'haves'; it should be replaced by the minimum need concept."<sup>6</sup>

"Third, the concerns for more production and better distribution should be brought together in defining the pattern of development, both must be generated at the same time; the present divorce between them must end. If a pattern of production (and exports and imports) is geared to satisfying minimum consumption requirements and to employing the entire labour force, then higher production will itself lead to better distribution".<sup>6</sup>

In another section ul Haq says: "In planning national production targets, the basic minimum needs of these poor should be taken into account, irrespective of whether they can express them in the market or not. In other words, market demand which is so largely influenced by existing income distribution - should be rejected explicitly in favour of fixing national consumption and production targets on the basis of minimum human needs. We have been slaves of the concept of market demand for too long. But the concept of market demand mocks poverty or plainly ignores it as the poor have very little purchasing power".<sup>7</sup>

The Social and Economic Council of the United Nations (ECOSOC) states: "Not only the location but also the kind or composition of the growth that takes place tends to confine the benefits of development to a part of the population. Because the bulk of the population has had little purchasing power, much of what is produced commercially is designed to be sold abroad or to be consumed by middle and high-income categories of the domestic population. The vast need and potential demand for basic consumption goods on the part of the low-income masses of the population do not get registered in the market; the effective demand there reflects the prevailing structure of income distribution. Traditional patterns of trade depend on cheap labour for raw material exports and on imports of manufactured goods many of which the low-income categories cannot afford or which do not meet their basic needs. Much new investment, including investment carried out in the name of 'import substitution', gets directed to the kinds of commodities that not only are consumed largely by higher income categories of the population but also have a low domestic employment embodiment. This is especially the case where the new industries are 'modern' and capital-intensive and their ancillary industries (equipment, parts, fuels, and other supplies) are mostly located abroad. Large-scale industrial projects having advanced technology but limited domestic linkages fail to generate employment opportunities on a sizable scale within the country. Many industries set up in developing countries are extensions of capital-intensive industries in developed countries designed to produce for a comparatively high-income society. Multinational corporations often establish such industries." <sup>8</sup>

"Economic growth of this kind tends to demand, produce and support a socio-economic system involving sharp income inequality. There is pressure from various interests, domestic and foreign, for expansion of the high-income market but much less for building up the very low-income market. Inherited structures of inequality based on socio-economic stratification will strengthen this trend." <sup>8</sup>

"It has been noted above that an important part of the growth of production in many developing countries appears to be oriented in effect towards higher income groups. This includes not only items of individual consumption but also infrastructure and social facilities. The vast potential demand of the low-income bulk of the population for goods and services of basic consumption is little realized under prevailing patterns of production and income distribution in these countries. A strategy of changing the composition of production is indicated in these circumstances. The purpose would be to yield more goods and services of benefit to the lower income categories of the population in order to raise their levels of living and their productivity and help generate a broad-based structure of growth. Basic needs are simple and fairly universal: foods, clothing, primary housing, household equipment, sanitation, water supply, cheap mass transport, elementary education and extension services, basic medicines, simple health services, etc.." <sup>8</sup>

The International Labour Office concludes: "It has become apparent to the ILO, however, as a result of its research, and from the practical experience it has acquired in the field and in its employment missions to various countries, that an employment-oriented strategy, by itself, will not suffice. The creation of more and better jobs is not enough; employment issues are intimately connected to the wider issues of poverty and inequality, and it is in this context that they need to be examined. The approach which is now proposed to this Conference is that development planning should include, as an explicit goal, the satisfaction of an absolute level of basic needs."<sup>9</sup>

"Basic needs, as understood in this report, include two elements. First, they include certain minimum requirements of a family for private consumption: adequate food, shelter and clothing are obviously included, as would be certain household equipment and furniture. Second, they include essential services provided by and for the community at large, such as safe drinking water, sanitation, public transport, and health and educational facilities. A basic-needs oriented policy implies the participation of the people in making the decisions which affect them. Participation interacts with the two main elements of a basic-needs strategy. For example, education and good health will facilitate participation, and participation in turn will strengthen the claim for the material basic needs. The satisfaction of an absolute level of basic needs as so defined should be placed within a broader framework - namely the fulfilment of basic human rights, which are not only ends in themselves but also contribute to the attainment of other goals".<sup>9</sup>

The Chairman of the Development Aid Committee (DAC) of the Organization for Economic Cooperation and Development (OECD) declares: "A development which reaches the poor in the developing countries so that they can satisfy their basic human needs is an essential element in a stable world community".<sup>10</sup>

In the publications of the German Society for Peace and Conflict Research, Elsenhans writes: "Surmounting under-development means increasing the overall labour productivity of society to serve the needs of the under-privileged masses so that needs beyond those of mere subsistence are articulated. What long-term needs will be articulated in the course of this process by the masses in the under-developed countries is their concern. Perhaps some criteria or even concrete Utopias could be developed from the criticism of the social structures in the developed countries. The needs which have to be satisfied in the coming decades may be derived from the inadequate supply of goods which are required for survival"<sup>11</sup>.

In his analysis of the influence of multinational enterprises on imbalanced development, Steven Hymer comes to the following conclusion: "What is required is a complete change of focus. The needs of the lower two-thirds of the population should be taken as the basis and not the demands of the upper one-third. The main objective of such a strategy should be the

provision of medical care, education, food and clothing for the whole population in order to overcome the most acute forms of human distress. This calls for a system which will mobilize the whole population and scan the local surroundings for information, resources and necessities. It should be in a position to absorb modern technology but should not be judged by the form it takes in the more advanced countries; it should penetrate the very roots. This is not the course chosen by the upper one-third when it gets into power".<sup>12</sup>

Ivan Illich demands: "The only possible answer to the steadily growing under-development of the Third World is the satisfaction of the basic needs there and not the satisfaction of needs imported from the industrialized countries".<sup>13</sup>

Tibor Mende bases his argument on a criticism of the gross national product as a yardstick for measuring human prosperity and social development. "In order to arrive at such a definition of generally acceptable development goals one must return to basic needs, to absolute necessities which are considered inalienable by all. At first glance it does not seem to be difficult to draw up such a list. Sufficient food, a dwelling which provides minimum protection and comfort, and an occupation which gives the person the possibility to produce things and feel useful - all these points would meet with general approval. The factors 'health' and 'education' could be added here as further unassailable points. If one were to say that the securing of all these factors should form the basis of a realistic development policy, this statement would not be excessively idealistic. Despite this, every serious attempt to gear the economic priorities of an under-developed country to such goals would, in most cases, call for revolutionary changes which cannot be achieved by peaceful means".<sup>14</sup>

These are illustrative but clear demands for a need-oriented policy. They stem from organizations and scientists of diverse origins and apparently with a varied interest in knowledge. These refer to the developing countries where the clear-cut diagnosis of permanent crisis demands, or at least seems to demand a clear-cut therapy. The diagnosis of the symptoms is always the same: under-nourishment, poverty, disease and ignorance of the masses and not just of a few marginal groups. And the therapy reads: need-oriented policy and planning but not conventional planning which is oriented to gross national product, the alleged central concept of economic policy-making.

The discussion on national food and nutrition policies can clarify the crucial issue. Such a policy design is oriented to a rational supply and distribution of the basic means of survival. Here, the value in use but not the value in exchange is the central point. Food and nutrition policies are already a qualitative step ahead of the usual planning approaches. They are oriented to consumption and its spatial and temporal distribution. Here, it is not a question of investment planning where it is doubtful to whom and when such investment pays off.

It is astonishing how closely the discussion on such national food and nutrition policies can be compared to the discussion on basic questions of national economic planning, e.g. like the one conducted in the German Democratic Republic since the beginning of the 'seventies. Because here, too, the planning of individual and collective consumption is increasingly becoming the focal point of deliberation. Here, unlike the capitalist countries, orientation to the maximum fulfilment of the needs of society as a whole as well as of each individual is considered to be the integral base of all social and economic planning. This is the so-called first basic law of socialism.

Thus, there seem to be diverse approaches to need-oriented planning and evaluation of policies. The following considerations and presentations are based mainly on the four lines of argumentation outlined above:

1. In most specialized human sciences the needs concept was habitually forgotten even though it may be regarded as the very pivot of scientific theory. A scientific elucidation of the needs concept seems to be full of inherent difficulties. Such an elucidation seems likely only when economic and socio-political problems are to be solved, when state intervention appears to be necessary and requires scientific legitimation.
2. The socialist planned economies have incorporated need-oriented planning in their constitutional documents. But, because of certain politico-economic conditions, it is only now that there are signs of a growing intellectual revival of the first basic law of socialism which takes satisfaction of needs as the starting point and guide-line of economic and social planning. This discussion, which is still in its infancy, has uncovered important aspects of a need-oriented policy.
3. In capitalist industrialized nations the discussion on needs still lurks behind a partial criticism of the inappropriateness of the gross national product as an indicator of economic and social progress. Social indicators or indicators of the quality of life are required as complementary or corrective information. These indicators try to show the progress of the actual need satisfaction of the mass of the population. Descriptive and analytical statements still predominate.
4. In developing countries models of need-oriented planning and evaluation can be seen most clearly in the drafts for a national food and nutrition policy, i.e. for a policy which aims at the physical provision of a basket of consumer goods which are acceptable in nutritional terms and are compatible with consumption habits and productive forces.

These different approaches towards a need-oriented planning and evaluation indicate that one of the most important tasks is to operationalize a goal function of economic and social activity. Such goal functions play a decisive role, e.g. in the field of health planning. As health

is defined as "physical, mental and social well-being", it becomes clear that social and economic activities outside the health sector influence this goal function. And it also becomes clear that the operationalization of such a goal function is an inalienable pre-condition for need-oriented planning and evaluation. It will be argued that the modelling of a rational budget for goods, services and time - as used to a certain extent in the economic planning of the Soviet Union - is an important starting point for an operationalization of a need-oriented goal function. Certainly, pragmatic compromises will be required between the existing knowledge of methodical and methodological constraints in the formulation of such budgets and the desire to outline even an incomplete frame of reference for this goal function.

One of the aims of such a goal function is to identify need-oriented policies, programmes and projects. Another one is to evaluate, i.e. to appraise actual projects, programmes and policies in the light of their relevance for satisfaction of basic needs. Perhaps this second objective is the most important. Because, whatever chances one may ascribe to need-oriented planning and policy in the actual world-wide power constellation, and irrespective of whether one can realistically find a responsible institution for such planning and policy, the elaboration of a need-oriented goal function can at least serve as an instrument to evaluate actual policies. For this reason, the question of the feasibility and implementability of such policy and planning will not be the most predominant feature of the following treatise. What will be presented are models of need-oriented evaluation and planning which can be used to appraise actual policy - maybe only by those who suffer from it and rebel against it.

## **1. The Discussion in the Ivory Tower or The Rootlessness of the Needs Concept**

It is a truism that the goal of economic activity is the satisfaction of basic needs. The National Encyclopedia states: "The purpose and the objective of economic action is the satisfaction of human needs".<sup>1</sup> In this generalized form, needs may be found in almost every introduction to political economy. At the same time, there is an indication that the problem of needs is mainly a problem of psychology, and economic science has to accept this as an established fact and not as a problem, just as consumption as the aim and objective of economic activity remains beyond the ken of the actual economic theory. There was too much hair-splitting discussion of the needs and utility concept at the end of the last century, and the only result was a dead-end. The definition of needs as "a feeling that something is lacking and the desire to remedy this"<sup>2</sup> seems to point very clearly in the direction of individual psychology. Some economists try to underline this by emphasizing the autonomous nature of human needs, their individuality and incomparability, their infinite egalitarian diversity, their universalistic lack of content, their

constant quantitative and qualitative change, their ideological-subjectivist distortion, and - as a result - the uselessness of this category for a pragmatic economic policy and an - apparently related - economic theory.<sup>3</sup>

### 1.1. Psychological Dead-ends

Given the plethora of psychological considerations and theories on the subject of needs, motivations, impulses and drives, it is indeed extremely difficult to locate a common denominator which could be the starting point for a trans-psychologically applicable needs theory. Polythematic approaches to needs are found together with monothematic approaches<sup>4</sup>. As a rule, the polythematic approaches describe a number of phenomena complexes which are relatively independent in factor-analytical terms and which, when used as a hypothetical construct to explain human actions, are adorned with the label 'needs'; "these include the need to get married, the desire for company, the driving force of parental care, the compulsion to investigate the surroundings, the desire for security, the urge for self-assertion, narcissistic sexuality, the need for peace and quiet, the urge to shape things, etc."<sup>5</sup> The great majority of such empirically identified and relatively reciprocally independent motives, impulses and needs are confronted by one-factor theories or monothematic approaches which make power or achievement or sexuality the main explanatory function for human actions. "The inutility of the various drive categories"<sup>6</sup> is criticized by one person, the pre-logic of the monothematic approaches of motive analysis by another. If one were to remain within the logical boundaries of individual psychology, all one-factor needs theories could be ascribed to the drive or the need of the psychologist to gain personal status, and this interpretation could in turn be ascribed to the corresponding need of the author, etc. But this does not get us anywhere.

Psychology's interest in explanation is, as a rule, different to that of economic science or sociology or the other human sciences. Metaphorically speaking: it is of scant interest to the consumer of meat that the cow, Julie, has a black patch on her udder whereas the cow, Judy, has none; but, for a veterinarian this may be an interesting fact.<sup>7</sup>

This argumentation relativizes empirical drive categories which have a tendency to merely give the same name to similar patterns of behaviour, i.e. they remain descriptive. This description may be useful within the context of well-delineated historical, spatial and social boundaries and on the basis of an individual-psychological interest in knowledge and therapy.

For instance, the need to get married - which must be differentiated from sexuality - is apparently rather diverse between European and Chinese youths, between 18th century

journeymen - who felt this need only when they faced a craftman's widow - and contemporary journeymen, and between the Spanish and the Chinese, and also, the need or urge to get married is relatively irrelevant for an explanation of Latin American family structure. The validity and the generalization capacity of such drive categories are therefore restricted - in the most negative case - to the psychologist himself. On the other hand, such needs as the need for peace and quiet or the need to sneeze are so generalized that they contribute as little towards an explanation as the "need" to occasionally crook the middle joint of the index finger.

The other extreme, the monothematic approaches, also seems to be ineffective. For instance, Freud's supposed pansexuality is often referred to in this context. Economic science can make little use of this as it does not really help to explain why the income elasticity of demand for the goods required for survival is greater than that of condoms and aphrodisiacs. A one-factor theory of needs often leads to and is often identical with a mere repetition of hollow and empty formulae: self-realization, focus on the inner unity of the subject experienced, openmindedness, and similar concepts may be regarded more as an escape into verballity rather than a practice-relevant explanation of human actions.

The answers discovered in the process of psychological occupation with the category "needs" fluctuate between infinite drive categories and simple one-factor theories, between empirical description which claims to be an explanation and hollow formulae with global claims, between behaviouristic factor analyses and simulation models on the one hand, between an individual-psychological workshop and a global social theory on the other. The need concept or the motivation concept as applied by the psychologists is multivalent; on the one hand it is related to future-oriented, on the other hand to past-controlled behaviour; on the one hand it implies reception, on the other, autonomy; sometimes it means active adaptation, sometimes passive adjustment; at times it refers to the self-explanation of behaviour, at times to an outside explanation.<sup>8</sup> One is tempted to think that psychology's needs concept is so multi-faceted that it would be better not to apply it at all. The selection of one or the other conception as the true, the right and the useful concept seems to be a matter of arbitrary choice. In terms of research logics, this can be done only if criteria for such a selection have been established.

However, this path rapidly leads to a scientific-theoretical dead-end. Occasionally it is argued that science can only proceed when the interest in knowledge becomes emancipated from elementary needs.<sup>9</sup> Only after liberating brain-work from manual work could a theoretical interest develop, states Popper; and in his view, the emergence of theories is linked to the structuring and categorizing of the world in terms of needs. An animal divides the world into edible and non-edible matter, and the hunger of the animal is equivalent to the theoretical interest of the scientist: this is what Einstein and an amoeba have in common.<sup>10</sup> In a highly

abstract and sometimes even lyrical tone this argument was encountered in the 'sixties by saying that scientific interest was only shown in the contradictions between theories but not in real social contradictions, such as those between producer and consumer interests and the partly antagonistic conflict between private interest and the interest of society in family planning, for instance. In contrast to this, others state that societies and, as a consequence, their sciences serve the reproduction of social life and this - as defined in cultural images of the world - is a reference system for needs.<sup>11</sup> Taking this scientific-theoretical comprehension as a basis, the so-called New Left called for a needs-oriented science.<sup>12</sup>

But, if needs are taken to be the starting point of knowledge, this implies an impediment to the scientific approach required to establish criteria for the structuring of the discussion on needs. At the pragmatic level of every-day comprehension, it seems as if the questions asked of a motivation theory or a needs concept are relatively simple: Whose needs should be met by the economy? Which needs are at present most crucial for which group of persons? What is the connection between needs and their satisfaction? Do needs structures vary between different countries, between the upper class and the lower class? What is the link between needs structures and production structures? Such questions which are only given as examples here, extend far beyond motivation research in the sense of market research, they do not probe into superficial differences but question the Why and the Wherefore of human actions. By doing this, they narrow the margins for the answers; it seems to be relatively immaterial why one person crosses his right leg and the other one his left leg; there are more important questions of need at stake. And their importance is related to ..., to what really? The logic presented above in accordance with needs. A simple circle.

## **1.2. The Absence of Needs in Sociology**

It is argued that the sciences' interest in knowledge is, as a rule, varied. This is possibly the reason for the mutual misunderstanding on the needs concept which is sometimes defined in one way and sometimes in another. This becomes even more clear if the central concepts of sociology and psychology are confronted with one another, namely, those of the personality system and the social system. This is not only a confrontation of sciences but also of styles of knowledge and interest in knowledge.

According to Parsons, a social system is not merely an aggregate of persons, it is relatively independent of the persons and quite distinct from them<sup>13</sup>. The personality system and the social system are not mutually reducible. Parsons sees no reason to ascribe a logical or factual priority to any one of the systems. The division of labour between the basically equal

disciplines, sociology and psychology, is thus clear. Psychology deals with the explanation of individual actions, attitudes and ideas, with basic and elementary behavioural processes such as thinking, learning and perception, and with the control of individual behaviour; in this it abstracts from certain fields of knowledge, e.g. from changes in the social structure and political rule, as far as these appear to have no decisive influence on individual actions and on perception and learning. Only then can psychology generalize. The same applies in reverse to sociology. It can only generalize if it disregards the differences in psychic dispositions and processes, i.e. if it disregards individual motivations and patterns of behaviour. Sociology only deals with those aspects of the personality system which are strategically relevant for the social system. According to Parsons, this social system is a network of expectations. Such expectations do not refer to individuals but to members of groups which are characterized by a chain of the same and similar environmental conditions. This so-called role system is a central category of sociology which is distinct from psychology only through the planes of abstraction at which human behaviour is conceived and analyzed.

This conceptual separation of personality and social system, of sociology and psychology, was also advocated by another school of sociology, the Frankfurt School<sup>14</sup>. It states that psychology deals with the spontaneity of its subjects but sociology deals with a fixed range of subjects, the social production process. Psychology disregards this process and fixes an absolute object of investigation. It views the individual in his European bourgeois form as man himself and takes this as a basis for generalization.

The two schools also seem to agree in the concrete analysis of needs<sup>15</sup>. There is no anthropologically substantiated gain motive or 'rational pursuit of self-interest' with which some economists are so fond of operating; that is, there are motivations, or even better, motivators outside the psychology and the individuality of the person. The Frankfurt School would also find it absurd to try and derive the equivalent exchange from the inner life of the individual person. The personality system and the social system are dissociated from one another; the social phenomena have apparently become emancipated from psychology.

The world of the psychoanalyst reflects this situation. It is possible to make valid statements on the behaviour of a person from the objective frame conditions surrounding his life without having to go into the individual personality characteristics<sup>16</sup>. The ego, as psychoanalysis calls the reality principle or the perception and the conscious behaviour of the individual, has objectified itself beyond the bounds of individual needs. This sounds very much like Popper's notion of the logic of the situation; sociology can make itself independent of psychology, it must do so because psychology and, together with it, the individual with his motivations, drives and needs, is not the mother of the science of human behaviour: on the contrary, it is in the form of a circle where psychology presupposes sociology and sociology pre-supposes psychology<sup>17</sup>. At a certain level of generalization it would certainly be possible to explain an

action from the context of the situation without recourse to psychology. The average behaviour of a man driving a car could be a good example of this; however, in marginal cases, it does not suffice to explain the pattern of behaviour from the context of the situation.

Logic of the situation, psychoanalytical experience and non-psychological substantiation of the gain motive - these are a few indications of the distinction between the personality system and the social system. But a more essential distinction has been concealed behind the selected terms. Is this a structural separation or is it a division of labour between the sciences? If it is only a division of labour, a separation of terms and of differing abstraction levels at which the various sciences operate, then there are no further obstacles to overcoming the distinction between psychology and sociology and economic science. With a rising level of knowledge it would be possible to overcome the distinction if sufficient time, money, secretaries and computers were available; in this case, common concepts and common levels of generalization could be found. The individual motives could be used to explain social patterns of behaviour and the latter to explain the former.

The stricture of tautology has been repeatedly made<sup>18</sup>. It seems as if the mere differentiation of the abstraction levels of the different social sciences can be used to give a psychological explanation for each economic action, a sociological explanation for each psychological action and an economic explanation for each sociological action and vice-versa. Simmel already advocated this concept when he tried to build a sub-structure under historical materialism by attributing explanatory power to economic phenomena as well as psychological phenomena<sup>19</sup>. Every interpretation of an idea pattern, as he called it, through economic science is justified, only a psychological explanation would then have to be added to the economic explanation and so on ad infinitum. But, this merry-go-round of explanations relativizes the significance of the needs concept, it keeps handing over the initial and every-day questions on needs to the other discipline.

One argument against such tautologization and relativization is the analysis of the link in the chain between the personality system and the social system which is stressed by both above-mentioned schools, namely, internalization of norms. This concept of internalization of norms which, inter alia, points to an only relative sovereignty of the consumer, is the essential concept for an understanding of sociology and psychology, of the personality system and the social system, and thus of a trans-psychologically applicable needs concept. Durkheim and Freud, the grandfathers of sociology and psychology, arrived at this concept independently of one another<sup>20</sup>. In Durkheim's views, social phenomena such as suicide or anomaly could only be explained if a social factor outside psychology, which was external and compelling, was assumed. This external and compelling motivator or behaviour impulse, which was originally to be found in heredity or in the environment, is absorbed by the individual and internalized. Freud had elaborated a similar characterization in his concept of a superego. This is his

expression for the internalized norm structure in the individual. The behavioural expectations or behavioural compulsions are originally external ones and they become compulsive for the individual, although the external compulsion does not necessarily have to be a permanent one. The super ego is a reality *sui generis* which cannot be traced back to individual drives and needs. It stands in direct contrast to the individual pleasure principle. Therefore, the super ego cannot be explained by individual needs, and the terms "superego" and "individual needs" do not merely denote different levels of abstraction. In terms of psychological development the super ego emerged from the repression of individual pleasure instincts. In this sense, Freud and Durkheim find that individual needs and social needs are always in contradiction to one another, even if they sometimes converge.

To this concept of the super ego Freud attached a speculation on its evolution in the primeval horde and subsequently, a theorem on the emergence of needs and norms<sup>21</sup>. In order to meet such primary and vital needs such as food, drink and housing, the father of the primeval horde had to exercise pressure on his sons' sexuality need which in this case is not at the top of the list, if the mutual functionality of needs is taken into account. This compulsion was a permanent one, just as the deprivation underlying it was. If this underlying deprivation were no longer to exist, the compulsion would become superfluous, the uniformity of norm and individual striving, i.e. the uniformity of psychology and sociology, would become possible. Freud's speculation on the primeval horde points to the relativity of the concept of an internalized norm, to the historical relativity of the antagonism between individual and society and the economic deprivation underlying the latter; Freud also calls this "Ananke", i.e. distress<sup>22</sup>.

Freud's concept of the super ego is re-interpreted within the framework of the Functional-Structural School. It loses its historical context, and, compared to Freud's concept, it also loses its individual-psychological context. Social behaviour is oriented to the expectations of the others, there is no historical context and no conflictive link to the pleasure instincts of the individual. All conceivable contents, positive and negative, egoistic and altruistic, can be poured into the superego; norm and behaviour can approach a frictionless uniformity. There is no extra-societal, biological, genetic, historical regulative advocated by the individual pleasure principle.<sup>23</sup>

If, however, the initial question for Parsons was "How is order possible?", and his answer "Through internalization of norms", then this answer actually destroys the basis of the question, because the question is either due to ignorance or to a deficient internalization of norms.<sup>24</sup> The question which then arises is how is social disorganization possible. Hobbes, to whom Parsons refers, had already envisaged the two alternative possibilities, the war of all against all and the authoritarian and totalitarian Leviathan. Parsons, on the other hand, did not perceive this even as a latent reality. Norm-destroying and deviating role conflicts only occur

if there are norm ambiguities and role conflicts, for instance, that of a female scientist who is a wife and mother at the same time. But, these are only accidental phenomena of the social system, the outcome of defective organization which can, in principle, be remedied.

For Freud and Hobbes, there was something else in the background: compulsion and pleasure. As Parsons separates the norm and the super ego from the pleasure principle, the individual's egoistic claim to happiness drops out of his analytical system; a return of that which has been repressed by the norm is not possible. Zillborg views the return of the repressed as a sociologically relevant category; because, only then can a yardstick to measure existing social conditions develop<sup>25</sup>. And for Wertheim, this return of the repressed is a central point of a critical development sociology which searches for the concealed manifestations of the repressed<sup>26</sup>. The naïve sociology of a structural-functionalist lacks this principle. And it also lacks its opposite, compulsion. What was internalized as the super ego was not a simple social presumption. It was violence and was termed as such by Freud as the threat of psychic, social and mental liquidation. The term "castration complex" clearly indicates this. Compulsion is not stressed in structural-functionalist theory; the maximization of approval from others, this is the core of Parsons' sociological motivation and needs theory. It is the psychological correlate to the acceptance of a value consensus which gives societies their cohesion. This complementarity of expectations became the central element of some sociological theories. Dennis Wrong counteracts this by saying that a new variant has been added to the gain-seeker of classical economists, to Machiavelli's power-seeker, Hobbes' and Darwin's security-seeker, the pleasure-seeker of Freudian doctrine, and the god-seeker of theology - namely, the status-seeker<sup>27</sup>. His criticism is that the frequent over-emphasis of material interests and power interests, etc. is not a plausible reason to fully dispense with it. The approval maximizers of Parsons' sociology fall into the category of one-factor theories which explain everything and nothing.

Now, a very strong emphasis of the complementarity of expectations, which in principle means a reference to the growing irrelevance of the superego, certainly seems to be justified in part. It reflects the tendency which Freud saw, namely, that a superego is no longer formed by many people<sup>28</sup>. This statement extends beyond psychology and the individualism related to it, it points to the historical validity of psychology. This is the central thesis of Riesmann and Marcuse, too<sup>29</sup>.

Marcuse argues that psychoanalysis has become antiquated, and this means that in the present historical and social constellation, individual needs or quasi-individual needs have a changed degree of importance as compared to another place and time. Within this context, Parsons' needs concept of a complementarity of expectations also has same validity, however one with spatial, temporal and social limits. These limits can be socially and economically substantiated. Marcuse demonstrates this in the example of Freud by liberating the

sociological substance of the ahistorical terms<sup>30</sup>. Freud's ahistoricism expressed itself in Freud's conception of a supposedly necessary link between progress and repression. Of course, it is not enough, Marcuse's argument runs, to slip a couple of sociological words into Freud's theory and to undermine it as the Neo-Freudians did when they substituted the word "milieu" or "environment" for "instinctual energy" and thus represented the concept of an independent, autonomous and subsistent individual monad which is robbed of its individual innocence through outside elements, as if the environment de-flowers the psychic<sup>31</sup>. Marcuse tries to evade this hazard by doubling the terms: he places Ananke or distress next to power, the achievement principle next to the reality principle. By doing this, he tries to show that in Freud's work historical processes appear as biological processes, although Freud himself gives some indications - mostly in his more speculative works - that these terms are certainly meant historically and have a social location. For instance, he makes a reference en passant to the fact that the lower class does not form a superego, that there is no internalization in the lower class as sexuality does not yet have priority in the needs hierarchy<sup>32</sup>. Here, in the lower class, the main need is hunger and a sense of injustice, both of which are irrevocably linked to each other.

Together with this theory Freud had a practice which preached enlightenment. On the psychiatrist's couch the "Id" was to be transformed into an "Ego", the impulses, drives and needs were to become known and willed. But, in terms of overall society, he found the demand for happiness and lack of compulsion archaic and Utopian. Through the sheer endless tradition of hunger and oppression this opinion moved closer to the conservatism of a Gehlen for whom repression of instinct is a *conditio sine qua non* of society, anthropological constant<sup>33</sup>. But, the supposed rigidity of the bourgeois environment, the social constant of Freud's concept which he generalized as psychology, underwent a historical and conceptual disintegration. This is the point where those social scientists set in who regard needs as an almost extra-social explosive for each social system and which have to be satisfied before a social system can become legitimate; even if they succeeded in almost completely manipulating needs and need satisfaction demands so that a supposed complementarity of expectations would result, the repressed would return.

A structural-functional theory does not have to bother about these questions of Ananke or distress and the return of the repressed, i.e. questions which imply a contradiction between the individual and society. The complementarity of expectations concept - I give, so that you will give, and not because I like giving or I am forced to do so - lacks history; it contains the pretention and the emptiness of a total explanation. But, if one starts extending the scope of this assumption to Latin America, South Africa and Bangladesh, to the Bantus and the workers and the children, then one finds compulsion and violence and the threat of physical, mental or social liquidation and, often, distress in the strongest sense of the word, and not the

friendly and harmless complementarity of expectations of US sociology. And to this extent, the needs concept celebrates its come-back in sociology, even if it is a positivistic frustrated sociology. "Bring man back into sociology," says Homans<sup>34</sup>. And continuing Wrong's work Etzioni tries to confront the functionalists "over-socialized" image of man with a functionalist needs concept: "It is fruitful to assume that there is a universal set of basic human needs which have attributes of their own which are not determined by the social structure, cultural patterns or socialization process"<sup>35</sup>. In other words, Etzioni is searching for the functional prerequisites of human existence, as sociology in its "survival models" only searched at first for the functional pre-requisites of social systems. Etzioni responds to such classifying survival models with effectiveness models; the measure of effectiveness is the satisfaction of basic human needs. Then a functionalist distinction can be made between functionalist alternatives and functional equivalents, and a structural-functional system is in its place here. In this sense, there is an appraisal criterion for social conditions. "Some societies are more responsive to human nature than others"<sup>36</sup>. The tenor of the argument seems to be right. The needs concept is essential for the social sciences. It should not - in the course of a division of labour - merely be relegated to individual psychology and then fall into oblivion.

Through tortuous paths contemporary sociology has gradually found its way back to the fundamental problem of societies, namely, the problem of needs whose satisfaction is the "actual" function of societies. The social problems which then result stem from the tension between the individual and society, between Utopia and reality, between norm and need, between power and lack of power. Thus, the path to a needs concept is opened through the analysis of norms for instance, which in the course of the social process are partly emancipated from needs but always point back to them. "Social norms and the network of roles regulated by them in which we constantly move, are not an end in themselves, their purpose is the gratification of human needs and should therefore always refer back to them"<sup>37</sup>. At the same time, they are functional for the satisfaction of needs. "Social norms, it may be paradoxically stated, limit the scope of need gratification, so that needs can be satisfied at all"<sup>38</sup>. But, whose needs? Is this not much more crucial a question? Can norms not be a mechanism which enable the satisfaction of the - maybe even artificial - needs of an individual through the non-satisfaction of the - even basic - needs of all others? This thought, namely, that the basic and artificial needs of a few are satisfied only through the organized non-satisfaction of the basic, physical needs of the others, is a vital one, because the concept of shortage is always a relative concept.<sup>39</sup>

But, if this is true, then a sociological classification and hierarchization of needs - which will be discussed in detail later - cannot be left to the discretion of the researcher. They should be viewed in terms of the question - for whom? - and constantly related to their functionality and/or causality for what sociologists like Hondrich call fundamental needs, "clusters of

needs": the "remaining alive", the "survival"<sup>40</sup>. This becomes even more necessary if, in view of world-wide reality, one contradicts the statement "this need in its simplest orientation to physical survival is permanently satisfied through the expansion of production in social evolution and has thus ceased to be a problem"<sup>41</sup>.

However, very often, not enough thought is given to the matter. An almost antique theorem still applies: "First of all, a hiatus between subjective needs and the facilities for need satisfaction provided by a society, is a characteristic feature of EVERY social structure because human needs always exceed the possibilities of satisfying them"<sup>42</sup>. This theorem is almost as ancient as the human sciences. Is it valid? Is it useful? This question can hardly be answered at this level of generalization. If, however, it is differentiated and examined within the context of a single discrete or basic need - which of course can only be separated analytically from other needs - namely, Freud's first basic instinct, hunger, then scepticism could and should arise, because, it is possible to satiate hunger. In industrial societies this hardly appears to be a problem anymore. But it is also possible on a world-wide basis, provided there is an equal distribution of available food supplies. What is more important than the question of possibility is that of probability - social probability. Security of supplies can hardly be expected. Hunger, or fear of hunger, has proved to be an extremely reliable and well-functioning instrument of power in the hands of those who hold it. Despite this, in view of the current state of the productive forces, there is at present a real possibility of satisfying hunger. Within the industrial societies, this possibility is, in all probability, applied - to almost everyone. But, this is just a mere probability which can change if and when the social situation happens to change, if, for instance, impoverishment processes occur internationally and world-wide and a national state cannot put a halt to them. This probability shrinks with broadening distance from the centres of power. There is no scarcity in the present state of the productive forces and the possibilities inherent in them; but scarcity exists because of strong articulation of the needs of a few. This thesis of the permanent discrepancy between need and reality seems to be a simplification at the least, as abstractions tend to be. But this simplification diverts attention from the crucial questions of a needs approach which is not concerned whether its progenitors are psychology, economics or sociology or other human or social sciences.

One of the decisive questions is that of need hierarchies and need networks and the relationship between single needs and the productive forces, because only by means of such a differentiation will it be possible to break through theory and reach practice via empiricism. Another crucial set of questions is, who interprets needs - the scientists who have eaten their fill and for whom survival is no longer a problem, and who therefore make statements on self-evident social factors in the industrialized states which, in view of transnational economic interrelations become less self-evident the more one moves away from an almost antiquated,

territorially fixed notion of society and views it on a world-wide basis - or the "naïve laymen" with their felt but - in whatever manner - alienated needs. These are only two sets of questions to which a sociological need theory should turn its attention. But sociology still has no answers to even such fundamental questions as these.

Nevertheless, modern sociology has in some of its approaches found its way back to its own ancestors and also to the ancestors of its neighbouring discipline. For classical sociology and psychology the realistic, pragmatic and materialistic point of departure was still the struggle against distress or struggle against nature in order to fulfil basic human needs. For Marx and Freud distress and nature had a concrete, almost naïve every-day meaning: hunger, ignorance, premature death, illness, inequality. For some time it looked as if a sociology fashioned in North America could abstract from this and a European sociology would follow suit. But, the economic recession and increasing uncertainty and a perhaps only imagined growing social discrimination and alienation of certain social groups has jeopardized the astonishing social integration of some industrial societies which actually prevailed in the 'sixties. "Bring man back into sociology" also contains a warning against such blind abstractions. Integration patterns which appear to be perfect can become endangered overnight, even through something as trivial as a marginal boost of the oil prices.

### 1.3. Economics Without Utility

At one time, the needs concept was the starting point of national and political economy. This was clearly revealed in Adam Smith's distinction between value-in-exchange and value-in-use<sup>43</sup>. Marx placed these terms at the beginning of his economic analysis: values-in-use satisfy needs directly. "The utility of a thing makes it a value-in-use ... The value-in-use is realized only in use or in consumption"<sup>44</sup>. The qualitative and quantitative determination of the values-in-use is an important component of economic theory; this was Engel's view, too. This more or less extraneous economic goal of economic theory, i.e. need-satisfying consumption, was elevated to the goal function of social planning. "The utilities of the various commodities, weighed against one another and against the amount of labour required for their manufacture, will, in the last resort, determine the plan"<sup>45</sup>.

For some time, needs and utility were the fundamental notions of economic science, today they are historical relicts, nostalgia. Tinbergen's diagnosis is that the prevailing opinion today on the utility function is one of agnosticism; he feels this is not satisfactory: "The idea that utility cannot be measured is unsatisfactory. It is unsatisfactory because utility is the basic concept of economic theory"<sup>46</sup>. It is neither possible nor necessary to throw more light on the

aberrations and dead-ends of the discussion on utility in economic theory; this may be left to historians and ideology critics. Also, some obscurity may be observed in the discussion on utility in the history of economic theories and in many authors; the utility function swings to and fro between scientific, psychological and moral claims<sup>47</sup>. But, it is almost always a subjectivistic and individualistic utility function: only an individual can compare apples and pears. Gabler's *Encyclopaedia of Economics* has the following definition: "Utility, a subjective factor in economic theory influenced by value-in-use, by subjective collector's value and by the degree of satisfaction of other needs which, together with purchasing power, influence requirements and thus, demand, i.e. a notion which is, in principle, subjective"<sup>48</sup>. It is in this sense that individuals compare apples and pears, whatever reasons they may give for doing so. Thus, theoretically, the solution to the first of the two fundamental questions of utility theory has been found, namely, the comparability of goods and services.

This is mostly a subjective, individual and economically limited solution; through demand a person could indicate that apples are of more use to him than pears. But this, however, does not show whether apples are of more importance for him than pears, because if he had more purchasing power, then it is possible that he would take a different decision; nor does it indicate whether apples are more important and useful than pears for survival. An aggregation of individual utility structures in the case of the utility = demand equation mostly implied here these are demand structures at a macro-economic level also leaves this question unanswered. Because, current economic theory does not examine the utility of apples and pears for survival. And it also declines to explicitly compare and weigh individuals. For a teleological utility theory, distribution is a secondary question; an evaluation of different income distributions with the same aggregate of utility is not possible within the axiom of utility maximization. Such an evaluation would require an interpersonal comparison. But, individuals can only be compared on the basis of supra-individual value decisions. An allegedly value-free economic theory cannot make any valid statements on this matter. That is why in the new tradition of the economic theory of Pareto and Barone this issue is mostly delegated to the politicians; it is their job to take supra-individual utility decisions and this also inherently implies interpersonal comparisons<sup>49</sup>.

But, as a value-free economic theory must also, of necessity, argue in supra-individual terms, the problem of utility and interpersonal comparisons is explicitly expurged by presenting a few simple equations as implicit solutions: utility = requirements = demand. The level of demand is thus the level of utility, and the level of utility is the level of need satisfaction. This makes it clear that the naïve economic conception that utility comparisons are not possible is erroneous or at least is not convergent with the implications of economic theory and economic practice. Because, these equations present a factual solution of the problem and indicate value judgments (of the economic theorists) which could turn out to be quite different. Little argues

that in social practice interpersonal comparisons are made, ergo, they can be made<sup>50</sup>. Interpersonal comparisons are implicit in economic theory, therefore they must be made explicit as McNamara does when he reminds us that a rise in the gross national product is a measure of the prosperity of the "haves"<sup>51</sup>. Because, the primitive equation "higher gross national product = more utility" is, to say the least, discriminatory vis-a-vis different social income groups; interpersonal comparisons are in fact carried out and implicitly weighted with demand, i.e. mainly with income; for economic theory and the economic policy it serves as a foundation that a rich man is more important than a poor man, a man is more important than a woman.

Another problem which arises in the above-mentioned primitive equation is the frequently occurring proportionality between nominal income increase and real income loss, rising labour intensity and early invalidity and an unchanging real income, etc. So it is, at the least, problematic to state that the discussion in economic science on utility and need is over, because this discussion was actually not closed at the end of the last century after so much fuss had been made about it, but is still implicitly continuing. And it is just as problematic to confine the discussion of utility to the instrumental areas, income and costs. Within the context of the initial problem categories set up by the classicists, the functionality of labour and income and market for need satisfaction should at least be examined and the question of interpersonal comparisons explicitly solved in order to check the implicit equations, i.e. the working assumptions of economic theory, which can certainly be correct and significant.

Despite the almost direct expulsion of the needs concept and the utility concept from the economic theory of the capitalist industrialized states, utility considerations naturally play a role in certain sub-sectors of the economy, particularly in those fields which are directly subject to government economic policy or where charitable organizations predominate. Harrod clearly stated that "unless economists were prepared to make interpersonal comparisons of utility they would have very little to contribute to economic policy"<sup>52</sup>.

So-called welfare economics, too, started off from the economic/individual utility function: participants in the economy get private benefit from private goods; the price mechanism of perfect competition guarantees the optimal distribution of these goods within the framework of the existing preference structure of the consumers. A whole series of assumptions have to be made if this thesis is to be accepted, apart from the fundamental arguments against an individualistic utility function given in the previous chapters<sup>53</sup>:

- (1) the income structure leans towards an optimum;
- (2) consumer sovereignty is to be found because of total market transparency and the completeness of information;
- (3) external effects are ruled out;
- (4) market access for sellers cannot be disturbed through the creation of monopolies;

- (5) there is no great risk too heavy to be borne by one single participant in the economy;
- (6) there are no over-long maturity periods for utility, i.e. there is an infinitely fast reaction speed.

In the majority of such and similar assumptions not described in greater detail here, there is clear evidence of a cumulative experience of the partial failure of the market and the price mechanism; in reality, the traditional allocation systems, income, labour and market, do not automatically optimize a welfare-economic goal function<sup>54</sup>. This experience is tending to become more and more widespread in the capitalist industrialized countries; the importance of other allocation systems grows correspondingly. The individualistic utility concept and the economic theory related to it are based on such and similar assumptions. If the number of constraining assumptions grows larger, the validity and utility of the utility function in economic theory declines until it becomes useless. The demand on the market may be taken as an indicator that there is some utility but this does not mean that all other economic and social behaviour not related to the market is of no use and does not satisfy needs.

A utility concept with highly restricted validity is inherent in the usual welfare criteria established by Pareto, Kaldor-Hicks and Arrow<sup>55</sup>. Pareto's criterion runs as follows: if, after a change in the social situation, even one single individual receives more than he had before without worsening the position of a single other individual, then there has been a rise in prosperity. On these terms it would be of no consequence whether it is a millionaire or a beggar who gets DM 100 more - the trade unions in the Federal Republic of Germany certainly have another utility concept. According to Kaldor-Hicks, there is social improvement if a change in the situation makes it possible for the beneficiary of this change to more than compensate the victim. Whether he does so or not in actual fact is another question which only has an indirect relation to welfare economics. The Arrow axiom states that one situation is better than another when everyone is better off. Apart from the empirical difficulties of measuring this, it would also imply for instance that a more sophisticated exploitation of Country A could improve the situation of all inhabitants in Country B. This could also be termed social improvement in Arrow's sense of the term. Mishan's considerations with which, as he said, he wished to end the discussion on utility, may also be ascribed to an individualistic utility concept; for him the distribution aspect is particularly decisive<sup>56</sup>.

Mention has already been made of the scientific/theoretical difficulties of an individual utility concept implied in these criteria and also of the arguments from sociology, psychology and psychoanalytical practice; there is no need to present them in detail once again. These arguments which in part are as old as ignorantism and the absence of utility in economics have long indicated the social genesis of needs and preferences and thus at least relativized the thesis of consumer sovereignty. The historical development in the industrialized nations

and the factual and logical change in the image of man in the human sciences have put universalistic and individualistic needs and utility concepts in their proper place. Logic of the situation, complementarity of expectations, explanation of the psyche and the gain motive without recourse to the psyche - all this demonstrates the relativity of an individualism which was present in the early days of economic theory and which the latter has left unchanged since then. In order to substantiate this, it is not at all necessary to go as far back as the cultural/anthropological studies of the first half of the century, even though these documents would, more than all others, contradict the general validity of an individualistic/economistic basic conception of need and utility. It is true that a reverse conclusion, similar to a mirror reflection, cannot be drawn: a perfect Riesmann-like outside control of man and the thesis of the psychoanalyst, Wilhelm Reich, that character is nothing more than a petrified social process, certainly overstate detectable historical/social tendencies which can claim validity but only a partial one<sup>57</sup>. This has already been discussed - not only the functional conditions for the survival of societies play a role, but - and this is proved by the repeated return of the repressed through all possible kinds of devious paths the functional prerequisites for the survival of the individual too. The equivalent of what in the middle class groups of Freud's patients was repressed sexuality or, in more general terms, the demands of the pleasure principle, is hunger and a sense of injustice in the lower classes, if we keep to Freud's terminology. And to the extent that this does not even have to be concealed any more as relative international impoverishment is tending to spread and is irrelevant for welfare economics because of the rise in the gross national product, to this extent the compulsion and the violence which are perpetuated by societies and production patterns, become clearly visible. Here, any mention of consumer sovereignty and individual utility which each person could maximize, would not only make a mockery of the human sciences but also of the facts.

There are even economic arguments which do not favour an individualistic utility concept and which very precisely define and limit the range of validity of a number of assumptions which underlie the theory of private goods and, as a consequence, the theory of a pure market economy. The underlying problems are, however, mostly objectified. One came across goods and services which, in comparison with other goods and services, had certain properties which no longer permitted them to be conclusively characterized as private goods with a private and exclusive utility allocation<sup>58</sup>. The divisibility of utility became questionable. The external effects of the consumption of alcohol and the non-consumption of smallpox vaccinations are apt examples, so are the external effects of production. Pigou had already noticed the divergence between the private and the social marginal net product and also the occasional non-convergence between the micro-economic and the macro-economic effects of the same economic action<sup>59</sup>. This again is another indication of the asymmetrical relations between the individual and society which were already diagnosed in the peripheral region between sociology and psychology. According to Altvater, external effects of this nature are only

possible if society is split into different interest categories: if there is homogeneity of interests, he believes that no external effects can, in principle, occur as there is integral planning of production, consumption, distribution and exchange and negative external effects are successively eliminated. There will be no explicit discussion of the problems arising from these external effects which, in the opinion of some, have assumed such a quality and quantity that they can no longer be simply marginalized on the periphery of economic theory, even though the problems of environmental pollution, for instance, have already begun to titillate the noses of the middle classes and are thus taken as the starting point of romanticized social economics<sup>60</sup>.

Fragments of this discussion formed the starting point for the distinction between public and private goods, i.e. for a classification of goods and services according to their utility dispersion<sup>61</sup>. Musgrave attributes two characteristics to public goods: "non-rivalry in consumption" and "non-application of the exclusion principle". Non-rivalry in consumption is to be found when two individuals can benefit jointly from a good although only one pays for it; for example, if a big landowner builds a road which is used by others too. Non-application of the exclusion principle means that it is technically difficult to exclude someone from making use of this road, in the case of pedestrians, for example. According to Musgrave, the second case does not necessarily occur in connection with the first case. The discussion of these terms has, in the meanwhile, concentrated on the term "consumption externalities". "This means the property of a good where utility or disutility are simultaneously incorporated in the utility functions of several individuals or enterprises"<sup>62</sup>.

#### **1.4. The State as Optimizer of Utility?**

The discussion on public and private goods is the prelude to the discussion of the relationship between the state and the market. The differentiation between private and public goods stands at the very beginning of the theories on state intervention of bourgeois and Marxist origin. According to Musgrave, the provision of public goods, i.e. the correction of market failure, is the focal point of state activities<sup>63</sup>. For him the main attribute of both private and public goods is individual use, in other words, the provision of these goods satisfies private and individual needs. But, because of consumption externalities, a contradiction can arise between individual needs and general interests or collective needs - however these may be conceived. This contradiction, this asymmetry, not only occurs when the negative effects of the consumption externalities have crossed a qualitatively tolerable threshold, but also when the fulfilment of certain needs is a functional prerequisite for the efficient supply of private goods through the

market. This does not have to be an integral part of individual consumption preferences, it can even be directly contrary to them. In this sense, collective needs are not the aggregate of individual needs.

The Musgrave notion of merit goods includes such intervention by the state in consumer preferences<sup>64</sup>. The examples of merit goods mostly given are alcohol taxes and housing subsidies. Underlying this view there is the belief that certain groups of persons can take decisions on and judge preferences better than others. The reason for this may be the variations in the distribution of information and skills in society. This will be ignored here even though it inherently contains the important historical perspective that general consumer sovereignty which has been pre-supposed by economic theory for a long time can only exist if there is social, and that means also intellectual, equality. Musgrave differentiates between an individualistic and an organic view, between utilitarian theory of state and the active function of the political leadership, and he decides in favour of the individualistic view but feels that it is "futile to debate which of the two interpretations is the correct one"<sup>65</sup>. But, if this were true, there would be no means of deciding whether rules should be set up for state intervention or, on the contrary, for the acceptance of the market principle, whether the budget or the market should be the guiding factor in economic or social decisions.

The differentiation between private, public and merit goods is one attempt among others to establish regularities or to set up rules for state intervention. Obviously, there are marginal and mixed forms between these two types of goods, as there is no straight line dividing individual and collective needs. Therefore, because the attributes of goods tend to be established in classifying terms, the rules for state intervention also tend to be rough and ready rules. They may be listed as follows: state intervention is appropriate when (1) there is a divergence between private and social costs or benefits, when (2) the risks in the provision of a good or service are very high because of a long maturing period, for instance, when (3) a cost depression brought about by a state monopoly promises the best supplies, when (4) there is a public interest in changing the preferences of the members of society, when (5) there are indivisibilities in the utility of a good, when (6) external effects which are difficult to localize and eradicate, occur<sup>66</sup>. Many such conditional sentences could be formulated. These rules for state intervention show a clear resemblance to the criteria for an infrastructural measure which Strohler describes: (1) non-validity of the exclusion principle, (2) existence of economies of scale, (3) deficits, (4) deficiencies in consumer sovereignty, (5) deficiencies in individual foresight and/or long life-span, (6) pronounced external effects, (7) structural interdependence within the sector, (8) central planning and/or management, (9) large volume and high risk of investments, (10) general input ('essential'), (11) significant share of overhead costs<sup>67</sup>.

These eleven criteria set up by Strohler exemplify a mixture of description and analysis. They have obviously not been logically derived from a general principle. This list could possibly be

traced back to one single criterion such as the contradiction between private and public interests. And there is certainly some truth in Altvater's remark that the criterion of external effects and that of the essential input for forward linkages is important for the infrastructure sectors<sup>68</sup>. But, in the world-wide history of the relationships between the market and the state, state interventions have not always necessarily adhered to such rules even though most authors have drawn up the same or similar lists of state functions. Altvater mentions four areas: infrastructure, law, conflict management and capital expansion on the world market<sup>69</sup>. Strohler mentions: traffic, energy, training, research, health, water management and hydrology, defence, jurisprudence, police, administration, housing<sup>70</sup>. In the "class analysis project" priority is given to the creation of general production conditions and the law and order function of the state<sup>71</sup>. Mandel makes a distinction between the repressive, integrative and technical functions of the state<sup>72</sup>.

Many more examples at different levels of abstraction could be given: the education function, as the manpower has to be qualified to a certain extent; public health, so that employers and employees can exploit and make full use of their private property and also of their working capabilities as long as possible; science, as the development of the productive forces and the means of production requires research. But, it does indeed seem to be extremely difficult to find a common denominator for state functions and for the historically developed differences in the state functions in the individual capitalist industrialized nations. It is true that certain goods and services are provided with greater probability by the state than others, but there is no automaticity in this respect. For instance, any attempt to make road construction a state function *sui generis*, on the basis of the quality of the good, is problematic. Even if externalities which could destroy the prices generally exist, there are still historical phases of nationalization and de-nationalization. For example, in some developing countries, which may be characterized as mixed economies much more than the European industrialized states, there is private road construction. There is no imperative necessity to shift these activities to the state. Thus, in the United States public health is mostly organized privately, in Japan it is education and in the last century it was the railways. These differences cannot be explained through the quality of the good. Other factors have to be found<sup>73</sup>.

Given the Musgrave thesis of the non-determinability of logical priority for state or market-economy intervention, and because of the highly stochastic process of state functions in the history of state interventionism, it may be assumed that the elaboration of such rules gives as few results as an attempt at *ex post* justification of factual state intervention wherever it may occur. The relationship between state and market seems to reflect power relations rather than schematically elaborated rules, and these power relations are quite stable in the worldwide development process.

It is not only a matter of semantic interest that the term "needs" within this context is used mostly in connection with state activity. The state satisfies needs - and not only social needs - which the market does not satisfy. In this sense state activity seems, by definition, to be directly need-oriented; private activity on the market only has a more or less accidental connection with need satisfaction and this too is mostly indirect.

The Trotskyist, Mandel, commences in the same way as bourgeois economists. He too differentiates and identifies goods and services to which the Communist principle of distribution "to each one according to his needs" can mainly be applied, and which therefore have to be supplied by the public sector. According to Mandel, these are goods and services (1) which are highly homogenous, (2) where demand has become inelastic, and (3) which cannot serve as substitute goods and substitute services for goods and services which are still being offered on the market. In other words, society socializes those coverage costs whose socialization does not involve any noteworthy cost increases. In Mandel's words this is "the economic law which rules the slow decrease of a capitalist commodity exchanging economy"<sup>74</sup>. Such theoretical classification of goods which substantiates state action or justifies market failure - these are two sides of the same coin - often goes hand in hand with historical references to the expansion of state activity in the market economies and the attempts to explain a division of labour between the market and the state. The "night watchman role" of the state which the classical liberal economists thought they had diagnosed was only a puppet argument. In contrast to this, Wagner's law of the growing share of the state in the national product was derived from empiricism<sup>75</sup>. Thus, in the course of this century, the state's share in the national product in Germany rose from 15 % to more than 40%<sup>76</sup>. The reasons for growing state activity given by Wagner were: internal and external insecurity, growing national and international division of labour, increasing concentration of population. He enumerated the following areas for state activity: education, health, social welfare, traffic. This is similar to the list set up by Adam Smith which contained the following state functions: defense, jurisprudence, public institutions to facilitate trade, education and training<sup>77</sup>. Certain common characteristics may be attributed to these historical fields for state intervention in the market. Classification of goods and a reference to historical areas of action generally go hand in hand. Timm tried to explain state activity by saying that it deals with "(a) superior goods with high income elasticity and that (b) in the first phase of development the articulation of needs is at first slowed down through various lags, but that later, in a second phase, it is all the more pronounced"<sup>78</sup>. Underlying this argument is the conception of a natural lag between the satisfaction of primary and secondary needs and a system-inherent lag between the beneficiaries of the market economy and the proletarianized part of the population. Timm therefore tries to explain the factually identifiable state functions and their factually substantiated expansion by pointing to the power of different social classes. But this theoretical approach makes it difficult to understand why health facilities in the Federal

Republic of Germany differ so much from health care in Sweden, and why the railways are state-run in some countries and privately organized in others.

Another attempt to explain growing state activity is summarized in the term "staircase effect"; government expenditure grows from crisis to crisis without ever returning to the initial position<sup>79</sup>. This is the outcome partly of the cumulative necessity of the state to compensate the social and economic effects of crises and partly of the relative inflexibility of government spending commitments which makes it difficult to introduce later curtailments in public budgets once they have been raised.

These historical/social attempts to explain growing government activity in the contemporary industrialized nations are contrasted with Marxist theories of state which naturally commence with the same or at least similar state functions to those mentioned by Altvater: establishment and guarantee of a legal status, creation of material conditions for production, conflict management and securing of the world market<sup>80</sup>. But, in Altvater's eyes the state is more in the nature of a stop-gap; if the conditions for the exploitation of capital are favourable, the state has fewer functions, if they are unfavourable, it has more. Nationalization and denationalization alternate even if a decline in the profits and the rising level of the productive forces make it necessary to generally raise the level of government activity. But the state always remains an organ used for the rule of capital over the working class; this is the general thesis of a large number of Marxist theories of state<sup>81</sup>.

The safeguard and reproduction of the social structure or, in other words, the basic production conditions, are therefore the main tasks of the state. Given the growing difficulty of exploiting capital and the tendency to extend the class struggle, the state becomes the direct instrument of capital investment and the gendarme of the class struggle. According to Mandel, since the beginning of the imperialist era the state has had to

- (1) secure foreign investment facilities for its surplus capital through its arms and colonial policy, i.e. safeguard the possibility of long-term capital export;
- (2) secure the continuity of the political rule of the bourgeoisie;
- (3) secure the use of a part of the capital which would otherwise lie idle by means of foreign trade, military expenditure, subsidies, etc. and reduce economic crises;
- (4) de-fuse explosive social crises by implementing the ideology of the social state with the aid of a manipulation machinery<sup>82</sup>.

Thus, there is no doubt that the state is the advocate of the interests of the ruling class; it is controlled by capital; short-term bank loans, sudden large-scale movements of capital, the recruitment of public officials according to ideological and political criteria, are all indications of this. Within this framework a state planning which is oriented to the needs of all members

of society and to joint collective needs seems to be almost impossible. According to Mandel, it would only be the fiction of a social state illusion.

A common and general collective need which, in Musgrave's consideration, is the legitimation for the activities of the state, is not present in such rigid theories of state. Marxist authors, too, are aware of this necessity for legitimation of the state and state activities through the reference to general interest in need satisfaction on behalf of public welfare; the state is not merely an instrument of the ruling class, this conception is described as a highly curtailed definition of state by Flatow and Huisken, for instance<sup>83</sup> The point of departure for Flatow's and Huisken's reflections on the theory of state is the so-called trinitarian formula which states that the wealth generated can be divided into profit or interest, ground rent and wages, and thus lends itself to comparison. Marxist authors feel that this formula leads to a mystification of the capitalist production process, as the essential difference between the value of labour and its value-adding capacity is not registered, just to mention one example of this mystification. These factors have the apparent advantage that, despite differences in economic quality, they are quantitatively comparable. Profit/interest, ground rent, and wages are also called revenue sources. At this level of mystification the workers, capitalists and landowners all apparently have common interests: preservation of the revenue source, interest in the highest possible revenue, interest in the continuous flow of revenue. Subjectively seen, the interest of all three social groups is directed towards the optimal utilization of the revenue source concerned; objectively seen, the common interest is directed towards the preservation of the basic conditions for such utilization, and this is done on the basis of private property. "As private owners, as the advocates of the general interest in maintaining the prerequisites of private ownership - of whichever material substance concerned (i.e. labour, land or capital, D.S.) - the private owners superficially constitute the illusion of equality, freedom and independence which contains the POSSIBILITY of the development of the bourgeois state"<sup>84</sup>. The NECESSITY for the genesis of the state must now be examined in more detail. In the eyes of the workers, capitalists and landowners their interests are their own respective interests. A maximum utilization of each revenue source would, however, lead to a sub-optimal overall utilization. For instance, the interest in earning the highest possible wage and the interest in a maximum exploitation of labour conflicts with the interest in the preservation of labour. In this sense the state is a utility optimizer with private property as the basis. The state is thus the administrator of common interests which are the prerequisite for the gratification of individual interests. The state must therefore occasionally introduce measures for which "it will be upbraided by all classes and fractions"<sup>85</sup>.

What is interesting in these new Marxist theories of state is at first the very pronounced reference to the elusory mutuality of needs and interests on which state activity is based and to which state activity is linked. This elusively supposed mutuality of interests can, for

instance, take the form of an employment policy which tries to convince the workers that it is important to work; whether the worker then has sufficient time to lead a satisfying life is another question. This leads us back to the asymmetry of the relations between the individual and society and to the qualitative differentiation between collective and individual needs. In the Marxist theories of state however, this differentiation is not veiled or glossed over; it is clearly stated that the interests of the workers and the capitalists diverge, that a conciliation between them is not possible, either in factual or rhetorical terms, and that the issue at stake is primarily a question of power.

In the more recent Marxist theories of state it is interesting to note that the state is not forced to produce surplus value because of a quasi-spontaneous division of labour with the market mechanism, but that within the framework of the capitalist production process the state creates the pre-conditions for this production as they cannot be created by individual capital due to particular individual interests. In this sense, there is, of necessity, a qualitative difference between state and private economic activity and planning. In the capitalist production process whose goal function is oriented towards maximization of values-in-exchange, a number of values-in-use result spontaneously as such from the anarchy in production, but in crisis and catastrophe situations where the state has to function as crisis manager, there is a shortage of certain values-in-use which the state then has to produce or subsidize in order to bring about an optimal overall exploitation of capital. This means that in the capitalist permanent crisis the state is the producer of values-in-use and private capital the producer of values-in-exchange - to put it crassly. There is a qualitative difference in state and private economic planning. Economic planning models which obscure this qualitative difference are little suited for a number of tasks.

Given the hypothesis of increasing state interventionism which can be extrapolated from history, the state could theoretically become the value-in-use planner par excellence. In a fictive experiment where, inter alia, technical progress is set aside, private property-based production of commodities would automatically die out; from this one could derive the vision of a non-capitalist welfare state which would elevate the welfare of all persons to a goal function in the form of a basket of values-in-use and a modelled way of life. With this type of overall social planning it would be possible to alleviate or prevent the - at times - catastrophic social consequences of economic crises. This is not pure Utopia. Late capitalism is not a perfectly and totally organized society; it is, as Mandel put it, only a hybrid combination of organization and anarchy<sup>86</sup>. Its government machinery is a contradictory mixture of partiality and irrationality, its planning is a mixture of input planning and output planning, and its goal functions swing to and fro between maximum exploitation of capital and quality of life in conformity with the criterion of the satisfaction of rational human needs. Heinrich expertly and very rightly argues that it is the lack of rationality in the public sector which

permits the successful assertion of private interests and organized sub-interests<sup>87</sup>. Some of the compliant advocates of the theory of state-monopolistic capitalism elevate this idea to a programme, for instance, when Boccara says of France that some anti-monopolistic partisans in the planning bureaucracy could gradually start fulfilling the interests and needs of a broad social strata<sup>88</sup>. This would be a step towards a reduction of the private sector's monopoly of organization and interpretation of needs.

The third interesting point of some recent Marxist theories of state is that, even within the framework of an otherwise rigid theory, there are possibilities of influencing late capitalism through state activity. In crass terms this is the thesis of the shift of the class struggle to the state, similar to what Sonntag diagnosed in under-developed capitalism<sup>89</sup>. But, even late capitalism is not a perfect instrument of domination which the ruling class can wield over the workers. It contains inherent mines which can make it explode, says Marx<sup>90</sup>, even though the more individualistic anti-monopolistic partisans in the planning bureaucracy on whom Boccara relies, hardly have the necessary explosive power. This is an indication of the precarious balance between the state and the market, of a power struggle where every inch of ground gained is crucial. The boundary between state and market is as logical as that between the German Democratic Republic and the Federal Republic of Germany. Reflections on the theory of state cannot abstract from the international development of the productive forces and from the world market<sup>91</sup>. It is at this international level that growing conflicts between the state and capital are becoming visible, conflicts which up to now could be concealed behind alleged common national interests. Firstly, international capital is tightening its control on single nations by manipulating various state structures, e.g. by creating puppet states. Secondly, the power of the state especially declines when foreign capital has a strong influence or when there is dependence on the exterior with respect to a strategically important primary commodity which cannot be substituted in the short term. If the old state functions are to be fulfilled, new state structures will be required at international level. However, the internationalization of production and the internationalization of state activity seem at present to be a phase-displaced process to the detriment of the latter. If this is so, then, according to Picciotto, mobilization and release of labour is possible because of the flexibility of the investment decisions of capital, i.e. its international mobility. Because of increased international migration and capital's search for cheap labour, internal colonies of unemployment and pauperism will be created in the industrialized nations, too. Soon there will be no difference between the semi-urbanized "lumpen proletariat" in the developing countries and these growing internal colonies in the metropolitan nations. Space would lose its significance as a factor governing order in world policy.

The internationalization of the problem now presents the real possibility of a functional fall in state intervention which can be characterized by a rising share of the state in the national

product and at the same time, a growing irrelevance of the state in global control and crisis management at national level. Seen in this light, the thesis of greater need satisfaction as a result of more state activity seems to be doubtful. In the course of capitalist development, there has been no automatic implementation of need-oriented planning from increased state activity, even though state planning can serve as an example of planning oriented to needs.

## 1.5. Résumé

The discussion of the psychologistic-individualistic starting point of the needs problem, the doubts cast on it by certain trains of thought which point to a socio-economic origin of needs, has shaken the naïve assumption of consumer sovereignty in traditional economic theory. Consumer sovereignty as a concept was already eliminated in economic policy considerations, particularly in the theories of optimal state expenditure. In these theories the state plays a crucial and important role, not only for the satisfaction of collective needs, but also of individual needs if they are not fulfilled by the market for any reason whatsoever. Even if it is not conclusive whether collective needs are the aggregate of the individual needs of the members of society or not, it is seen that the state, and the state alone, can and does focus on need-oriented planning. But the role of the state is ambivalent; on the one hand, there is apparently scope for such planning or for approaches to such planning, on the other hand, the state is dependent on the private investment decisions of private-economy transnational enterprises which do not consider the optimization or maximization of an overall-social welfare function to be their goal. Within the capitalist context, the possibility for the state to carry out need-oriented planning certainly exists, but there is no necessity such as that constituting the basis of legitimation in the socialist states.

## 2. The Discussion in the East or The Rediscovered Basic Law of Socialism

By the end of the 'sixties at the latest, the needs concept became a central politico-economic category in the Eastern European countries. This needs concept tries to set itself apart from the individualistic psychological needs concept found in most text books on economic theory and psychology in the capitalist countries<sup>1</sup>. The socialist needs concept is the main component of the first basic law of socialism or the first basic economic law.

## 2.1. The Basic Economic Law

A basic economic law denotes the basic law of movement of the method of production in question. Marx had analyzed the need for utilization of capital expressed in the profit motive of the ruling classes as the law of movement of capitalist society. Engels explained it as "sheer greed ... , the wealth and wealth again and wealth once again, not of society but of this single trifling individual"<sup>2</sup>. In capitalist production relations production by the many served the interests of the few. Engels contrasts this mentally with the vision of "production according to need"<sup>3</sup>, that is, "a socially planned production based on the needs of the total population as well as the needs of each individual takes the place of the social production anarchy"<sup>4</sup>. The basis for the realization of this vision is the reorganization of the production relations and thus the orientation of production to something which according to Lenin can only be realized in socialism, namely, "to secure the MAXIMUM welfare and free ALLROUND development of ALL members of society"<sup>5</sup>. In a recent formulation of the CPSU this basic law of socialism refers to the "maximum fulfilment of material and cultural needs of the people"<sup>6</sup>. This basic law of socialism is "...

- the law which is effective in both phases of communist formation (Socialism – Communism; D.S.);
- the law which reflects the basic production relation as a relationship of collective cooperation and reciprocal aid of associated producers;
- the law which in both phases of formation expresses a uniform, general production goal for all producers"<sup>7</sup>.

This terse and precise basic law of socialism clearly implies important consequences for the economic and social planning of production and consumption. Directions for the implementation of this law were issued in the Five-Year Plans of the Eastern European countries. This corresponds especially to the resolutions of the 22nd and 24th Party Congresses of the CPSU on the increase in individual and collective consumption, and the resolutions of the 8th SED Party Congress of the German Democratic Republic with regard to the definition of indicators for the end product of socialist economy and with regard to the implementation of the "main task"<sup>8</sup>. It may be mentioned in advance that such an end product consists of various commodities and values-in-use which, according to Marx, are characterized by their capacity to satisfy human needs<sup>9</sup>. The basic law of socialism therefore implies that which sometimes is called the Marxist heritage; it implies an orientation to needs in planning, production and research. A corresponding analysis of needs in addition to - or better still, along with - the formulation of a goal function of socialist economic action was apparently neglected till now in socialist economic theory in favour of the instrumental principle of minimization of work<sup>10</sup>. So, why was this basic law or this main task apparently

neglected for so long before it once again became the focal point of economic and philosophic deliberations in socialist planned economies?

Political/administrative resolutions of party congresses always reflect the actual status of the productive forces and the production relations. The apparent divergence between enlarged reproduction or accumulation on one hand and consumption on the other - which are also shown separately in the statistics of the national product of the Soviet Union - could only develop during the period between the two wars. Apparently it does not correspond any more to the maturity level of socialism; this maturity level of socialism is also to be seen in the fact that the economic output falls due to the gradual decline in the growth rate of labour productivity and especially due to the gradual decline in the growth rate of agricultural development<sup>11</sup>. Therefore, the problem of the functional link between accumulation and consumption, between production (structure) and needs, that is, the question of the basic economic law, becomes the focal point of all deliberations<sup>12</sup>. The maturity of socialism now seems to make it possible to direct the social reproduction process consistently towards the realization of the first basic law of socialism; by no means is this a sign of increasing revisionism or of growing bourgeois tendencies or the "recognition of some form of bourgeois consumption ideology"<sup>13</sup>. The issue at stake is neither the supposed bourgeois and revisionist "senseless consumption excesses"<sup>14</sup> nor the "ultra-leftist", "Maoist and Neotrotzkyite" idealization of poverty<sup>15</sup> but the "requirement-based structure of production and the product mix"<sup>16</sup>.

## **2.2. The Communist Principle of Distribution**

This maturity of socialism also allows the gradual implementation of the principle of distribution "to each one according to his needs", while distribution according to quality and quantity of the work done was the main pattern of distribution in the first phase of the communist society<sup>17</sup>. Whether this is distribution in the form of distribution in money or kind<sup>18</sup>, or in the form of collective or individual consumption<sup>19</sup> seems to be a secondary question of organization rather than of principle. "To each one according to his needs", that is, work as the main basis of distribution is slowly receding.

Of course, there are embryonic implementation forms of this principle at present too, for instance, persons without work were and are entitled to welfare. This can be seen clearly in the case of public health: "The most highly developed form of this stage of distribution in socialism is to be found in the health sector. The shortages arising here are not of an economic nature. It is the basic needs which arise here and not individual performance alone

which are crucial for need satisfaction. A certain proportion of the total needs of the population in this need complex is satisfied with the help of individual means. The limits set to social wealth do not yet permit the satisfaction of all needs at the highest level".<sup>20</sup> This example indicates the connection between the communist principle of distribution and the stage of development of society.

The crucial question at the present development stage of the socialist societies is: which needs of whom? The purpose of implementing the communist principle of distribution is to gradually eliminate "the inequalities between various social groups and classes"<sup>21</sup> which still exist even in socialism. After achieving formal equality of the workers through equality in ownership of the means of production, equality in consumption is now to be achieved. Equality, not maximization, of individual well-being is the aim of the communist principle of distribution<sup>22</sup>. This equality would contradict a partial communism à la Sherman in which some 80 - 90 % of all goods and services would be free for consumption by all, but the rest would be produced under capitalist conditions of production<sup>23</sup>. At present, a differentiation should still be made between the "principle of distribution according to social exigencies and certain needs, and distribution according to needs (for all members of the society and for all need complexes)"<sup>24</sup>. In perspective, however, it is a question of the position which Lenin, opposing Plechanow, outlines as follows: "'The planned organization of the social production process for the satisfaction of the needs both of the whole society and its individual members' (Lenin quotes Plechanow; D.S.). This is not enough. The trusts could also set up such an organization. It would be more accurate to say 'at the expense of the WHOLE society' (this would include the planned nature of the procedure and would also point to those who set the direction for this planned procedure) and not only for the satisfaction of the needs of the members but in order to secure the MAXIMUM welfare and the free ALLROUND development of ALL members of society"<sup>25</sup>.

Lenin's counter-definition clearly points out how problematic it is to assume that a certain maturity level of socialism is a prerequisite for the implementation of the basic economic law and that means, for a need-oriented proportionality of accumulation and consumption. An ex post rationalization of Soviet development strategy attempted with this thesis and with heavy industry as the basis, evades this crucial question. It is important to develop a heavy industry, but it is far more important to decide which branches of heavy industry, in conformity with Lenin's goal. In this lies the root of the proportionality problem. Lenin's definition "MAXIMUM welfare of ALL" is even more decisive. Notkin shows how such a proportionality can best be achieved in the Soviet Union by means of econometric calculations: (1) securing the quickest growth rate possible in agriculture, (2) labour-intensive production, (3) rapid development of the chemical industry to supply agriculture, (4) production of consumer goods not only in light industry but also, for example, through mass

production of automobiles in heavy industry, (5) increase the supply of equipment to agriculture and the consumer goods branches<sup>26</sup>. It is doubtful whether this line of development leads in general to proportionality. After all, China, Cuba and North Vietnam have shown that a comparable development strategy which from the very beginning takes account of the proportionality of accumulation and consumption under the needs aspect of the basic law and of the communist pattern of distribution, is not only possible after a certain level of abundance has been reached<sup>27</sup>.

In the Eastern European countries two aspects are important: firstly, growing equality which, in the Soviet Union, is indicated by the development of the ratio of minimum wage to average wage from 1:2.9 (1958) through 1:2.4 (1965) up to 1:2.1 (1972)<sup>28</sup>. The other aspect is the relationship between the communist and the socialist principle of distribution or between the need-oriented and the work-oriented principle of distribution; for the Soviet Union a ratio of 25:75 is given for the year 1971<sup>29</sup>. Such facts and figures can naturally only incompletely reflect the implementation of the communist principle of distribution as they obliterate the basic difference between the principle of distribution and the organizational pattern of distribution.

A discussion of the organizational pattern of consumption mostly centres on whether it is individually organized or collectively organized consumption<sup>30</sup>. In this sense, Marx speaks of a "community satisfaction of needs ... (through) ... schools, health facilities, etc. From the beginning this part grows much faster in comparison to present society"<sup>31</sup>. The growth of this collective consumption is not necessarily linked to a stronger implementation of the communist principle of distribution. Because, in general, it is only a question of different ways of financing consumption, which often go hand in hand with the tendency to a more rational supra-family organizational pattern of need satisfaction such as canteens or laundries. Certain need complexes, more than others, lend themselves readily to social organization and thus also to non-individual financing. Bourgeois economists vest these need complexes with the attributes: moral hazard, externalities, indivisibilities, etc.<sup>32</sup>. The developments in the services sector are especially affected<sup>33</sup>. It is a question of socialization of the costs of current consumption for the fulfilment of individual and collective needs to be paid for by the whole of society and not only by the employees for the benefit of the employers. It is not necessarily a question of socialized organizational pattern of need satisfaction nor of uniformity of needs. Only in a situation of scarcity - but not of abundance - would a stronger implementation of the communist principle of distribution go along with an increasingly socialized organizational pattern of consumption, provided working hours are reduced by a socialized organization of need satisfaction.

### 2.3. Needs Theory

This is the basis on which the politico-economic category, need, was applied in the beginning of the 'seventies in the Eastern European socialist countries. One of the specified conditions demanded is a "new approach to planning", especially to long-term planning<sup>34</sup>. Needs research, analysis of requirements, normative-building, system of national plan indicators, rational consumption budget, elaboration of a goal function according to the basic law - these are the actual focal points and areas of priority. Generally speaking, the distribution of the end product, i.e. the allocation of values-in-use, should be planned<sup>35</sup>. "Value-in-use planning"<sup>36</sup>, this is the appropriate term; value-in-use planning as against value-in-exchange planning on the basis, demanded by Engels, of the comparison of the utilities of various commodities, i.e. their qualification<sup>37</sup>. This measurement of utilities is a - not only methodological - key problem<sup>38</sup>. It certainly cannot be solved empirically; it requires the theoretical examination of a few basic questions about the relationship between needs and production, about the ranking order of individual needs in this context, etc. Thus, if the needs in the socialist planned economy are taken as the starting point for the steering, planning and functioning of the socialist economy, as politically demanded, theoretical research on needs becomes a leading prerequisite of economic planning<sup>39</sup>. The first and most crucial topic of the theoretical discussion is the relation between needs and production<sup>40</sup>. Tittel summarizes:

- "Firstly: The pattern of production determines the pattern of consumption. The type, volume and structure of consumption depend on production.
- Secondly: Production generates and accelerates needs.
- Thirdly: The final purpose of all production is consumption, the satisfaction of the material and cultural needs of the human being.
- Fourthly: Consumption has an active effect on production"<sup>41</sup>.

Needs are therefore considered as the prerequisites of production and, at the same time, as results of a certain production structure. Needs change along with the change in the productive forces and, at the same time, needs precede such change and even guide it. There is, therefore, a dialectic unity between needs and production<sup>42</sup>. Needs grow and develop together with the productive forces. At the same time, the production relation provides the soil and the space for needs to develop and also influences the patterns of their fulfilment<sup>43</sup>. The fact that needs precede, a rather problematic component of the orthodox theory at first sight, is justified by Lenin's law of "continuously increasing needs". In his article "On the so-called question of markets", he says that the expansion of the production of goods in agriculture leads to this just as the concentration of workers in Russia's towns did before the turn of the century. The active role of needs is derived from Lenin's empirical description<sup>44</sup>. Summarized, "the complicated interweaving of the subjective and the objective, the regular

development and generation of more and more new needs, the historical conditionality of certain needs, the class-orientation and the complex character of needs" are to be seen as the "essential characteristics of the category of needs and need fulfilment in socialism"<sup>45</sup>.

What is a need? Most authors answer this with classifications like: there are such and such needs and need attributes: individual, collective, normal, perspective, productive, consumptive, social, real, ideal, dynamic, static, material, non-material, biological, political/moral, primary, secondary, historic, physical, cultural, traditional, natural, artificial, absolute, utilitarian, rational, irrational and so on<sup>46</sup>. Apart from these attempts at classification, which illuminate the whole spectrum of the discussion on needs, another variant of the definition of need comes to the fore, which separates needs from consumption, demand, requirement, etc.<sup>47</sup>. Therefore, apart from definitions of a classifying nature, it is a matter of negative definitions. Needs are not consumption since consumption creates and reproduces needs, and since the same consumption is not the same fulfilment of needs under different conditions, e.g. weather<sup>48</sup>. Need is not requirement because this is an economic value-oriented category for the fulfilment of a plan, i.e. a short-term or a medium-term plan, while need is a long-term planning criterion and not a category of circulation of goods and of purchasing power, as requirement is<sup>49</sup>. Need is also not equivalent to demand since this expresses the need one can satisfy through payment, it is the articulated volume of purchasing power<sup>50</sup>. In short: "need > requirement  $\cong$  supply > demand"<sup>51</sup> and  $\neq$  consumption.

Within the limits of this delineation a substantive definition gradually emerges, i.e. the definition of Haustein. It is often repeated: "Need is a quantitatively and qualitatively determined level of consumption (volume of consumption in physical terms), which is independent of the current purchasing power level and other temporary economic restrictions and which can be achieved in future periods in keeping with the possible growth of economic resources ('absolute need' of Marx)"<sup>52</sup>. Haustein himself gives a good summary of the need category in the context of further planning categories of economics<sup>53</sup>.

According to this, the level of need satisfaction is seen very clearly in the absolute level of the consumption of material goods and services. It is also seen in the real status of conditions of work and leisure hours<sup>54</sup>. Furthermore, needs are also essentially related to the execution of activities, not merely to the procurement of goods and services.<sup>55</sup>

To take only consumption needs into consideration would mean moving very close to the objective situation of the capitalist way of production which accepts only those needs "which are able to serve the utilization of capital"<sup>56</sup>.

Theoretical Term	Planning Category	Symbol	Contents	Remarks
Absolute need	Marginal normative of consumption	B <sub>A</sub>	A quantitatively and qualitatively determined level of consumption (volumes of consumption in physical terms) which is independent of the current purchasing power level and other temporary economic restrictions and which can be achieved in future periods in keeping with the possible growth of economic resources.	Is also called a total need in political economy (Marx). In the Soviet Union it is the theoretical starting point for the calculation of long-term consumption normatives in planning. These normatives express rational "needs of socially developed human beings" (Marx).
Real need	Long-term need normative	B <sub>L</sub>	The volume of consumption which can be achieved within the period of long-term planning and which more or less approximates the marginal normative of consumption depending on the status already achieved, on available resources and on the urgency of the need in question.	Corresponds to the "real social need" of Marx, i.e. to the "quantity of goods which is demanded with other prices of the goods or with other monetary or living conditions of the buyer" (Marx).
Socially necessary requirement	Planned volume of requirement	B <sub>K</sub>	The amount of consumption targeted in the plan period which results from the analysis of the evolution of intensive and extensive consumption factors, of the planned income development and of the objective elasticity of consumption in this field.	Requirement also consists of the parts of consumption which are not realized through exchange but still occur through the social ladder (e.g. unpaid social consumption). According to Marx, the social need, i.e. the requirement, controls "the principle of demand" (Marx).
Demand - in terms of purchasing power	-	B <sub>N</sub>	The volume of purchasing power which appears in the market or in circulation and which can more or less deviate from the socially necessary requirement.	"The need for goods represented in the market", "Concrete demand in its quantitative determination is certainly elastic and fluctuating" (Marx). In contrast to requirement, demand is a category of the circulation sphere exclusively.
Demand - general	-	B <sub>T</sub>	The sum total of purchase intentions of a particular group of consumers with respect to a particular group of goods which can deviate considerably from the real purchasing power and (or) the real possibilities of providing sufficient goods.	Plays a role in consumer surveys, testing of products, waiting lists for goods in short supply (e.g. applicants for apartments).

Despite this, it has been agreed that the individual needs of consumption play a prominent role as the starting point of planning. Does this mean that bourgeois individualism is gaining new strength? No, for subjective, individual needs are generated by the production relations. They are the result of social education and socialization even if they are always directly related to human beings<sup>57</sup>. Those who pillory the alleged subjectivity of the needs concept expose themselves in this connection as bourgeois ideologists and individualists, because they miscomprehend the context in which needs arise. Needs are the "subjective reflection of objective demand"<sup>58</sup>. But only in a class society, there is an unbridgable disparity between the subjective and the objective, between individual and social interests<sup>59</sup>. In socialism, on the other hand, that is, after a change in the essential production relation, this division does not exist anymore. And this naturally has some implications for the methodical and methodological questions of needs research.

#### **2.4. Needs and Planning of Economy**

In the German Democratic Republic, needs research concentrates on the following problems: value-in-use planning in the narrower sense, elaboration of need complexes, analysis of basic proportionalities of political economy, need hierarchies, growth trends of individual needs, preparation of rational budgets, goal function of economy.

One fundamental aspect of the bulk of research is the elaboration of need complexes. "The individual needs of human beings cannot be directly covered in long-term planning; they need a rational classification and suitable compilation in the form of need complexes, which are characterized by stable and typical features of whole groups of individual needs."<sup>60</sup> Need complexes may generally be characterized by a certain non-substitutability. Only seldom are precise criteria given for the determination and compilation of need complexes actually used in needs research: work, nutrition, clothing, education, culture, health and hygiene, communication, recreation/sport and traffic<sup>61</sup>. In this sense need is also pragmatically defined by a nominal definition arising out of these components whose similarity or whose virtually total agreement with the components of the living conditions drawn up by the U.N. strike the eye.

Such need complexes are, for example, the basis for the verification of fundamental proportions in social reproduction. Knobloch analyzes the "quantitative relations between the product structure of the economic end product as well as the total product of the GDR and the leading needs of consumption", that is, "how the material production of the GDR is distributed between the various needs of society"<sup>62</sup>. There was clear evidence of a discrepancy

between actual rate of increase of labour productivity in the production of material goods and the rate of increase in the services sector - a discrepancy which did not correspond to the political goal of higher collective consumption which should manifest itself as a rise in labour productivity in the services sector. It seems as if certain problems of proportionality, for instance, between necessary product and additional product, between accumulation and consumption, between reserve funds and net product, between individual and social consumption, can now be better formulated than before on the basis of the basic economic law and with the help of such need complexes<sup>63</sup>.

Such need complexes are the starting point for the question of ranking order, sequence and need hierarchies on the one hand, and the determination of growth trends of needs on the other<sup>64</sup>. When deciding the rank or the sequence of needs or the need hierarchy, it is more a question of choosing the actual central issues rather than that of determining a chronological sequence, even if the central problem is: which needs should be fulfilled before the others<sup>65</sup>. An attempt to answer this question is made through various approaches. The examination of the functional interrelationships of individual needs is of utmost importance, that is, the examination of the functional and/or causal link between needs and need complexes or, in other words, the calculation, which need structures have a high degree of probability.<sup>66</sup>

Another method for the analysis of the ranking order of needs is an analysis of consistency, that is, to verify whether the development of need complexes concurs with the given possibilities<sup>67</sup>. The actual development of need satisfaction and its historical development in international comparison with the COMECON countries are also considered as an indicator of this ranking order<sup>68</sup>. A further possibility of determining the sequence of needs is the comparison of the needs of various social strata. From the needs of the classes with a higher income, one can recognize the future needs of the classes which at present still have a lower income, and determine their relative weighting<sup>69</sup>. The actual weighting of the need complexes in the family budget of the lower classes in particular can also be an indicator of the ranking order<sup>70</sup>. The sequence of needs is influenced further to a great extent by those needs "which are considered and felt to be especially important by the working class and the majority of the workers"<sup>71</sup>. Finally, the ranking order and the need hierarchies can be ascertained by an analysis of the saturation curves of needs<sup>72</sup> as well as an analysis of the expenditure by the state, the share in the consumption fund, etc.<sup>73</sup>. Altogether, a confusingly large number of methods for determining the hierarchy of needs is available.

However, what is decisive in theory is the fact that the ranking order of needs is influenced by "...

- the biologically, physiologically and economically conditioned requirements of reproduction;

- the prevailing historical stage of development, the nature of the production relation and the status of the productive forces;
- the prevailing conditions of distribution"<sup>74</sup>

as also by related socio-political, economic, spatial, temporal and material aspects, that is, there is no "timeless urgency of individual needs from the physiological standpoint"<sup>75</sup>. The determination or elaboration of the ranking order of needs is therefore not a mechanical, ahistorical problem. For instance, Marx/Engels have differentiated between basic or physical needs, necessary needs (to which category tobacco, for instance, also belongs) and luxury needs<sup>76</sup>. Skarzhinski differentiates between vital needs for material goods, needs for non-material values, needs for individual, mental, creative work, and the need for creative work and social activity<sup>77</sup>. The basis of all this methodology and all these considerations and methods for determining the rank and sequence of needs is the fact of scarcity. Only by ascertaining the need hierarchies can this scarcity be taken into account when need becomes the key factor of planning. Only under conditions of scarcity - and not abundance - is needs research strategically important for planning.

The question of growth trends of individual needs and of need forecasts is closely connected with the question of sequence of needs<sup>78</sup>. An important factor here is Lenin's statement that needs precede production and do so " ...

- quantitatively (the total quantity of goods and services do not allow the needs of all members of society to be covered fully)
- structurally (urgency of fulfilment, saturation curves, new needs) and
- qualitatively (higher efficiency and functional safety, longer life-span, lower rejection rate of products, satisfaction of a larger number of needs with the same material and the same working hours)"<sup>79</sup>.

Need forecasting reveals a few inherent trends such as the increasing multiplicity and complexity of needs, the tendency to socialize certain spheres of consumption, the increasing importance of leisure hours, a rise in quality requirements, a trend towards increasing interconnection between the basic material factors for production and consumption, the trend towards internationalization of commerce, etc. All this is important and should be examined within the context of need forecasting.

One sphere of needs research which apparently lies at the technical periphery is what one could call value-in-use planning in the narrower sense. Only when the objective of production is need satisfaction and not exploitation of capital can one aim at a consistent improvement of the quality of products. This involves the reduction of running consumption costs, onetime secondary expenses, repairs, indirect consumption costs such as protection of the environment, and, at the same time, a rise in the utility of leisure time<sup>80</sup>. Narrower value-in-use planning in this sense also means stronger feedback between end consumption and

production, for instance, by increasing the responsibility of the respective industrial ministries for end consumer goods in the Soviet Union or by giving greater preference to consumers in the production process<sup>81</sup>.

In methodically oriented needs research two very important spheres are closely connected with each other. They are the problems of setting up a goal function of socialist economic action and the preparation of rational consumption budgets. A number of mathematical formulations were tried out in the problem area of goal function<sup>82</sup>. However, these hardly passed the first stage of formulation as this required a substantive answer to the questions of needs research and, in particular, the basic outlines at least of a welfare theory whose treatment up to now was unsatisfactory. Without this, the formulation of a goal function is not possible. And without the formulation of a goal function, terms such as proportionality, optimum or equilibrium have neither sense nor validity<sup>83</sup>.

Only one thing is certain: that it will be a goal function operating on an ordinal level of measurement; that this goal function will possibly be based on standards of consumption or use, i.e. on the envisaged final distribution of material values; that it is not identical with national income but its first and foremost aim is to express the first basic law of socialism. It seems doubtful to some authors whether there can be a uniform goal criterion or whether several indicators should be used<sup>84</sup>. The search for a goal function of socialist economic action implies a criticism of national income as the alleged goal of socialist production; it does not completely cover the services sector, the possible irrelevance of accumulated wealth for need fulfilment is not considered, the effects of a reduction of working hours and of an increase in leisure time are not included, etc.<sup>85</sup> The search for a goal function of socialist economic action implies a criticism of the use of the total product of society as an indicator of production which would satisfy the basic law. One should rather proceed step by step: "The starting point for planning should, first of all, be the requirement of means of consumption and derived from that the requirement of means of production. The requirement of means of consumption and means of production should not be equated schematically in planning. The final consideration is that of providing the people according to their requirements. Under no circumstances does it mean that one should forego a requirement-based production of production means. On the contrary, requirement-based production of means of consumption includes requirement-based production of production means"<sup>86</sup>. Planning of consumption is, therefore, a strategically important field of planning<sup>87</sup>. "Without production no consumption; but also without consumption no production, as production would have no purpose"<sup>88</sup>.

National income, end product expressed in money terms, consumption funds, etc. - all these are not sufficient criteria, i.e. they are partial goal criteria. They should be augmented by "value-in-use indicators" which give a real indication of the actual effect on need satisfaction of the people (apartments per household, their size and furnishings, number and duration of

holiday trips, hospital beds, number of inhabitants per doctor, etc.)<sup>89</sup>. But this augmentation would have only little effect on the fundamental criticism that all indicators used up to now have been partial<sup>90</sup>. The comparability of heterogeneous values-in-use continues to be an open problem<sup>91</sup>. Consumer goods – like needs – seem to be characterized by mutual substitutability and commensurability; it is doubtful whether their contribution to need satisfaction can be determined meaningfully through the calculation of indifference curves or areas<sup>92</sup>.

What a goal function of socialist economic action is for society as a whole, a rational budget is for the socialist economies. Such budgets were prepared between 1918 and 1927 in the Soviet Union by every trade union and since 1956 again as minimum consumer budgets for various types of families<sup>93</sup>. Since then a group of scientists of the National Committee for Labour and Wages in the Council of Ministers of the USSR has been working on the modelling of consumption; income, actual consumption and rational norms in food consumption are the decisive points here<sup>94</sup>. Manz's<sup>95</sup> circulation network and consumption balances, too, start off from the actual socio-economically differentiated consumption structures and there is a call for an independent consumption balance which is more than a model of individually paid consumption and which includes the stocks of consumer goods in households<sup>96</sup>. In the present context the rational budgets which have been prepared again in the USSR since 1962 and which estimate a rational nutrition by linear programming are especially important<sup>97</sup>. The elaboration of rational consumption budgets - a Soviet planning instrument which was hardly taken over by the German Democratic Republic - is at present considered to be the best method available to make needs the actual starting point for long-term planning<sup>98</sup>. It deals with the elaboration of perspective consumption norms for consumer goods and services and that means for private and collective consumption, too. The basis for the preparation of such budgets is a qualified calculation of requirement by the application of normatives for the end use of goods and services; the elaboration of requirement normatives for the services sector still seems to be problematic. Though there has been an old and broad application in the health sector<sup>99</sup>, it is still based on very rough and ready approximations<sup>100</sup>. It is not only a question of planning consumption but, as explained earlier, it is a matter of modelling a socialist way of life<sup>101</sup>. It would appear particularly important to make such rational budgets for the goods and services sector on a national level uniform with rational family budgets; the socially necessary and possible volume of consumption could be a key factor for the most important problems which result from needs research. The central topics of needs research and of a need-oriented planning converge in this conception of the socially necessary and possible volume of consumption if seen under the aspect of the first basic law of socialism.

But even in the German Democratic Republic needs research is still in the infant stages. A certain stagnation has again crept in since 1974, after a rather intensive phase of

programmatic declarations and pragmatic approaches which were outlined above. This definitely has something to do with the effects of recession in the capitalist industrialized states. Despite this, the crucial factors for a consistent needs research have, in the meantime, acquired a stable foundation; their perfection is now demanded. They must be oriented to the following points which Ehrlich enumerates<sup>102</sup>:

1. More emphasis on long-term periods. This is mainly a task of central planning by the state. The substantive emphasis is on the preparation of the so-called consumption normatives.
2. More intensive research of qualitative factors. This demand especially affects the above-mentioned value-in-use planning in the narrower sense.
3. Acceleration of international cooperation between COMECON member states in this field. The aim of this is to bring about a stronger integration of the COMECON member states and to benefit from the experience which the Soviet Union, for example, has gained in the elaboration of consumption normatives.

These points are useful not only for an economic planning in socialist countries but also for the construction of models of need-oriented planning and evaluation which make the spontaneity of economic decisions in capitalist countries see itself in a mirror on which the starting point of classical economic theory is written: fulfilment of needs as the goal of all economic action.

### **3. The Discussion in the West or Reflections on Social Indicators and (E)Quality of Life**

In the discussion on planning and analysis in the capitalist industrialized countries the needs concept is still hidden under the veil of social indicators. Here too, the point of departure is similar to that in the discussion on needs in the East: criticism of the usual monetary planning and assessment logic. It is a criticism of the use of the gross national product (GNP) as an indicator of social and economic progress. At times, critics say, this criticism seems to swell into a criticism of the production of goods and services; but what it really means is almost always criticism of the production and distribution of certain goods and qualities and criticism of the provision of certain services and their distribution. In no way is this an undifferentiated criticism of growth; to state this and to gather this from most publications would be polemics. The economic reason why doubt is being cast on the GNP as an indicator is - in the capitalist countries too - stagnation or regression of the gross national product growth rates in most countries<sup>1</sup>.

### 3.1. Against the GNPism

It is already fairly common knowledge that the GNP is, in many ways, an extremely imperfect indicator of social and economic progress. But, this indicator continues to be used for political arguments, political assessment and political decision. That is why the most significant points of criticism against it are recapitulated here<sup>2</sup>, but this does not imply an attempt to enumerate them systematically:

- An assessment of the productive activity of private households, public services, and free goods is extremely problematic.
- There is not necessarily a connection between an improvement in the level of living of the mass of the population and a rise in the GNP.
- Qualitative policies, particularly those for the exploitation of national and local resources, are not reflected in the GNPism for instance, a cost-intensive, modern and yet inefficient health service makes a higher contribution to the GNP than a system which is based on self-medication, health education, the efficient employment of paramedical personnel, etc.
- The GNP is related only to the market, i.e. it cannot be applied to subsistence economies and subsistence sectors in market economies.
- The GNP does not necessarily change with an increasing political suppression of the masses, or through national loss of dignity, etc.
- The GNP is based on the actual prices of goods and services but these are hardly reliable indicators of the importance of these goods and services.
- The GNP is strongly influenced by monopolies and protectionism in price formation.
- Car accidents and industrial accidents can indirectly cause the GNP to rise.
- The GNP rises if Firm A removes the garbage created by Firm B, even when this could have been minimized by appropriate planning while building Firm B.
- Only national prices enter into the GNP, not international prices; so this indicator is not optimal for an international comparison.
- Important social problems like the formation of slums, social insecurity, over-intensification of work, etc. are not covered by the GNP.
- The GNP increases if two couples exchange their wives to do household work against payment.
- The GNP appears to be value-free; but is a weighting by the market value-free?

- Every clever statistician knows which statistical tricks can be used to manipulate the GNP to the politically desirable level.
- The GNP does not take the material composition of goods and services into consideration, it is a matter of indifference whether 1,000 dog collars or 1,000 loaves of bread are produced at the same unit price.
- The GNP does not take account of the increasing differences between parasitical consumption and the deteriorating working and living conditions of the masses, i.e. it gives no valid information on the distribution of goods and services.

This list of some of the points of criticism against the use of the GNP and its derivatives as an indicator of social and economic progress, which overlap, are repetitive and sometimes even contradictory, is certainly not exhaustive.

Despite this, the attractiveness of this indicator is surprising. Even though its general application, as Seers says<sup>3</sup>, shows that politicians and some economists prefer to close their eyes to the real problems of social development - in order to save their economic theory - rather than abandon a supposedly well measurable indicator which is constantly available every year, yet this application also shows that verbal criticism and a recognition of the inadequacy of this indicator do not solve the problem. Furthermore, this indicator was not invented to give information on the standard of living of the mass of the population. But it has frequently been interpreted as such, because it has some pragmatic advantages, but they are, in the meantime, being judged with growing scepticism. However, occasionally some apparent advantages are still mentioned: "Consensus on the importance of GNP, its simplicity and cogence as a welfare measurement and the technology of its guidance for decision-makers"<sup>4</sup>. However, in view of the increasing criticism of the unreliability and doubtful validity of the GNP as an indicator of progress, these advantages can no longer be accepted, even assuming they had existed at one stage. The demand made by politicians and institutions that more valid information and indicators should be collected and developed shows that there is a call for a constructive criticism of GNPism.

If therefore the growing criticism of the GNP as an indicator of social and economic development - and this also implies a criticism of the failure of the market<sup>5</sup> - is one of the reasons why there is a call for social indicators, then the question which first arises is: What is this term which has curdled into a catchword "indicator" and what does this social indicator have to do with the subject "need".

### 3.2. The Indicator Concept

If the literature on the subject of development indicators or social indicators, whose dimensions are growing all over the world, is taken as the starting point of the discussion, then one is confronted with a number of meanings which can be attributed to the indicator concept: social statistics, social reporting, time series of socially relevant data, quantitative information on non-economic goals, systematic data on hunger, disease and housing, the barometer of well-being, quantification of social problems, social budget, measurements of the quality of life, normative-based statistical index - these are only a few of the meanings of the word "indicator" to be found in literature<sup>6</sup>. It almost seems as if any social scientist, who has anything to do with empirical data which is somehow considered to be politically - mostly socio-politically - relevant, categorizes it as "indicators" or "social indicators".

If one takes a general look at the main subjects of the social indicator movement into which the discussion on indicators has grown in the meantime, then it seems to be clear that the concept "indicator" has the following general meaning: An indicator is a politically relevant empirical-statistical piece of data with explicit or implicit normative reference to the solution of social problems<sup>7</sup>. The following package of functions is usually attributed to the social indicators: policy control, provision of a basis for decisions, influencing public opinion<sup>8</sup>. It is seen that the concept "indicator" as generally used in the literature on development indicators and social indicators is generally used to give a thematic form to the relationship between politics and statistics, between empiricism and practice.

If we disregard the special meaning of the indicator concept in the discussion on development indicators and social indicators for the time being, then a definition of the concept can be found in the literature on the theory of empirical research; it is a definition on which a relatively wide consensus exists and which has already found its place in the dictionaries: Indicators are allusions to something that they themselves are not, at least not totally<sup>9</sup>. Widespread poverty could be an indicator of social underdevelopment, but together with this, one could also have indicators on a comparable level of abstraction such as widespread helplessness, widespread ignorance, etc. Nutritional deficiency could be an indicator of poverty, but it is also possible to have similar indicators such as bad housing, low wages, poor schooling, etc. A low intake of calories could be an indicator of nutritional deficiency, but there could be other indicators such as low weight, small circumference of the head, high infant mortality, etc.

Thus, indicators are allusions to something that they themselves are not or are only partially. With the help of indicators a conclusion is drawn from the lower level of abstraction at a

higher level of abstraction, or a theoretical concept is derived from an empirical fact<sup>10</sup>. A statistical figure can, therefore, be meaningfully classified as an indicator only if it is connected with a general theoretically well-thought or defined concept (conclusion indicator) or if it is connected by an empirical regularity which does not have to be explicable or comprehensible, with an implied or imagined complex of attributes (correlation indicator). Thus, an indicator is by definition partial in relation to its concept, at times even alien. It can often be substituted by other similar indicators which indicate similar subjects. This means, however, that the validity of an indicator can, as a rule, only be proved empirically and, if necessary, again with the aid of indicators. In the strictest sense, an indicator can hardly have "face validity"; if this were possible, then it would be a borderline case between indicator and operationalization.

If strict logics are not applied to the indicator problem, then many indicators are actually partial operationalizations of a concept. If this is the case, then the question which arises is that of the representativity of the indicator for what the concept implies or means. Empirically speaking, infant mortality is a relatively good indicator of the health status of a population; it is, at the same time, a highly imperfect partial operationalization of this concept. In contrast to the indicator, an operationalization has an essential and necessary connection with the indicated concept<sup>11</sup>. If the conception of operationalization is overstated, one could speak of equivalence: concept is equivalent to operationalization. It would, however, be absolutely absurd to make concept equivalent to indicator. The possession of a tuxedo can indicate prosperity, but it does not constitute prosperity. The difference between indicator and operationalization becomes clear if one examines whether a change in the indicators necessarily causes the indicated social problem sphere to change, too. A change in the infant mortality rate hardly changes the health status of the people in an over-aged society. A well-cleaned carpet is a good indicator of a clean housewife, but by cleaning the carpet the housewife does not get any cleaner. Many authors do not appear to realize this<sup>12</sup>. These examples may sound primitive, but they reveal widespread fallacies in the treatment of the indicator problem: a confusion of symptom with cause, reification of indicators, a confusion of loss of content with gain in research. Indicators as empirical indications of something that is theoretically thought out are always characterized by this partiality which is, at the same time, a gain in terms of research economics. But one can speak of loss of content only when theoretical concepts have been clearly and precisely defined, and not when the concepts consist of a medley of vague unidentified emotions.

A thesis to be proved later will show that the use of social indicators is relatively problematic for need-oriented planning but not for need-oriented evaluation. That is why the implications for research logics will be examined in detail here. In short, one may say that within the framework of the social indicator movement the indicator concept emphasizes the relationship

between empiricism and application or social action whereas within the framework of discussions on research techniques and research theories the indicator concept stresses the relationship between theory and empiricism. If we take a look at the discussion on the social indicator movement, it is seen that the subject which is predominant is not the loss of content of indicators but rather the loss of application which occurs when no indicators are available. For instance, if it is proved that approximately half the political goals of a government cannot be appraised by means of indicators<sup>13</sup>, then a loss of application due to non-availability of indicators can be seen very distinctly. It is relatively easily proved that only those goals which can be verified by indicators are mainly achieved. Thus, in spite of their known partiality, indicators are frequently used as goal and planning criteria - an absurd custom which corresponds to the reification of indicators. The best example is the use of the GNP as a goal for planning.

The subject of social indicators or social development indicators is located in the friction area between loss of application and loss of content. Theoretically it will always be right to point to the partiality of the indicators and to doubt their validity. But in practice it becomes clear that socio-economic theory and imagination can acquire political relevance only if indicators are established<sup>14</sup>.

### **3.3. The Social Indicator Movement**

In very informative summaries, Zapf and Leipert have reported on some of the prevalent positions within the framework of the social indicator movement<sup>15</sup>. All these aspects need not be repeated here. In order to highlight the problems, let us take three approaches which seem to merit attention in this connection. These are either programmatic declarations on the importance of indicators as a political decision aid or the collection and interpretation of sectoral indicators or naïve collections of indicators. Of course, this is a very rough outline of the situation, but it gives a clear picture of the positions.

For more than ten years, a number of publications have underlined the necessity of giving political decision aid through social indicators. If the presentations are of a concrete nature, the main subject will be the methodological considerations of quality, type, validity, selection criteria, subjectivity, etc. of indicators<sup>16</sup>. On the other hand, there are preliminary substantive reflections on the quality of life, human well-being, etc.<sup>17</sup> Most publications, however, still make relatively vague references to the supposed political significance of the application of social indicators, for instance, the Department of Behavioural Sciences of the American Academy of Science wanted to see whether it would not be recommendable to proclaim an

International Year of Social Indicators, just as the astrophysicists had proclaimed a Year of the Quiet Sun<sup>18</sup>. In the meantime, these programmatic declarations are offset by critical comments - which are just as unsystematic - on some ill-assorted aspects of the actual treatment of the indicator problem<sup>19</sup>. Generally speaking: a common language for a very heterogeneous field is still being sought.

A second type of publication on the subject of social indicators deals with the collection and interpretation of sectoral indicators without explicitly going into the detail of their mutual relationships. The publications of the United States Department of Health, Education and welfare<sup>20</sup> and Sheldon and Moore<sup>21</sup> may be cited as examples. They mainly deal with the "social sectors": health, housing, environment, education, family, consumption, etc.<sup>22</sup>

A third type of publication on the subject of social indicators - probably the most extensive up to now - is characterized by the compilation of a large amount of heterogeneous data which is actually a by-product of the data collection deriving from economic theories and interests: here, all those figures to be found in statistical yearbooks which cannot be characterized as economic indicators are collected and subjected to diverse statistical processes (medians, correlations, factor analyses, scalogramme analyses, time series analyses, etc.), particularly for international comparison<sup>23</sup>. All these approaches have one thing in common, they start with collection of data without first asking the basic question: what political decisions are to be made. What the dumb-founded reader and politician is expected to do with this magic sackfull of "social indicators", remains vague. For example, stages of social development are identified without having a clear idea of the goal from the beginning; frequently this unimaginative collection of data is not even guided by hypotheses<sup>24</sup>. Thus, consumption of energy and electricity is still applied in international comparisons with a number of other indicators as an assessment of the stage of development. Worldwide foolishness and mediocrity are used first as assessment criteria and later as planning criteria<sup>25</sup>. Of course, all these collections of data are useful if, for a specified and precise question, one can "dip into a larder" stocked with social indicators.

### **3.4. On the Utility of Indicators**

The importance of indicators may be compared to the importance of language. They serve as a means of communication. But what is to be communicated that is quite another matter. The most important discussions on indicators and with indicators are not to be found under this heading; a physicist would hardly classify his work under the heading "language", even though he needs and uses language. It is worth arguing about selection criteria, comparability,

sensitivity, availability of indicators, etc. only if there is a clear idea of what should be indicated. In this sense the discussion on social indicators joins in the discussion of need under research-technique aspects. It also involves the substantive aspect because the subjects which are central to the discussion on indicators are: quality of life indicators, objectives of social development, constructive criticism of the GNP, efficiency criteria for social policies, assessment criteria for the social utility of investment projects.

It would be too simple to directly attribute the lack of content in the discussion on indicators to the necessity of capital utilization - inherent in the capitalist system - which should be safeguarded by an early-warning system of social indicators<sup>26</sup>. Indeed, indicators are tools which can be applied in many ways. One field of application is the anticyclical control of crises, another is the identification and subsequent elimination of anti-regime-inclined Vietnamese, e.g. in the Phoenix operation<sup>27</sup>.

The quality of life is to be measured for the Organisation for Economic Cooperation and Development (OECD) with the aid of social indicators, and broken down into single areas of social concern<sup>28</sup>. Social indicators are intended to give the Development Aid Committee (DAC) of the OECD an indication of the geographical distribution of development aid<sup>29</sup>. Within the framework of its recommendation on a strategy for sociological research, the Economic Commission for Europe (ECE) of the UN stresses that it is necessary not only to quantify social indicators but also to prove their relevance<sup>30</sup>. The Federal Ministry for Labour and Social Order of the Federal Republic of Germany is systematically going through existing statistics to look for socio-political information gaps<sup>31</sup>. The Staff Department of the President of the United States had been asked to quantify policies and determine national priorities with the help of social indicators<sup>32</sup>. There is a demand for an early-warning system of social indicators at international level, which can forecast social costs, famines, etc.<sup>33</sup> The United Nations Research Institute for Social Development (UNRISD) is attempting to formulate and identify indicators for worldwide social development by means of international comparison and correlation techniques<sup>34</sup>. The development of the Planning-Programming-Budgeting-System (PPBS) and the goal-achievement-analysis was very closely connected with the development of social indicators<sup>35</sup>.

This enumeration of some actual application areas of social indicators could be continued arbitrarily. What matters here is: Social indicators can be used for systematic elimination of people and for implementation of emancipatory democratic goals. Something like a social indicator movement is only possible because the spectrum of application areas of social indicators is so wide.

If a bird's-eye view is taken of the wide spectrum of the social indicator movement, what appears - fragmented, atomized, split up sectorally and sub-sectorally - behind the ward

"social" is what is called a need complex in the needs research of the German Democratic Republic. The "social concerns" seen by the OECD as elements of an operationalized definition of quality of life, are similar to the concepts which are used in discussions on the standard of living in the socialist countries. The same applies to other application areas of social indicators. In this sense one may view the discussion on social indicators as a methodical and research-technical entry into the problem area of need; this problem area is indicated by the word "social" and clarified by the historical origin of the indicator discussion, i.e. the constructive criticism of monetary planning and assessment factors like GNP. This correlation can be illustrated by some comments - more are not possible - on the concept of quality of life and its apparent operationalization by indicators.

### **3.5. Quality and Equality of Life**

Apart from its obvious origin from US-American political vocabulary, the concept of quality of life was propagated in the Federal Republic of Germany by trade unions and the Social Democratic Party in particular until even savings banks and cosmetics producers began using it as a publicity slogan<sup>36</sup>. The Socio-political Congress of the metal workers' trade union in 1972 placed it at the very centre of its deliberations<sup>37</sup>. Although no positive definition of the quality of life was given, the spectrum of the fundamental questions and emotions was clearly presented: public poverty versus private wealth, unintentional consequences of progress, uncontrolled growth of industrial production, environmental pollution, threatening shortage of fresh water, social inequality, well-being of society, unattractive peripheral phenomena of prosperity, return to the questions of the classicists, insufficiency of growth in output - these were some of the subjects and discussion points of the Congress. It became quite clear how difficult it is in this context to give a definition which will have something more than interim elements of a nominal definition derived from sequences of negations at various levels of aggregation and from different social walks of life. Quality of life is thus characterized by a medley of examples of what quality of life is not. Normally, all possible data or concepts are collected and enumerated under the heading "quality of life" as (lacking) characteristics of quality of life<sup>38</sup>. Only very rarely do authors try - without the atavistic passion of a data collector and without technocratic appeal - to discuss and operationalize ideas like happiness, individuality, justice, freedom and friendship as essential elements of a definition of quality of life<sup>39</sup>.

The notion of the quality of life may still be vague, but so much consensus is certain: fashionable Spanish royalty is as much a part of quality of life for the yellow press as a

savings account and the delicate question of conditions of private production and private power<sup>40</sup>. This "all round formula" which "is quite empty in operational terms" and "the vagueness and globality of a concept like quality of life"<sup>41</sup> provoke consensus. At the same time, the socio-political importance of this concept compels the politicians using this concept to succeed - an obligation which they cannot fulfil due to the vagueness of the notion. While the quality of life concept presents itself as a paradox to a politician as it helps him to win votes but also compels him to fulfil voters' demands, its function in the scientific area is different. It is the scientist's search for legitimation and that means for political power<sup>42</sup>. Because, his basis of legitimation is no longer the technocratic professional knowledge of the economist or the engineer but the answer to the simple question: How does this benefit the mass of the population? Whom does it benefit? And this is indeed the pivot of all discussions on the quality of life. All authors, speakers and politicians refer to the needs of the mass of the population including the middle classes or to the needs of those who have no power<sup>43</sup>. These needs, converted to social indicators, should be the source and the goal of politics. This is the general base of the discussion on quality of life. Even though social indicators are partly demanded only in order to "measure the non-economic development of society and thus to report on the well-being of society and on the quality of life"<sup>44</sup>, and thus prolong the division of social and economic aspects, of quality of life and production decisions, of private power and public weakness, the quality of life concept nevertheless clearly extends beyond this. Here it is not only a question of the party-political strategy of equating quality of life with urban development, environmental protection, leisure time, integration of foreign workers and civic participation, as was formulated in an election manifesto<sup>45</sup>. Quality of life certainly includes all this, but it also implies the crucial question of the conditions of private production and private power under the criterion, "how much the real needs and interests of the people, particularly of the workers, have been neglected in our society"<sup>46</sup>. Thus, quality of life covers not only consumption but also production, not only peripheral phenomena but also their social causes. From the opposite angle this means "it is not enough any more just to produce, without thinking about distribution, exchange, consumption and fulfilment of economic and social needs"<sup>47</sup>. Quality of life thus includes consumption and production or rather: their relations, their proportionality and their compatibility seen under the aspect of need. A conception of quality of life which would only intervene as an ex post correction measure in the uncontrolled growth of industrialization and private investment anarchy would not reflect the intentions of most European users of the quality of life concept<sup>48</sup>.

Sometimes it appears as if every author or speaker on this Sunday afternoon subject pours his own stock of emotions and values into this concept; for one it is cleanliness, for another freedom, for the third friendship and for the fourth it is self-realization which determines the quality of life<sup>49</sup>. As already said, quality can include the very pretty blossoms of bondage, inequality and prostitution, if it is not clear whose quality of life is meant, that of the ones at

the top or of the ones at the bottom. It is true that human well-being is the goal, but is it that of the employer or that of the worker? Historically speaking, quality of life is naturally a concept of the middle class; only when "environmental pollution, traffic accidents and other public nuisances",<sup>50</sup> affected the middle and upper classes - the workers always worked in dirt and stench anyway - did the term "quality of life" become popular. At the same time it was taken over by the masses and their representatives - the trade unions, but quality of life for all destroys some of the luxuriant blossoms of quality of life for a few<sup>51</sup>.

If the quality of life concept is analyzed, mention must be made of a third aspect. If negatively formulated and overstated: "Undoubtedly the thesis of quality of life versus standard of living does not aim at reorganizing the production structure in such a way that it is governed by the political value-in-use definitions but at taking away parts of the individually available real income of the workers which the political system needs to ameliorate qualitatively intolerable living conditions"<sup>52</sup>. In neutral terms: it is a question of private and collective consumption, of individual and social wages. Here too, the close connection of substance and theme can be seen between the discussion on quality of life in the West and the discussion on need orientation of national plans in the East.

"Equality of life" as the boundary of "quality of life", proportionality of production and consumption, ratio of private to public/collective consumption - these are some of the important aspects and dimensions of the discussion on the quality of life in Western industrialized societies and of the search for indicators for this purpose. And the basis for the quality of life indicators is the analysis of the "needs of the people", particularly of those who "historically seen, had no power"<sup>53</sup>.

The discussion on indicators thus very clearly leads past questions of method and data-collection activities to the subject of the needs of the mass of the population; the socio-political commitment underlying the indicator concept expresses itself in social reporting, efficiency analysis of social projects, etc., but does not stop there. The direction to be followed is clear: overall social and economic planning and evaluation under the aspect of needs.

#### **4. The Discussion in the South or Reflections on National Food and Nutrition Policies**

Nutrition is undoubtedly important for human survival; it is the *conditio sine qua non* of human existence, the most fundamental basic need. All over the world, the greatest part of

human energy is spent in producing survival means or functional prerequisites for the production and distribution of food for human consumption. Family expenditure budgets show that more than half the income of the mass of the population is spent on food; in the time budget of families food and nutrition play an equally important role<sup>1</sup>.

In spite of this relatively high rate of human energy spent on procuring nutrition, calculations of the World Bank show that 76 % of the population in developing countries are undernourished, while in the Federal Republic of Germany, for example, almost half the population is overfed<sup>2</sup>. In Chile an undernourished child and an over-stuffed adult die every 36 minutes, in Guatemala not even 10 % of the population can satisfy their vital need of nutrition<sup>3</sup>.

What appears to be absolutely necessary for human existence and for mere survival is not reflected at all or only very indirectly in national policies. In most of the national development plans one looks in vain for concrete nutrition policies - except in the verbose preambles. The function of improving the nutritional conditions of the population is mostly relegated to agricultural production, but concrete evidence on the functionality of agricultural investments as a means of improving the nutrition of the whole population is seldom found. If at all, a nutrition policy aiming at the nutrition of the mass of the population is given concrete form only in applied nutrition programmes for a few target groups.

#### **4.1. Traditional Nutrition Programmes**<sup>4</sup>

The conventional nutrition programmes of the 'sixties demonstrate the marginality which was ascribed then to the nutrition sector. Hardly any importance was given to the nutrition problem in industrialized countries, since it had solved itself spontaneously. In developing countries nutrition programmes were considered as part of the health sector and in the health sector nutrition occupied a subordinate position despite all the references to functional and/or causal interrelations between health and nutrition. These interrelations are clearly seen in the consequences of malnutrition: low level of immunity against diseases, retarded cellular development, retarded psychomotor development, mental damage, higher risk of industrial accidents at work, failure in school, low life expectancy level, low food absorption capacity, to name only a few of the consequences as examples<sup>5</sup>.

The logic underlying the nutrition programmes was simple and clear: If morbidity and mortality are dependent to a great extent on malnutrition, then the food situation of the population must be improved. Theoretically, two strategies were available: alleviation of the

consequences of malnutrition or a change in the availability and consumption of food in families<sup>6</sup>.

The first strategy is the traditional strategy of the health sector. Marasmus, anaemia, arteriosclerosis, diabetes, goitre, PCM-syndrome and other nutritional diseases are controlled by using traditional curative measures and techniques like hospitalization, medical care, etc. It became quite clear at a relatively early stage that such medical measures - which, for instance, include collective-preventive measures such as vaccination campaigns and environmental hygiene in the nutrition strategy of Brazil<sup>7</sup> - can only be in the nature of palliative measures. They do not change any of the preconditions and causes of nutritional diseases and thus do not affect the structural problems. Characterizing these measures as palliative naturally does not mean that they are senseless; viewed as long-term measures they are useless in the economic sense, since they imply a relative dissipation of resources which could have been put to use more effectively; but, as short-term measures, there is no substitute for them, even if other measures which are intended to tackle the causes of malnutrition rather than their symptoms are already implemented. It goes without saying that such activities are integrated in the health sector; they characterize more than half of all activities which are implemented in the developing countries with traditional health policy tools.

Based on these facts, the second strategy seems to be more effective in overcoming malnutrition. It goes beyond the traditional health sector. It comprises measures or a package of measures which try to change the availability of food to each family. Analytically two sub-strategies may be distinguished: change in demand for food or change in the supply of food<sup>8</sup>.

The most widely used "strategy" for changing supply and demand was that of waiting in the belief that the pattern of food consumption would automatically change during the course of industrialization, if the historical experience of the industrialized countries would be applied to the Third World nations. But it turned out that this assumption was in no way universally valid<sup>9</sup>.

A change in the demand for food - the first sub-strategy for changing the availability of food to the families - is attempted mainly through nutrition education<sup>10</sup>. The measures employed here are mainly the integration of nutrition education in the curricula of schools and universities and the implementation of information campaigns for the consumption of certain foods<sup>11</sup>. An important prerequisite for such measures - which in most countries is more often a hope than a reality<sup>12</sup> - is the training of nutritionists. In Latin America, nutrition experts are already partially trained within the framework of national health policies<sup>13</sup>. In Chile a total of 194 jobs for nutrition experts were created in 1971/72 by the national public health service which meant an increase of this personnel by 39.1 % as against 1970<sup>14</sup>. The duties of nutrition experts lie mainly in the field of nutrition education, coordination of nutrition programmes,

research and counselling<sup>15</sup>. In the city of Panama, for instance, a nutrition expert stands in the market-place and demonstrates how a family meal with optimal nutrient composition can be prepared from the goods available on the market at low cost and with consideration of prevailing food habits<sup>16</sup>. In other countries, emphasis is laid on additional training and advanced training in nutrition given to auxiliary personnel, nurses and doctors<sup>17</sup>.

The attempt to change the demand for food through nutrition education is mostly paralyzed by business and publicity policies of the private food industry which has a considerable influence on food habits<sup>18</sup>. The most serious objection seems to be that nutrition education can be successful only in the long run - if at all; studies suggest that it may take a generation at least before the contents of the cooking pot show the direct results of nutrition education campaigns<sup>19</sup>.

In many countries demand and supply strategies are combined to bring about a change in availability of food to families. Food supplies to select groups of people especially exposed to risks are supported by nutrition education. Attempts which are still in the experimental stage show that these measures can directly improve the nutritional status of the population groups in question and indirectly raise their psychomotor and intellectual capacity, especially where the children are concerned<sup>20</sup>. However good and meaningful this may be in individual cases, the opportunity costs are very high.

In the last decade the nutritional activities have concentrated mainly on the second strategy for changing the availability of family food, i.e. through a change in supply. Firstly, this includes measures like school meals and milk distribution, that means the supply of food to certain groups with a higher risk of malnutrition. Secondly, this includes programmes for fortification of basic foods such as iodizing of salt and vitaminizing of flour and sugar<sup>21</sup>. Programmes of the second type can, however, be sensibly implemented only if there is a state monopoly of certain products like salt; programmes for fortification of foods also have the inherent disadvantage that the prices of products become higher. Also, the above-mentioned nutrition programmes often lead to a greater dependence on food imports, e.g. the distribution of milk in Chile where the situation worsened after the rapid rise in the world market price of milk powder from US \$ 500 to US \$ 911 per ton in one year<sup>22</sup> - an experience which is confirmed by evaluation of international food aid<sup>23</sup>. Moreover, the objectives of food distribution programmes and food fortification programmes are seldom clearly specified, with the result that resources can be squandered and an evaluation of the results of these programmes is very imperfect<sup>24</sup>.

But, food supplies to specific groups of the population, like the annual distribution of 48 million kilogrammes of milk in Chile before the military takeover<sup>25</sup>, often seem to be the only realistic means of improving the health and nutrition status in a situation in which no concrete

actions emerge from the theoretically brilliant and correct general declarations on intersectoral networks.

At first sight a specially promising variant of the strategy for changing food supply seems to be one which concentrates on the production of technologically new, unconventional foods<sup>26</sup>. Basic research in this field developed 24 such unconventional foods<sup>27</sup> using oil cakes, fish meal, soya extract, sweet lupines, rapeseed, unicellular microalgae or synthetic aminoacids. These substances are characterized by a specially high protein content. The important advantage seems to be that more protein per hectare can be produced here than, for example, through traditional cattle breeding. After detailed application tests of microalgae protein, for example, which did not show any negative side-effects, a baby food in Germany and chocolate biscuits in Peru are being produced with algae as the basis<sup>28</sup>.

So far, so good. This new foodstuff is, however, still in the stage of technological development. A large-scale commercially rational mass production of algae powder is still impracticable; at present, algae proteins are more expensive than milk proteins. The consequences of mass production are also little known, for example, the consequences due to foreign growth in the algae extraction containers through parasites. By way of comparison one need only refer to the spread of bilharziosis after the construction of the Aswan dam and the mass deaths of English chicks which had been fed with groundnut oilcake meal imported from Brazil<sup>29</sup>.

However, the main problem of all new foodstuffs is that they have not been accepted by the population<sup>30</sup>. The experience of the last decade shows that it seems to be very difficult to find a new foodstuff which corresponds to the food habits of the population, even though macroalgae, for example, have been bought and sold in Third World markets for centuries - they are a food which was possibly used by the Aztecs, Incas and the countries surrounding Lake Chad<sup>31</sup>. But, if a product in industrialized countries with well-established communications and marketing channels takes 5 to 10 years to be accepted, then the integration of unconventional foodstuffs into the food habits of the population will take more than a generation - if it succeeds at all; tradition is still decisive in the kitchen<sup>32</sup>. It is also becoming clear that such foodstuffs are accepted more in industrialized countries than in developing countries, and in the developing countries more by the middle class than by the lower class<sup>33</sup>.

It is interesting that hopes are pinned on the use of new foods more in the industrialized nations than in the countries for whose population these products were developed in the first place. Even if the utility of new foodstuffs for therapy and infant nutrition on the one hand, and their indirect effects via forage on the other hand<sup>34</sup> are recognized, even then a quantitative increase and/or a better distribution of traditional foodstuffs is suggested as the

only possible way of increasing food supply, in spite of or often because of their implications for social structure and power politics<sup>35</sup>.

#### **4.2. The "Revolutionary Reversal" of the Nutrition Problem**

These short outlines of various applied nutrition programmes which were implemented in the 'sixties clearly show the lack of coherence in the selected application areas.

The increasing criticism of such programmes and projects of nutritional education, fortification of foods, distribution of foods to selected target groups and development of protein-rich concentrates resulted mainly of a deeper penetration into the causes of the nutrition problem. In the 'sixties the main feature of nutrition ideology was the assumption that a serious protein deficit was the essential cristallization point of malnutrition and undernutrition, but this attitude changed as the problem of calories became the focal point. The dilemma became clear when it was proved that, paradoxically, "most persons who suffer from protein deficiency take in more proteins than is required to satisfy their protein requirements"<sup>36</sup>. The solution to the paradox lies in the fact that, because of calories deficiency, the protein which has been consumed is not used by the body as tissue-building protein but as a substitute for calories. Though this fact seems to be rather plain and simple, it is fundamental in nature and fraught with consequence; it may be called revolutionary.

Mention must be made of another paradox which also became clear in the beginning of the 'seventies when the problem of a possible shortage of energy attracted social attention. The paradox is that in many countries agricultural production consumes more energy than it produces. The calorie difference between the USA and India is only 3,300 to 1,900 calories per capita per day if the energy consumed by fuel, electricity, fertilizers, tractors, etc. for the production of these calories is not taken into consideration. If it is, the figure then obtained, to the extent that it is quantifiable, is an actual calorie difference of at least 11,900 to 2,910 between the USA and India. Bergstrom says it is an energy swindle if one does not consider this point. If the ratio between calorie or energy input and calorie or energy output is viewed in this context, many developing countries would overtake the industrialized states<sup>37</sup>. This is the second revolutionary idea which certainly does not touch the nutrition problem alone. The range of its implications has certainly not been recognized yet.

The implications of such "revolutionary" discoveries is clear: for most of the target groups the distribution of sugar water would have been equally effective and much cheaper than a protein distribution programme based on a protein concentrate, and this programme would

have been economically more efficient as it would have required a lower level of overall energy input<sup>38</sup>. Similar conclusions emerged for other nutrition programmes, too. Apart from such practical repercussions, the reversal of the problem had a more far-reaching implication: Up to now, when analyzing the problem, one could stop at superficially descriptive declarations that the nutrition problem was due to protein deficiency and the lack of other nutrients - this was just a matter of differentiating tautology - but now, such an explanation had to be considered misleading. Because, if the nutrition problem is essentially a calorie problem, then malnutrition is not caused by a short supply of essential nutrients but by an unjust distribution of food, i.e. on the face of it, by poverty. "The basic fact of the nutrition problem is that it is above all a problem of POVERTY; a problem of ineffective supply; a problem of the requirement for food and not only for protein" says Joy<sup>39</sup>. This view is certainly too global and does not have sufficient depth, but it has important theoretical and practical political implications. The sphere of nutrition moves out of isolation in social medicine.

Because, if poverty is the essential problem of nutrition, should one not aim at raising the income of malnourished target groups? In this context, nutrition programmes would then cover general price subsidies for individual foods, fortification of foods, distribution of food stamps and transfer of income<sup>40</sup>. A World Bank study with the distinct title "Undernutrition and Poverty" evaluates the policies mentioned in relation to their cost effectiveness ratio, whereby cost effectiveness is defined as the fiscal cost per additional unit of food or nutrients consumed by the undernourished group. According to this evaluation, a general subsidizing of food is the measure least capable of removing undernutrition at the lowest cost. If there is a lack of specific nutrients, a general fortification of foods is most effective. In the case of target group-oriented measures, the food stamp programme, i.e. a programme to distribute food coupons to the target group, is most cost-effective, as the cost-effectiveness of a food subsidy for an individual foodstuff is almost reversely proportional to the demand elasticity of this foodstuff and as the nutritional effect to be obtained by a general transfer of income is roughly proportionate to the share of food expenditure in total expenditure.

At this more pragmatic level, the redefinition of the nutrition problem from a protein to a calorie problem has encouraged system-analytical approaches, that is, graphic-sequential analysis of some of the causes of undernutrition. Causes in the sense meant here are mostly pragmatically related to patterns which can be changed by implementation of projects, programmes and policies. In this sense, many authors restrict the determinants of the nutrition problem to "those which (in contrast to religion, caste and genetic attributes) are open to intervention"<sup>41</sup>. Food intake and health status are taken as direct determinants which are influenced by the purchasing power of the family, nutritive value of the food consumed, health and nutrition behaviour, health services, nutrition programmes and other "innumerable"

environmental and social phenomena. Other authors view the nutrition problem or, at least, classify it from the point of view of economics; they subdivide supply and demand aspects and list a number of connected factors which are not limited to the sphere of nutrition in the narrower sense of the term<sup>42</sup>. The outcome is mostly a list of various intervention alternatives of different origin; for example, under the heading "family purchasing power" a reference is made to the "spontaneous" implications of a raise in income<sup>43</sup> which have to be partly modified from the nutritional point of view (for instance, intervention through transfer of income and food stamp programmes), to the implications of food prices (intervention through price policies), to religious beliefs and traditions regarding health and food (intervention through food and health education), to the effect of health status on nutrition<sup>44</sup>, and so on.

Such considerations which go beyond the supply and demand strategies of the 'sixties are a prominent feature of discussion after the reversal of views on the nutrition problem; now projects, programmes and policies from very different sectors of economy are to be analyzed - still mostly intuitively - as to their nutritional implications. The realization that there is no isolated nutrition sector but that nutrition is a multi-sectoral problem to be tackled on an interdisciplinary basis, has become a commonplace observation. Did this realization have any practical political consequences?

### **4.3. Towards a Food and Nutrition Policy**

The administrative outcome of this realization was at first an attempt to coordinate health and nutrition programmes as the first step towards intersectoral and integrated coordination of programmes which had formerly been separated<sup>45</sup>.

Nutrition programmes such as those outlined above were, in the past, sometimes not even integrated into the public health service. Their coordination with health programmes and their integration into the public health service were attempted at the pragmatic level of interministerial and inter-institutional coordination in some Latin American countries as, for example, in Chile through the following projects: establishment of mother-and-child centres, inclusion of nutrition activities in the national public health service, health and nutrition advice to the National Council for Kindergartens, the National Council for School Meals and Scholarships, etc.<sup>46</sup>. In the region of La Correa, Panama, a multidisciplinary working group tried, on the basis of a detailed work programme, to bring about the incorporation of nutrition programmes into a mother-and-child care programme<sup>47</sup>. Till now, there has not been a generally accepted methodology for the coordination or integration of nutrition programmes and health programmes into the public health service<sup>48</sup>. One cannot generally say what

concrete coordination mechanisms are most appropriate for a large number of fragmented and competing institutions except that the public health sector with its existing infrastructure seems to be a good basis for the implementation of nutrition programmes. Whether in an individual case a particular nutrition programme should be implemented with the collaboration of one or the other institution can, under these conditions, only be decided after a very detailed and up-to-date analysis of the situation, even if the necessity and possibility of a coordination of health and nutrition programmes seems to be most apparent in the mother-and-child care programmes, in the centres for curing undernutrition and malnutrition, in health programmes for schools, in paediatric services and in food distribution programmes<sup>49</sup>. But, a functional coordination of nutrition and health policies does not in any way correspond to the theoretical knowledge of the functional relation between health and nutrition.

Now it is theoretically clear that one cannot wait any longer for diagnostic studies on the health and nutrition status of the population before formulating and implementing an integral health and nutrition policy; the essential information is already available<sup>50</sup>. It is also clear that some apparently isolated nutrition and health programmes may be necessary in the short term, even if their long-term effects are doubtful and their opportunity costs are sometimes very high. It is further clear that the roots of the present structural social problems lie to a great extent in the area of nutrition and that the roots of the nutrition problems lie outside the public health sector, namely, in the agrarian structure and in economic, agricultural and (foreign) trade policies. Therefore, it is also clear that the conclusion to be derived from all this is: A national food and nutrition policy is a necessary prerequisite for an integral national policy directed to fulfil the basic needs of the population<sup>51</sup>.

The question of how the relatively large amounts spent on nutrition programmes could be used more efficiently is not the only one which underlined the necessity for a national food and health policy - it is more the realization that, without a qualitative change in the nutrition and health programmes, the health and nutrition status of the population will deteriorate during the next decade<sup>52</sup>. The realization that it is necessary to formulate a national food and nutrition policy at national and intersectoral level had led to the establishment of regional and national food and nutrition institutions<sup>53</sup>.

The tradition of such institutes and commissions is quite old in Latin America, taken here as an example. In the Caribbean and in Central America too<sup>54</sup>, they have been existing at the regional level for some time. Thus, for example, the Institute of Nutrition for Central America and Panama was created as an international organization as early as 1949 on the initiative of six Central American countries and the PAHO. Its functions are essentially research, training and consultancy. Commissions and institutes of this kind at a national and international/regional level are intended to be the components of an integral solution to the structural nutrition and health problems of Latin American countries<sup>55</sup>. But their proven impotence

supports the assumption that they have only added one more fragment to the already large number of fragmented institutions. It was an obvious dissatisfaction with the progress of the current food and nutrition policies rather than concrete experience with successful coordination experiments which induced the Health Ministers of the Americas to state: "This whole complex process (covering nutrition and infection, D.S.) which ranges from production and consumption of food to its biological utilization and which is also related to the import and export of foods, can only be regarded as a system which is based on a definitive food and nutrition policy. Its implementation lies in the competence of the Ministries of Health, Agriculture, Education, Economics and Planning. But, at the present moment - despite the grave shortcomings which have become manifest - there is no government mechanism which brings about a conformity between the foodstuffs required by the people for their health and the foodstuffs required by the economy"<sup>56</sup>.

Formally, a number of Latin American countries have complied with this demand, which goes far beyond the mere setting up of nutrition institutes such as those created in the 'sixties and before. This demand implies an intersectoral coordination of different levels of decision-making. One step in this direction is the foundation of an "Interagency Project for the Promotion of National Food and Nutrition Policies" which is based on a recommendation of Latin American Ministers of Health and Agriculture in 1970<sup>57</sup>. The Pan-American Health Organization of the World Health Organization (PAHO/WHO), the Food and Agriculture Organization (FAO) of the United Nations and UNICEF were the promoters of this project and they received support from the Economic Commission for Latin America (ECLA) and the United Nations Educational, Scientific and Cultural Organization (UNESCO). This interdisciplinary composition demanded an interdisciplinary approach; this was attempted by means of a system-analytical presentation of important aspects of the nutrition problems as they were seen by the participating institutions. This Interagency Project had, first of all, the task of collecting and compiling the main concepts, studies and experiences of the participating institutions: this compilation was supposed to result in the presentation of an integrated planning process which was to serve as a reference model for the formulation and implementation of a national food and nutrition policy. Accordingly, the first meeting in 1973 had on its agenda: the presentation of an explanatory model of undernutrition which describes the linkages between various causes, and the design of a corresponding planning process<sup>58</sup>. The "Interagency Project for Promotion of National Food and Nutrition Policies" has till now only been effective in coordinating and generating awareness. It has specially tried to bring the representatives of different ministries of various countries together in order to discuss common problems.

The same fundamental idea guided the international project group - called for in Resolution V of the World Food Conference of 1974 consisting of members from FAO, WHO, UNICEF,

World Food Programme (WFP), World Bank (IBRD), United Nations Development Programme (UNDP) and UNESCO which was supposed to draw up a project proposal for counselling governments with regard to intersectoral food and nutrition plans<sup>59</sup>. At the same time, a "Permanent Advisory Commission for Food and Nutrition Policies for the Andean Regions" was created by the Health Ministers in Latin America<sup>60</sup>.

Individual Latin American countries implemented these demands by drawing up intersectoral food and nutrition plans, by establishing national advisory commissions for food and nutrition policies or by creating their own food ministries. Already at the beginning of 1972, the President of Chile had set up a National Commission for Food and Nutrition (CONAN)<sup>61</sup>. This commission, however, was not given any executive powers; its radius of action was, therefore, limited. The first product of CONAN was an information system, developed in cooperation with the Faculty of Medicine of the University of Chile and the National Institute of Statistics, which was to be used for diagnosing nutrition problems and for evaluating programmes. This success, however, is quite modest when compared to its ambitious objectives.

Apart from other nutrition policy tools such as a national environment plan and housing programme for the reduction of infectious diseases caused by nutrition, a National Food and Nutrition Institute (INAN) was founded in Brazil at the end of 1972; its aim was to advise the Government on the formulation of a national food and nutrition policy and to draw up, supervise, financially control and evaluate a national food and nutrition programme<sup>62</sup>. As the central organ for Brazil's food and nutrition strategy, INAN was also responsible among other things for planning measures to improve production and distribution through government production incentives and for setting up a chain of supply centres in various regions of the country, a few of which have already been established. This last measure which has the aim of eliminating the profit made by middlemen, seems to be an interesting element of a national food and nutrition policy.

Colombia's "national food and nutrition plan"<sup>63</sup> - prepared in a series of conferences on this subject<sup>64</sup> - outlined in its planning stage at the end of 1974 a number of intervention alternatives which respond to the problem of poverty described above: tax reform, raising of minimum wages, incentives for higher production and consumption of basic foods, incentives for increased agricultural productivity, direct price controls through subsidies and taxes on luxury goods, indirect price controls via foreign trade policy, interventions in the marketing process, agricultural credit programmes, producers' organisations, etc. Although these approaches clearly follow the outlined trend which emerged after the beginning of the 'seventies, the final formulation of the Colombian plan only contains relatively vague and rather traditional approaches to overcome the nutrition problems<sup>65</sup>.

At the beginning of 1975, the National Nutrition Institute of Venezuela laid down guide-lines for the formulation and implementation of a national food and nutrition policy<sup>66</sup>. One of the important functions demanded of this policy was that the nutritional implications of different sectoral policies should be taken into account and various projects, programmes and policies should be coordinated on this basis. Here, national food and nutrition policy primarily means coordinating and synthesizing supply, demand and utilization-oriented policies. Utilization-oriented policies are policies which refer to the biological utilization of food which can, for example, be limited by parasitic and infectious diseases. There is a demand for a National Food and Nutrition Council which, in collaboration with the National Planning Authority under the President, would counsel and control the various ministries.

In Ecuador a law was passed which created a "Supreme Council for National Food and Nutrition policies"<sup>67</sup>. This Council consists of the President of the National Planning Bureau and the State Secretaries of the Ministries of Agriculture, Education, Health, Industry, Fisheries and Social Affairs. The function of this Council is to propose to the President the acceptance and implementation of national food and nutrition policies, to determine the division of labour among the individual ministries, to authorize and supervise international cooperation in this field, to take out loans for this purpose, to analyze and approve the annual plans of the Technical Implementation Secretariat, and to give information to the President of the Republic and to submit suggestions to him.

At the beginning of 1975, an independent Food Ministry had been created in Peru with the objective of bringing about a qualitative and quantitative improvement of the nutrition level of the population<sup>68</sup>. This was to be achieved by harmonizing the relationship between demand for food and the potential food supply. The areas in which this ministry worked are: production, marketing, consumption, research and education. In the field of production, the production of food for human consumption was to be stimulated, food planning should be introduced, credit programmes should be reoriented and strengthened, the necessary production inputs including infrastructure were to be promoted. In the field of marketing, the policy should concentrate on price policy, subsidy policy, modification of marketing channels, etc. In the consumption field, education, publicity and advice on nutrition were to be carried out. The nutrition plan of this ministry was only completed at the end of 1975; in 1977 the ministry was reintegrated into the Ministry of Agriculture.

Although in most of the Latin American countries not only nutrition institutes but also intersectoral institutions for formulating intersectoral national food and nutrition policies have been created since the beginning of the 'seventies, it is still not yet clear what a national food and nutrition policy is. Consequently, no such policy was implemented.

#### 4.4. National Food and Nutrition Planning

What is a national food and nutrition policy? The Interagency Project defines such a policy as follows: A food and nutrition policy is a "coherent set of principles, objectives, priorities and decisions, adopted by the state and implemented by its institutions as an integral part of the national development plan, in order to provide for the entire population in a given time food and other social, cultural and economic conditions indispensable for an adequate nutrition and food welfare"<sup>69</sup>. The definition of a food and nutrition policy by the Institute of Nutrition for Central America and Panama (INCAP) reads almost the same: "A food and nutrition policy can be defined as:

- an orderly and coherent collection
- of proposals, principles and decisions of a general nature,
- pronounced by the highest national political decision-making authority, within the framework of the policy for social and economic development,
- on the basis of a simplified model,
- which guides the development of coordinated sectoral actions and makes the creation of favourable starting conditions (legislation, motivation, etc.) possible,
- by providing necessary resources for their implementation
- in order to improve the nutritional status of the whole population of a country quickly and satisfactorily"<sup>70</sup>.

Food and nutrition planning is viewed mostly as a necessary but not a sufficient basis for such a policy - in spite of all the disenchantment with planning in Latin America during the last fifteen years<sup>71</sup>. If planning is considered not as an intellectual policy substitute but as the result of a logical process of thinking, then food and nutrition planning can in fact highlight important aspects of a national food and nutrition policy. In the following, planning is understood more as an iterative mechanism for the presentation of problem categories, which covers diagnosis, identification of intervention alternatives, implementation and evaluation. In this sense, planning is merely a systematic arrangement and sequence of arguments<sup>72</sup>. The fact that this definition lacks important elements - namely, those of ideology and of power - will be taken gradually into consideration.

In a technocratic planning cycle, the starting point of national food and nutrition planning is the determination of an objective. The advocates of a pragmatically oriented national food and nutrition policy generally see no difficulties here, as a satisfactory nutritional level can be characterized quite clearly. INCAP formulates it as follows: "Even if there is no final goal for development (i.e. there is no maximum development) there is an optimum level of nutrition

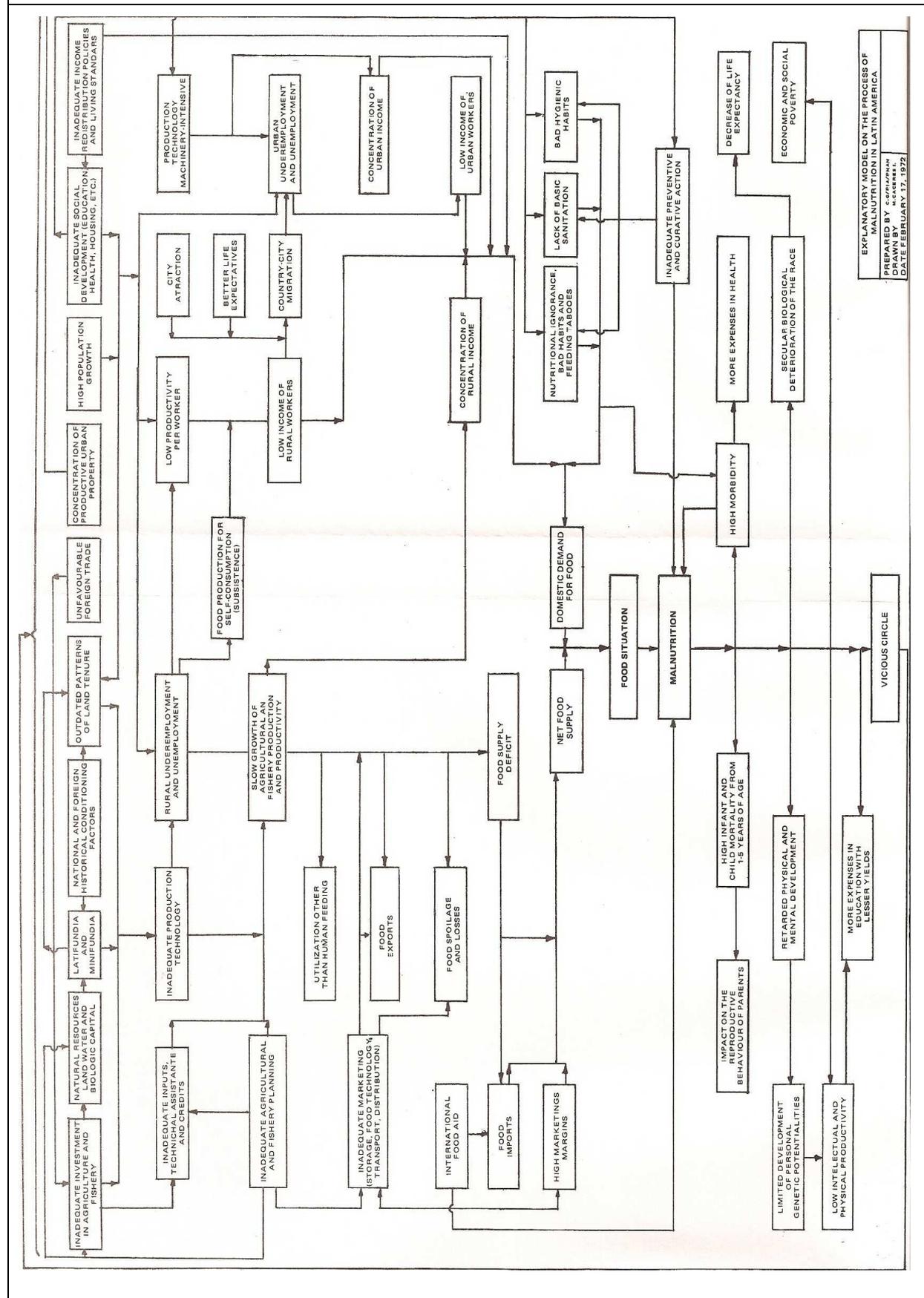
which is achieved when the poorest class of the population can, with its income, comply with the nutritional recommendations required for normal development"<sup>73</sup>.

This statement is certainly problematic. For one thing: What does normal development actually mean? For another: Who makes the recommendations on the necessary intake of food? Thirdly: Can it be considered optimal, if mere normal development is aimed at for the poorest classes? What about the luxury consumption of the higher classes and the social costs? One could formulate a number of other objections to this statement. What is certain is that not even the usual recommendations for nutrition - expressed in daily intake of nutrients like calories, proteins, vitamins, minerals and amino-acids - are lacking in controversy and that such recommendations often operate with rough and ready rules, which include estimates, guesstimates and vested interests<sup>74</sup>. For determining a 'normal development' and the implied recommendations for the intake of food or nutrients, approximate or heuristic methods are mostly used. For this the individual consequences of undernutrition or malnutrition must first of all be determined. A large number of investigations - beginning with the classical Minnesota experiment - have pointed out a multitude of consequences arising from undernutrition and malnutrition<sup>75</sup>.

For the individual, the consequences can be: a retarded or lower mental efficiency with respect to psychomotor, adaptive, linguistic, communicative, intersensory and social patterns of behaviour including intelligence, a lower capacity to learn, less work productivity, a higher susceptibility to disease, a lower life expectancy<sup>76</sup>. These relationships between intake of nutrients and disease can be substantiated, but there are many other consequences of undernutrition for which - even though they appear with higher probability - correlative connections exist for which causal explanations cannot be found<sup>77</sup>. Such studies can indicate the intake margin of nutrients required to eliminate - with a certain degree of probability - what is socially considered as negative consequences. 'Normal development' is characterized by the elimination of negative consequences for the individual. And this elimination of negative consequences depends on a certain intake margin of calories, proteins, vitamins, minerals and other food constituents. Such a margin is, as a rule, determined by recommended minimum and, in some cases, maximum requirements of the individual nutrients<sup>78</sup>. Such recommendations form the basis for a goal function of food and nutrition planning.

On the basis of such recommendations a food budget is developed which is acceptable in terms of nutrition and costs as little as possible<sup>79</sup>.

Table 2 – Explanatory Model for Malnutrition



If the goal of a national food and nutrition policy is fixed on the basis of this determination of a certain margin for intake and supply of nutrients, then the causes for a deficient supply have to be identified within the framework of the technocratic planning cycle. The table on the other page presents an explanatory model for malnutrition in Latin America<sup>80</sup>. This model is certainly important and at the same time inadequate. It neither identifies the historic dependence of Latin American economies on the import interests of the industrialized countries as an important cause of the nutrition problem, nor does it take into consideration the necessary regional differences when explaining malnutrition. Moreover, it does not illustrate various levels of an analysis of causes, which result from the specific purpose of such an analysis. Because, the purpose which is most often indicated, i.e. to identify only such causes which can be dealt with through nutritional interventions, depends after all very clearly on the conception of the feasibility of execution of a definite nutritional intervention within the framework of political, administrative and other constraints, which are taken as present. We will come back to that later<sup>81</sup>.

Not only in the Latin American approaches to a national food and nutrition policy are three interdependent aspects analytically distinguished, which clarify an intervention-oriented analysis of causes of the nutrition problem and which - in spite of relatively similar selection of words - go beyond the 'pre-revolutionary' explanation of malnutrition. These three aspects are: the demand for foodstuffs, the supply of foodstuffs and the biological utilization of food<sup>82</sup>. These aspects are supposed to characterize the plan objectives of such a food and nutrition policy:"...

- a) to attain a reasonable level of availability of food and nutrients for the people,
- b) to raise the effective demand and attain a reasonable level of food consumption for the entire population, particularly for the poorest classes,
- c) to guarantee a good biological utilization of food and nutrients which the population consumes"<sup>83</sup>.

The outstanding feature of a national food and nutrition policy is supposed to be the compatibility between the individual policies oriented to these three aspects.

Generally, these three aspects of the nutrition problem are traced back to certain determinants. Under "demand" the determinants are generally: income, population growth, product prices, food propaganda, consumer education, food habits, etc. Under "supply" the following are mostly discussed: internal production of food for human consumption, imports and food losses due to storage, spoilage, etc., and under "biological utilization of food", a reference is usually made to the poor absorption of the food consumed due to infectious diseases. Projects, programmes or policies, which in their context characterize and support a national food and nutrition policy, can be ascribed to these influencing factors. A number of such policies were already mentioned above; they need not be repeated here again<sup>84</sup>. Occasionally this rather

intuitive enumeration of apparently nutrition relevant programmes and policies are contrasted with a systematically planned design of policy models. Examples of the policy models and sub-models are to be found in the works of Viau in Guatemala or in the works of the Latin American Centre for Health Planning in Chile<sup>85</sup>. These models do not necessarily have to be global models of an integrated national food and nutrition policy. Very often the construction of sub-models on partial aspects like that of marketing, production subsidies, intra-family consumption structure, rationing, etc. seems to be more feasible and more meaningful.

Two scenarios are taken to illustrate the problem. The first scenario assumes that the national availability of food corresponds to the norm of a rational nutrition or is even greater than this. The second scenario assumes that there is a deficit between rational norm and national availability. In the case of the first scenario, distribution-oriented policy models will have to be elaborated, in the case of the second scenario, production-oriented policy models.

At this point not much need be said about production-oriented policy models. The work of INCAP as well as that of the Organization of Central American States (ODECA) has contributed a great deal towards clarification of this aspect<sup>86</sup>. What it mainly involves is the setting of material production objectives on the basis of a rational food budget as opposed to the traditional practice of setting up monetary and arbitrary statistical production objectives in the name of an x-percent production growth. A second step is the verification of the possibility of different production incentives or production controls for different foodstuffs with different nutritive values. Some of the most important questions which arose here have been outlined by Aranda-Pastor with El Salvador as the example; his exposition makes it clear that it was probably the first time in Central America that a comprehensive model of a production-oriented national food and nutrition policy was set up<sup>87</sup>. This model implies the following steps:

- 1) The proportion of individual foods in the total food consumption during the decade from 1960 to 1970 was analyzed on the basis of the perspective plan for development and integration of agriculture for Central America and for the individual countries. Further analyses referred to food consumption in the years 1964, 1965 and 1966, on the basis of which food consumption for 1970 was forecast; this projection was then compared with the real data for 1970.
- 2) After this, the composition of food for daily consumption was determined and qualitatively desirable recommendations were formulated in order to ascertain the requisite volume of production. Every element of the recommended daily diet was analyzed as to its calorie, protein and fat content, in order to be able to calculate the total required food-intake per person. On this basis, the food demand and the food requirement for 1970, 1980 and 1990 for the whole of Central America and for its

individual countries were estimated, at the same time they were differentiated according to social stratification at national level. Here, the rise in per capita income, population growth and income distribution were also taken into consideration.

- 3) A global diagnosis of the food and nutrition situation (health, agriculture, education, etc.) was based on nutrition surveys and on the recommendation for an adequate diet at minimum prices, which INCAP had already introduced or formulated before.
- 4) The elaboration of long and medium-term objectives for the national food and nutrition policy within the sectoral plans is prepared by a multi-disciplinary working group. In the case of El Salvador, for example, a 30 % increase in the total demand for agricultural products was fixed as the plan objective. This corresponds to an annual growth rate of 4.4 %.
- 5) It was decided to use projects and programmes to integrate specific measures in the area of food and nutrition policy into every single sector plan in conformity with the respective sectoral policies.
- 6) Finally, it was hoped to implement a food and nutrition policy by creating a National Council for Food and Nutrition, through which all these measures would be directed. This agency was to be an interministerial committee which would be coordinated with the central planning bureau through an executive secretariat and which would then coordinate the food and nutrition measures in and between the sectors.

How far this model was integrated into the actual agricultural policy of El Salvador will have to be examined in greater detail. As a model, however, it had very concrete effects on the definition of the role, functions and limitations of a national food and nutrition policy.

The other scenario deals more with distribution-oriented policy models. This is naturally a mere analytical distinction between production-oriented and distribution-oriented policy models; production-oriented models must also include distribution-oriented aspects, as otherwise with constant distribution of food supply, an - in economic terms - substantial food surplus would have to be produced, which would be suboptimal in view of limited financial resources; it is suboptimal in terms of political economy, if such a policy model implies a food consumption of the higher classes of about 200 % of the rational consumption. What, therefore, is a distribution-oriented policy-(sub)model? It is evident that a relatively equal distribution of food consumption per individual (naturally differentiated according to age, sex, climatic conditions, etc.) has the lowest opportunity costs, which is seen in the fact that the mortality or morbidity rate due to undernutrition and overnutrition is minimal.

A large number of the distribution-oriented models, which have been elaborated up to now, confine the policy to the undernourished target group. An example of this is the above-mentioned World Bank study on "Undernutrition and poverty"<sup>88</sup>. Such models are also to be found in the national food and nutrition plans, such as the policy formulated in Colombia at the end of 1974 and the one elaborated in Peru<sup>89</sup>. But even general policy models on nationalization of marketing - one of the features of the Peruvian plan - do not say much about the equal distribution of a rational budget for the lower and upper class.

The heart of the problem is only struck by one policy for which there were examples in Europe, too: the policy of rationing. Even if such a policy seems to involve numerous technical and power-related problems, there is a scientific necessity to devote some precise thoughts to it. Because, it is only this policy which can keep the opportunity costs of a purely production-oriented policy to a minimum. In view of the financial resources of many Latin American countries and their relatively weak international bargaining power, in view of the missing cartel-like supply monopoly for strategically important raw materials, this policy is - viewed intellectually - one of the most promising approaches. It is astonishing how few countries have given thought to this till now<sup>90</sup>.

All these remarks on food and nutrition planning are not particularly new and original. It merely seems to be a new classification and arrangement of a jumble of traditional projects, programmes and policies. What is important is that - however intuitive and impressionistic it may be - traditional policies are to be examined for their contribution towards changing the nutrition status of the population. It is precisely the range of this classification which demonstrates in how isolated a manner the nutrition problem was viewed up to now. It points out that a food and nutrition policy cannot be delegated to a single ministry<sup>91</sup>, but that all projects, programmes and policies have to be reviewed through a criterion which was normally considered to be relatively marginal<sup>92</sup>.

#### **4.5. National Food and Nutrition Policy**

This technocratic planning cycle which, starting from a tentative definition of goals, a diagnosis, an analysis of causes, an identification of projects, programmes and policies, their execution and evaluation, generates a revised goal function which is the starting point for a new planning cycle, is certainly an important element for a structuring of the problem but not the essence of a national food and nutrition policy.

The experiences of the past decade clearly illustrate what the necessary elements of a national food and nutrition policy, which contribute to an integral solution of the structural social problems of the mass of the population, should be<sup>93</sup>. Initially one has to break the economy-oriented grip of other sectors on this package of problems which use the criteria of the balance of payments, the capital-output coefficients, the export/import ratios, etc. as target figures and not consumption standards which would imply an optimal supply and/or distribution of vital foods to the population. Only through a qualitative change of decision-making criteria would it be possible to cut the Gordian knot of the structural social problems and that means the nutrition problem too. What seems essential is that national production capacity should be used directly for provision of food to the population by organizing the utilization of national and local resources to this end<sup>94</sup>.

If the statistical data on production and availability of food in Latin America is compared to regional and socio-structurally differentiated data on the individual nutrition status, on family food consumption and the incidence of nutritional diseases, then the symptoms of a structural discrepancy become evident<sup>95</sup>. There is a contradiction between national production volume - not to speak of national production potential - and actual nutrition deficits, which is symptomatically reflected in the usual coexistence between undernutrition and overnutrition. Despite all health and nutrition programmes which were initiated in the last decade, little has changed in this structural discrepancy.

From this point of view, the logic which was selected in the last decade and at the beginning of the 'seventies seems to have been too simple and too meagre; it was indeed understandable to assume that the food situation of the population would have to be improved in order to get control of the structural social problems, and the realization that food cannot be replaced by medicine was also convincing. But the premature conclusions which were drawn from this theoretical clarity did not go far enough. Isolated nutrition programmes, nutrition institutes which were impotent in executive matters, and competing health services cannot be effective in the long run if the common basis of their actions does not comprise an analysis of the structural prerequisites and the historical causes of disease and malnutrition instead of merely the evident symptoms of disease and undernutrition. Such interpretations - relevant to practice and necessary for the preparation of practical action - of the historical origin of disease and malnutrition are only seldom tackled by the planners and politicians<sup>96</sup>.

When discussing the structural preconditions of malnutrition, some authors refer to the characteristics of the development of Latin American agriculture as they were defined by ECLA: slow growth of production, meagre improvement of yields per hectare, lack of diversification, discriminating agrarian structure, poor exploitation of agricultural and human resources and unstable world market prices for foodstuffs, to name only a few characteristics of the Latin American agrarian sector<sup>97</sup>. Some characteristics could be and should be added:

the discrepancy between relatively high yields per hectare of small land owners and relatively low yields per hectare of big land owners, the predominance of the export criterion over the supply criterion and, not least, the key position of foreign companies in the agrarian sector in some Latin American countries<sup>98</sup>. In contrast to this, reference should be made to the almost inexhaustible natural and human resources which, theoretically, could be put to use in integrated food and nutrition planning; such an integral agricultural planning would have repercussions - which are hardly compatible with the existing power structure - on the social structure, the agrarian structure, foreign trade, etc.<sup>99</sup> If the situation in the Caribbean is considered, a special mention must be made of the forced development - continuing since the conquest of Latin America - of the monoproduction of products like coffee, tea and sugar, which, though economically more profitable, have no or only poor nutritive value for the people. This situation leads "to a greater dependence on external sources for the maintenance of an adequate health and nutrition status"<sup>100</sup>.

This discussion on social development in Latin America becomes relevant here<sup>101</sup>. The problem analysis centres on the phenomenon of inequalities between sectors, regions and population groups and the phenomenon of dependence on international decision centres. For ECLA this is more of a technological phenomenon, for its critics it is a politico-economic problem. Because, the discrepancy in production between the various economic sectors one of the starting points of this conception - is based on highly varied ownership forms of production factors which coexist directly side by side in Latin America: subsistence, mercantile production, plantation economy, public and private capitalist production, oligopolies, monopolies, etc. This heterogeneity is reflected in the class structure and in its institutional and legal bases. The national, economic, social and cultural heterogeneity or disintegration, which was identified as one of the insurmountable barriers to technocratic planning up to now, is a product of a century-long forced integration of Latin American countries into an international trade system which takes economic decisions on the basis of criteria other than that of national needs<sup>102</sup>. The dependence of health and nutritional status on this international exchange, diagnosed by Ariza, and the dissimilarity of health and nutritional privileges are a symptom of structural heterogeneity and dependence. These key concepts of a historically oriented analysis of the economic and social development of Latin America seem at the same time to be the key to a cause-oriented integral food and nutrition policy of Latin American countries.

This structural heterogeneity is, above all, evident particularly in the institutional atomization and the resulting privileges for those who have purchasing power, for city dwellers, for organized workers, for adults<sup>103</sup>. It is at the same time reflected in the isolated development of individual sectors and in their poor ability to cooperate. The dependence of health and nutrition on the exterior is seen in the necessity to import and export strategical components

of an adequate health and nutrition service, starting with milk powder and thermometers right up to the problem of "brain drain" and the monoproduction of nutritionally unusable goods.

Despite the above-mentioned "revolutionary" reversal in the focus on the nutrition problem, only a few nutritionists and health planners have penetrated into the structural network of causes which characterizes health and nutrition and its deprivations for the mass of the population. Even if it is right to look for the causes not only in the fields of health and nutrition, but also in the backward-linked areas of economic and social policy, this still does not suffice. The reference to the necessary pragmatism of causal analysis and the explanatory models for the nutritional situation of the majority of the people is indeed understandable, but it cannot be accepted scientifically. And not politically, either. For, such pragmatic explanations, as outlined above, almost always prove to be subrational and conservative: "The causes of malnutrition are found primarily among the malnourished and not in the social order in which they live. Since it is the characteristics of the malnourished and their families, which function as the determinants of malnutrition, changes are required only for those suffering nutritional deficiencies and not for the rest of society"<sup>104</sup>. By doing this, one ignores the fact which cannot so easily be quantified - that undernutrition is the outcome of social, political, institutional and economic organizational forms and power structures. A nutritionist anticipates it quite clearly when he says, "the most telling reason for the neglect of the problem of malnutrition may be the isolation of the power structure from its effects"<sup>105</sup>. Most of the food planners, however, assume that undernutrition can be drastically reduced within the framework of the existing power structure, even within the framework of persistent growth-oriented development strategies. The interventions usually suggested require "(1) no significant changes in the distribution of income or wealth in a country, (2) no change in the consumption habits of that sector of the population that is already well-nourished, and (3) no real shift in development strategies or priorities"<sup>106</sup>.

One of the few studies which explicitly examines the connection between malnutrition and development strategies is the one by Solimano and Hakim on development in Chile between 1930 and 1970<sup>107</sup>. The authors try to prove that the "continued prevalence of malnutrition was a consequence of consistent discrimination against low income strata"<sup>108</sup>; such a discrimination has been inherent in the Chilean development strategy since the 'thirties. During this period, the inequalities between the social classes became more acute, even though Chile was not a stagnating society but was one which was extraordinarily dynamic in economic and socio-political terms. The authors therefore do not believe that the increasing inequalities are based on a lack of development and change, but on the type and the quality of development and change. They substantiate this very clearly by means of an analysis of the social implications of industrial policy, of agricultural policy and also of social policy; for example, they prove that the social policy, which was "designed to assist the poor, turned out,

in fact, to be a device for redistributing resources from lower to middle class groups - or for the exploitation of the lower classes by the middle class"<sup>109</sup>. In this sense, Chile to them seems to be a good example of "what the poor can expect from standard free market development strategies"<sup>110</sup>.

The nutritionists of the Institute of Nutrition for Central America and Panama, too, present empirical evidence that there was economic growth in Central American countries, but the nutritional conditions of the mass of the people did not improve<sup>111</sup>.

What is the conclusion that can be drawn from such analyses? A national food and nutrition policy should be understood as a counter-model to the usual economic planning and economic policy, a model which makes "the reduction of deprivation"<sup>112</sup> but not increase of gross national product the goal of development planning. The position can be justified by saying that "first, strategies previously adopted to maximize economic growth have aggravated rather than diminished the problem of malnutrition; second, that no amount of food supply would ensure adequate diets for those people with inadequate means for their own subsistence; third, that voluntary family planning does not succeed among those whose living levels are so low that they are malnourished; fourth, that applied nutrition programmes cannot have more than a marginal and transient impact on the problem of maldistribution of food and, fifth, that there may be severe limits to the improvement of feeding habits among those who cannot afford to eat properly"<sup>113</sup>. The basic dilemma is evident: "One problem faced by nutritionists confronting planners has been that they are attempting to make the case for increasing some people's consumption in a situation in which planners see their task as one of holding down general levels of consumption in order to mobilize savings for the investment necessary to increase national productive potential. Economic planners have seen their task primarily as one of maximizing production and production potential, leaving the task of allocating consumption largely to politicians. Although planning is essentially about 'who consumes what and when?', planners have generally avoided explicit concern for these questions"<sup>114</sup>. But only few nutrition planners do not try to evade this dilemma, but explicitly formulate: "Our concern is with the pattern and level of consumption over time and between people, rather than with simply the aggregate of production regardless of by whom it is consumed"<sup>115</sup>.

Not only this dilemma between investment and consumption is therefore a characteristic of national food and nutrition policies, but also the dilemma between individual and social rationality. In a debate on the role of income in improving the nutritional situation, one speaker says: "I see lack of income, not ineptness in allocating that income, as a primary cause of malnutrition among the poor"<sup>116</sup>. His main argument here is that possibly the poor allocate their additional income better towards the fulfilment of their needs than the state: "Even if one has some question about how efficiently the poor spend their money, one can still question whether the political system will allocate it any more efficiently"<sup>117</sup>. In reply to

this, another speaker emphasizes the necessity of a change in attitude in the poor through nutrition education, and another one criticizes the luxury consumption of the poor in the form of bicycles and radios<sup>118</sup>. The revolutionary reversal of nutrition ideology which led to the demand for national food and nutrition policies, has also resulted in arguments on styles of development in conferences on nutrition. What therefore began more as a technical discussion on nutrition programmes, ends with the question of goals and means of social development.

This dilemma: individual versus national rationality, is particularly marked in the field of nutrition; because, there seems to be an objective orientation point set by the recommendation for the daily intake of nutrients which will make it possible to examine whether individual nutritional behaviour is rational, or national policy. The basis for this is the realization that undernutrition does not simply get reduced with progressing economic development, measured on the basis of rising per capita income, even if stress is laid on increasing food production and on cost reduction through high-technology-processes. A large number of studies prove the thesis that "the often expressed assumption of a positive correlation between the level of the growth rate and the level of the concentration of income can be considered repudiated"<sup>119</sup>, and further that the improvement in income cannot be considered the sole factor of a nutritional improvement. "The main point is that economic development has failed in most of the countries as a solution to most socio-economic problems. I think we have to find methods to bypass economic development. Economies, young economies, have not been able to solve or even tackle the problem of income redistribution. I know that in theory economic development that redistributes income will solve nutritional problems. Unfortunately in practice such a method of development is not achievable"<sup>120</sup>. To this must be added: "As long as the growth rate was the only objective, and planners and economists and government thought only of reaching the highest growth rate, we had in some countries a relatively high growth rate and growing unemployment. There has been a change in attitude and a recognition that the creation of jobs has to be one of the objectives. Why not consciously make nutrition another objective and find ways and means of solving the nutrition problem? Redistribution of income is not enough."<sup>121</sup>

Is it right to just attribute such positions to different schools?<sup>122</sup> To one of the early development schools concerned with a maximization of the gross national product and to a modern development school which, apart from consideration of the gross national product, relates development more "to standards of living - to human happiness, perhaps"<sup>123</sup> and sees improvement in the quality of life in "such material terms as living standards, employment, adaptive non-formal education, housing, health, and, very definitely, nutrition"<sup>124</sup>. Should economists and nutrition experts only try to learn from one another and speak a common language in order to be able to integrate nutrition into development plans? Is it so simple? Only few nutrition planners clearly notice the qualitative difference between the one and the

other, namely "that it is a salient point that such a concept of food and nutrition policy (as it is formulated by the Interagency Project and INCAP; D.S.) is not an 'integral part of a national development plan'; rather, it would approach being the national development plan itself"<sup>125</sup>. Most people take this to be an impractical approach, since the necessary data is lacking, since an integrated planning is hardly possible and since central planning is also not possible. They therefore demand a pragmatic approach, without going into it in detail; they just enumerate the commonly known difficulties of a precise collection of data in this field<sup>126</sup>. Even Del Canto, for example, calls for a pragmatic approach on behalf of the Institute of Nutrition for Central America and Panama, the prerequisites which he lists as necessary preconditions for such a pragmatic approach, make such demands seem contradictory. Some prerequisites he enumerates are: "(1) the recognition of good nutrition as a basic human right, (2) the assumption that nutrition can be significantly improved without waiting for the country to reach a given level of economic growth, (3) the recognition of the overwhelming importance of a clearly enunciated political decision"<sup>127</sup>, and so on.

But Del Canto is aware of the contradiction of his demand. Together with a few other colleagues he points to the necessity of a qualitative new approach to development planning<sup>128</sup>. It is not without reason that the guidelines for the formulation of a national food and nutrition policy of which he is one of the authors have not yet been accepted<sup>129</sup>. These authors recognize only too clearly the qualitative difference between a national food and nutrition policy and the factual development strategy of the Central American countries.

The political demands of the Peruvian government - presented in the first session of the standing Advisory Commission for Food and Nutrition in the Andean Region in May 1975 - show very clearly that this problem has attained political recognition in some quarters too. The Peruvian government said: "Even if it is right that the situation of food supply and the nutritional situation have common characteristics in countries with a certain economic and social development level, it should be remembered that the approaches to a solution are ideologically, conceptually and operatively inseparable from the political conception of development. Therefore such proposals for a solution cannot be presented in a political vacuum, or in commonplace technical formulae or cyclical explanations, but only in the historical context of national development processes and of integration in the Andean region. One cannot formulate a food and nutrition policy if it does not basically correspond to a historic reality, which is reflected in power relations and in external dependence. That is why we believe, that the fundamental approaches to solution are to be found in a change in the socio-economic conditions of each and every country, in the termination of external dependence and in solidarity with the subregional integration process of the Andean countries"<sup>130</sup>.

Theoretically, all this may be clear and sensible. But the political reality, in Peru too, contradicts this claim. Given the actual frame conditions in politics, a lot of ground will still have to be covered before these approaches can be put into practice, the barriers to such an intersectoral policy are too strong. That is exactly why pragmatic approaches and simplified models of a national food and nutrition policy are demanded, as the general consideration of such a policy seemed to lead to intellectual Utopias without executive power.

But such pragmatic approaches would greatly dilute the essential quality of national food and nutrition policies. Because the basic demand is: the orientation of sectoral and national projects, programmes and policies to the fundamental nutritional needs of the population. It is evident that elaborations of national food and nutrition policies were often accused of being nothing more than Utopian models. Seemingly realistic rational arguments were confronted with such allegedly naïve models arguments which were based on the traditional economic argumentation rituals about purchasing power, growth indices and increase in the foreign exchange earnings. In the future, too, such arguments will accompany the presentation of national food and nutrition policy models. They are right and wrong at the same time. They are right, because they signalize the actual limitations of a planned policy under the given political-economic conditions which aims at the production and distribution of values-in-use and not at the traditional policy of manipulation of monetary macrodata. Such arguments are wrong, because precisely in the area of health and nutrition, the consequences of such a policy become most evident and prove the social irrelevance of monetary macrodata. This discrepancy is basically the one between market-economic spontaneity and interventionistic reality; it is a political and social discrepancy. The health sector and the food sector are - out of technical necessity - on the side of interventionism in market operations; its arguments and goals of social justice and social balance - condensed in policy models - will necessarily provoke controversy in mixed economies. And depending on the political power relations, they will be more or less implementable - less in most countries.

The demand for pragmatic approaches, therefore, obscures the basic discrepancy between a national food and nutrition policy and the policies usually set out in the development plans. It obscures the structural difference between a value-in-use planning and a value-in-exchange planning, between a consumption planning and an investment planning which intersects the integrated economic cycle and gets stuck half-way. This demand is certainly understandable from the viewpoint of those who stand in the marginal position of health and nutrition planners and, in view of the consequences of traditional economic and social policy they and their clients have to suffer, call for a cause-oriented and integrated economic and social policy. But such an integrated policy is not possible because of the omnipotence of traditional economic planning and economic policy and the resulting allocation of resources. And it hardly appears to be implementable and viable in view of the vital interests of a few persons

which can be realized through traditional economic planning and economic policy. If the demand for pragmatic approaches were to be taken seriously, then this would definitely lead to a more efficient social policy, the institutional prerequisites for this policy are there, at least in Latin America. But it would fundamentally dilute the intended impact of a national food and nutrition policy.

Even though national food and nutrition policies hardly seem capable of being implementable under the present conditions in Latin American politics and the power structure supporting it, nevertheless the discussion on it has given indications of the important approaches for a policy, planning and evaluation oriented to the needs of the mass of the population. In this sense, the plans for national food and nutrition policies should be taken as Utopian models against which actual policy can be measured. An important starting point for such a model is the preparation of a rational food budget as an orientation point of critical analyses; a rational food budget operationalizes the most fundamental basic need of the masses, the condition *sine qua non* of survival - nutrition. A further important starting point is the presentation of the fundamental connections between health and nutrition as target figures and projects, programmes and policies from the different sectors; inversely it means the demand for an analysis of nutritional and other need implications of the most varied projects, programmes and policies. The following outlines are intended to define and operationalize these starting points.

## 5. Résumé and Intermezzo

For hundreds of years, the needs concept has been found in the introductions of social science textbooks. In the 17th century Locke had written: "The natural value of everything consists of its ability to satisfy necessary needs or to serve the comforts of human life"<sup>1</sup>. In the 19th century Marx dedicated the third sentence of his 'Kapital' to needs: "The commodity is at first an extraneous object, a thing, which through its attributes satisfies human needs of any kind. The nature of these needs, whether for example, they originate from the stomach or from the imagination, does not change the crux of the matter"<sup>2</sup>. At the beginning of the 20th century Menger wrote: "The beginning of all theoretical studies in economics is needy human nature. Without needs, there would be no business, no national economy, no science dealing with these. Needs are the final reason, the importance of their fulfilment, the final measure, the guarantee of their fulfilment, the final goal of all human economy. The theory of needs (the knowledge and understanding of its substance) is of fundamental importance for the economic sciences and at the same time it is the bridge which leads from the natural sciences, especially

biology, to the humanities and to the economic sciences"<sup>3</sup>. In 1974 the Brockhaus defined the economic sciences as "the totality of research and theory, the function of which is the knowledge and presentation of economic contexts, activities and decisions, in particular the production, distribution and consumption of goods and services for fulfilment of human needs"<sup>4</sup>. It is therefore a commonplace observation that economy and society have their origin, function and justification in fulfilment of human needs. Apparently it was so commonplace that it was lost to sight.

Sociology had dehumanized needs by adapting individuals directly to social requirements and to the needs of the social system. Economics conceded an individuality to the needs concept which could not be confirmed even by individual psychology. The logic of sciences of the social sciences finally exposed the discussion on needs as a vicious circle. In this sense, the social sciences led to a neglect rather than to a clarification of the needs concept.

What the social sciences tried to ban from their repertoire of concepts emerges almost spontaneously again and again in the ease of practice-relevant questions. The discussion on social indicators in the West, the return to the first basic law of socialism in the East and the vehement demands for need-oriented economic and social policies in the South are clear indicators of this. If the social sciences wish to be practice-relevant, then they cannot simply forget and wave away the needs concept by declaring, as some authors do, that this concept is unusable and by arbitrarily choosing another such as interests or living conditions<sup>5</sup>. Indeed, the discussion in the social sciences sometimes seems to support the demand that this concept should just be forgotten and thrown on the rubbish heap of history. But, is it not a sign of the "return of the repressed" if this concept is used again and again almost everywhere?

### **5.1. The Simplicity of Needs**

It is certain that we could dispose of this concept if it were really void of substance, ambiguous and nebulous, as mostly seen. One could say this concept had no substantive foundation if needs were merely considered as a hypothetical construct to be applied to similar or at least functionally equivalent actions; in this sense, needs would have no real essence or substance. If this is so, then why is this concept used time and again? Does not this fact in itself point to the difficulty of this stand? Why is the needs concept repeatedly mentioned in connection with such simple concepts as nutrition, health, housing, clothing - as something needed to overcome need. If the needs concept were a mere hypothetical construct, this almost timeless and worldwide return of the repressed would hardly be comprehensible.

And it would also be incomprehensible if such a positivistic attitude, which merely names everything but understands nothing because there seems to be nothing real which can be grasped, understood and measured, would be relativized through a socio-critical and normative diction - a diction which, for instance, pushes the question of inequality to the fore - something partially correct. This diction is most clear when, for example, poverty is merely understood as inequality<sup>6</sup>. But this conception is as void of content as constructivism. If poverty were merely a problem of inequality, a problem of relative deprivation - to put it more elegantly - then it would be incomprehensible why, for instance, inequality in relation to the number of freckles or the inequality in relation to number of ex-fiancés is not viewed as poverty. Indeed, a needs concept could not be justified at this level of non-substantiality. It could be replaced by the concept of inequality. But one could also take any other concept and one would have the same difficulties with it.

Now, such a non-substantiality is certainly not neutral. Krause shows it clearly with respect to the economic truism: "Need is the feeling of deficiency coupled with the desire to overcome it.' This key statement of 'bourgeois' political economy is strangely devoid of and at the same time full of consequences: what is pre-supposed is a subjective situation of deficiency which is not determined in greater detail contextually and substantively. Its existence is apparently enough to justify a subjectively determined and determinable action to overcome the deficiency. The basic problems of economic activity are formulated as general problems and could - it may be assumed without stating any further conditions - be the interpretative basis of any concrete situation"<sup>7</sup>. Such non-substantiality has its function. Everything can be scientifically proved, substantiated and legitimized. If economic activity is need-oriented but these needs are interchangeable and cannot be weighted, then one can - as many economists do - limit the study of needs "to those aspects which are relevant for the situation"<sup>8</sup>. Then, very cleverly, it is no longer the needs as a measure for economic activity which are relevance criteria but the existing economic network of concepts; economic questions thus become scientific but irrelevant. But the repressed does somehow return. Even if it is in the form of fear. "The danger of saturation (of needs; D.S.) which is constantly evoked by economic science loses much of its threat under this aspect (of plasticity of needs; D.S.)"<sup>9</sup>. Non-substantiality must be saved; even if it is through the anthropological theorem of the plasticity of needs<sup>10</sup>.

Glastetter, too, like many others, states that the "two theses - shortage of means and unlimitedness of needs - were very rightly the starting point of reflections on economic theory and economic policies for centuries"<sup>11</sup>. However, he realizes very clearly that these are mere hypotheses which are basically unsubstantiated and have to be continuously verified. For him, the thesis of unlimitedness of needs is a fact. This fact becomes a problem only if economic problems arise because the evolution of capacity is faster than consumptive demand. Then

needs would again become a problem to be analyzed scientifically. Only then? Just then? Not always?

Freud's almost naïve reference to the distress of the poor and the lower classes and the - too often concealed - need-related basis of the works of Karl Marx and other classical political economists, which Engels perhaps over-simplified to the concepts of food, drink and housing<sup>12</sup>, and not lastly, the actual action areas of state interventionist policies, point to a relative simplicity of need categories and need complexes - which the social sciences hardly thought about at all. However, naïve descriptive social empiricism has only to ask the man in the street what needs are; the answer will be: health, education, clothing, housing, love, etc.<sup>13</sup> The envisaged economic planning of the German Democratic Republic operates with these need complexes, just as it does with pragmatic discussions on social indicators and quality of life. This has been dealt with in detail above. Even if the needs of the man in the street are an outcome of the production structure or a reflection of the production relations, his need categories nevertheless point to the validity of the mentioned need complexes<sup>14</sup>. This is where science, politics and everyday life have one of their rare points of convergence. At the same time, these need categories also have a wide international and intertemporal validity - not only as a customary and traditional articulation matrix for explaining behaviour in the daily context<sup>15</sup>.

Mandel vehemently argues against the thesis of the multiplicity of needs: "An - even partly serious - anthropological and historical study will, on the contrary, show that these needs have remained astonishingly stable: food, clothing, housing (and under some climatic conditions heating), protection against wild animals and weather, the wish to adorn oneself and to train the muscles of the body, the survival of the species, - these are some basic needs which do not seem to have changed as long as homo sapiens has existed and which even today constitute the major part of consumption expenses. If we add to this the needs of hygiene and health (which are expressed at a particular level of consciousness as a mere self-preservation instinct) and the need for organizing leisure-time (a mere extension of the need to adorn oneself, the need to exercise the body muscles and the need for knowledge, which are as old as man himself), we find that almost all the consumptive expenses - even of the richest countries of the world - are concentrated in a small number of basic needs, which are more in the nature of general anthropological characteristics rather than the outcome of specific historical conditions. As these needs have remained basically unchanged since the appearance of man on earth and as even the richest property-owning classes of the past hardly extended their consumptive expenditure beyond this surprisingly narrow range of needs, there is no reason to assume that the existence of a socialist society, of an abundance of goods and of an awareness which is individually and socially much more mature than in the past, will bring about any major upheavals"<sup>16</sup>. As an argument against the thesis of the apparently unlimited

multiplicity of ways and means to fulfil these few basic needs, Mandel states that it can be proved that "the increasing food consumption has been replaced by a rational consumption"<sup>17</sup>, which is particularly related to the criterion of health; similarly in the case of other basic needs, there is a tendency towards rational consumption.

Mandel's Utopia points to the heart of his needs conception: "The free distribution of bread and milk and all basic foodstuffs would trigger a psychological revolution without precedent in the history of mankind. The livelihood of each man and his children would in future be simply assured by the fact that he is a member of the human society. For the first time since the appearance of man on earth the insecurity and instability of material existence would disappear, and together with them the fear and frustration which are evoked by this insecurity - indirectly even in those who are part of the ruling classes"<sup>18</sup>. "Insecurity and instability of material existence" - for Mandel this is the starting point of his criticism of the capitalist system and the orientation point of his Utopia. A discussion on needs without consideration of material conditions for existence and without consideration of security and - as he substantiates quasi anthropologically - equality, is meaningless to him. One could also express his Utopia as: "Security that social equality exists and will exist in the satisfaction of basic needs"<sup>19</sup>.

In this approach, the differentiation between basic and subsidiary needs<sup>20</sup>, between primary and secondary needs<sup>21</sup>, between pressing needs and aspiration needs<sup>22</sup>, and so on, seems to be highly problematic. Such differentiations signalize a conception of the naturalness or nature-relatedness of needs. And indeed, this is the point which was also seen by Marx, Freud and Engels. One can also formulate the problem in a more modern form as the limits of the socialization of needs; the question which particularly arises is whether there are transculturally rooted needs outside the socialization processes. Although it is clear that "needs can only be called invariant if a correspondingly high level of abstraction is taken; that even the so-called basic needs are subject to extreme regional and historic variations"<sup>23</sup>, is easily determined. But that is not the point.

At times it is argued that social influences, particularly those of the so-called second socialization, are related more to the instrumental aspects of need satisfaction than to aspects of principle and that therefore the fundamental aspects do indeed have a very wide validity, plausibility and simplicity<sup>24</sup>. Because, the thesis that needs are transmitted through socialization is not valid in this broad and encompassing generalization: certain needs are transmitted or deflected by socialization more than others; there seems to be a natural, material sub-stratum of needs that points to a relationship between society and nature which has often been neglected in the social sciences - even though the selection alone of these words is problematic. At present, there is still a theoretical gap in the social sciences, a gap which cannot be filled even here but which should not be overlooked. For, nobody contests

the fact that nutrition, for instance, is a basic need. And nutrition points back to biology and physiology even if the determinants of nutritional habits are social, cultural and economic. Needs therefore extend into the interaction between nature and society, even if such a strict classification does not seem to be meaningful precisely because of this interaction as it would tear interdependent elements apart.

Need definitions rarely point to this aspect that "need is interpreted as a generator which regulates the metabolic process between man and nature as well as social interrelations, but which itself receives continuous impulses from nature and society"<sup>25</sup>. In this sense, needs are prerequisites of societies and their sciences, they are "exigencies of the maintenance and development of social and individual life"<sup>26</sup>. Needs thus signalize the will to survive, that is their material substance.

Needs therefore stand in an interdependent relation to one another. At times the terms used are "homeostatic relation"<sup>27</sup> or the "systems nature of needs"<sup>28</sup>. Now it is certainly correct to point out that everything is interdependent with everything else, but at the level of details this is not quite correct. There are necessary and not necessary prerequisites for survival. Even if this reasoning would elevate only nutrition and breathing to basic needs - would that be problematic? But prudence must prevail. Nutrition is clearly connected with other things, which are called need complexes in a pragmatic discussion, such as health, housing, clothing, working conditions, etc.<sup>29</sup> Even if such connections relativize classification of needs, there does seem to be a needs hierarchy, if needs are determined materially. And there seems to be a justification then in making an analytical differentiation between basic and subsidiary needs, primary and secondary needs, pressing needs and aspiration needs – this, however, does not mean they should be separated definitely and categorically.

It seems that a differentiation between basic and subsidiary needs, physical and psychical, necessary and superfluous, absolute and relative, real and arbitrary, unavoidable and imaginary needs is wrong and right at the same time. Such a differentiation does mostly become a separation in the sense that the secondary ones are considered to be independent of the basic ones, that the biological are separated from the social, that an animistic and not a hoministic conception of need is taken as a basis, that one would like to satisfy basic needs of the mass of the population without having to think about the opportunity costs of the luxury needs of the ruling class, that one would neglect needs like those for communication, friendship, sleep, job satisfaction, etc., that one would not grasp the origin of needs from production/consumption dialectics or from the capital mechanism or from the production relation, that one would thus neglect the social relationships<sup>30</sup>. Such reasons are legion. They are right, but at times they throw out the baby with the bath-water. They attack positions which hardly anyone takes up, they burn anything at all in effigy because the flames are such fun. But they are often totalitarian. What is associated with biology or psychology in naïve

need concepts, is now attributed to the society, norms, habits and customs because the interdependence between social areas has been recognized and internalized; this was shown in the example of the need-less sociology of Parsons. Moreover, they are mostly utopian. Thus, at times the following hypothesis is supported: "The organization of society for instance CAN provide for a regular and habitual permanent satisfaction of the elementary biological needs"<sup>31</sup>. And it is then reasoned: "By creating such a guarantee situation the underlying need WILL be changed"<sup>32</sup>. A reification of the hypotheses thus takes place. Such reification would certainly be less problematic if one would consider only a few sub-cultures or the situation of most of the industrial countries at the end of the 1970s; but once the international connections and the internationalization of the pauperization process and of the enrichment process are included, this is not so simple anymore. Then one must confirm that the "animalistic" stage of human history has by no means been overcome.

There is no doubt that the need classifications, which almost extend into infinity and which were dealt together with the rediscovery of the basic law of socialism, are relatively fruitless<sup>33</sup>. Political economy did not strike out the concept of need from its repertoire of basic concepts without reason, because nothing resulted from this discussion except classifications. It is certain that such classifications are fruitless as long as criteria are not used as the basis of classification. The ordering principle can be the axiom which underlies this essay and which is as follows: "If one keeps the axiom of the value of life in mind, then one cannot equate food and narcotics, compare productivity with compulsory performance and take the GNP to be social wealth"<sup>34</sup>.

Like nutrition, breathing seems to be a necessary prerequisite for life and survival. Why is this need for oxygen not mentioned in the pragmatic discussion on needs outlined above? Because there is no shortage at present, because oxygen has no value-in-exchange but only value-in-use. This reasoning seems to lead to an important point, to scarcity and (the possibility of) shortage as a criterion for differentiation of needs. Even Mandel does not mention this basic need. Why not? Because, in this case, there are at present no social inequalities or discriminations based on the control of need satisfaction mechanisms. Inequality - unnecessary social inequality - is therefore an important constituent of need. But this concept must be filled with substance; this has been pointed out above. And social inequality indicates scarcity and shortage. Scarcity makes values-in-use become values-in-exchange. And values-in-exchange signalize power and powerlessness. This is a constituent of needs which are antagonistic when socially relevant needs, and not such ubiquitous ones as sneezing and breathing, are involved. Thus, needs reflect inequality, not an abstract but a concrete/material inequality. And this inequality is measured by the possibilities to survive. But not just bare and naked survival.

When these questions are clarified, then the needs concept - as it is used in the pragmatic discussion described above - can be summarily discussed, in order to arrive at conclusions which will link theory, empiricism and practice. For this purpose we go back to a well-known subject.

A common subject of almost all social sciences which deal with needs, is the differentiation between need, requirement and demand, or the confusion of these terms. It seems as if a discussion of the possibilities of a need-oriented social and economic policy can start at this point, i.e. where the levels separated so far of the extremely non-uniform differentiation between need, requirement and demand on the one hand are connected with the actual areas of national planning or state-interventionist social and economic policy which can be characterized by concepts such as nutrition, health and housing, on the other.

## 5.2. Need Taxonomies

The area of public health is a good example for clarifying the differences between need and demand. An expert commission of the World Health Organization (WHO) differentiates between: perceived need, professionally defined need, scientifically confirmed need, potential demand, expressed demand<sup>35</sup>.

1) In the area of public health, the 'perceived need' corresponds to the need for health services which the individual experiences or perceives himself and acknowledges as a need. Under certain conditions, this need need not coincide with the need defined by science or by a doctor; in this case, the difference between need and simulation or between socially acceptable and not acceptable need interpretations can be seen.

2) In the case of a 'professionally defined need' it is the need which is recognized by a health expert from the point of view of advice, prevention, management or therapy. This professionally defined need can by all means deviate from the perceived need of the patient, when for instance the patient does not accept the diagnosis of a doctor because of less or more information or when the doctor diagnoses a disease which has not yet reached the perception level of the patient.

3) A 'scientifically confirmed need' is defined on the basis of objective measurements of biological, anthropometrical or psychological factors, even when a patient or a doctor does not wish to accept it. However, says Cooper: "'need' is, in any case, a medical opinion, not a medical fact"<sup>36</sup>. According to the WHO, this type of scientifically confirmed need is also

present when preponderant expert opinion supports a particular interpretation of need or when historical or sociological proof of this type of need has been attempted. Generally it is assumed that such a need corresponds to those conditions and manifestations of disease which are laid down in the International Classification of Diseases<sup>37</sup>; this Classification is considered as a code for a scientifically confirmed need for a public health service.

4) The 'potential demand' for public health service is related to a perceived need (by the patient) or to a professionally or scientifically confirmed need (by one or more doctors). The demand which would correspond to this need criterion and thus would have a demand legitimation, is called potential demand, even if - for any reason whatsoever - it is not or not yet realized.

5) The 'expressed demand', on the other hand, is the actual and factual demand by the population for the available public health services and facilities. Through waiting lists, limited resources, difference between perceived and professionally defined needs, etc. this expressed demand can be greater than the actual utilization of public health facilities.

French studies on health economics, too, make a similar differentiation between different types of needs. They differentiate between real and instrumental needs on the one hand and demand on the other<sup>38</sup>. Real needs, according to them, can be operationalized in the public health sphere by getting doctors and epidemiologists to determine the distribution of diseases in the population. On the other hand, instrumental needs refer, for instance, to the bed/population ratio or to the duration of stay in hospitals, i.e. to set norms for the utilization of public health facilities. Demand, finally, is different from both and by no means identical.

Bradshaw presents a further taxonomy of needs which is more relevant in relation to operationalization<sup>39</sup>. He differentiates between: normative needs, felt needs, expressed needs and comparative needs.

1) 'Normative needs' are determined by objective criteria. If, for instance, a person has an intake of only 1111 calories per day while the standard is 2222 calories per head per day, then it is a normative need, i.e. a need which can be scientifically justified. The same applies to need indicators such as fever, rash, shivering fits, etc. It becomes clear here that such normative needs only refer to the status of the living conditions of the individual; normative needs for societies could be derived from this. These normative needs are operationalized by objective/scientific research findings with the help of empirical methods, on the basis of which estimated norms are set by experts.

2) The 'felt need' is that which is related to the wishes, hopes and expectations of individual persons. An interpersonal comparison of these needs is not possible as the criteria are not known by which an individual decides on the existence or non-existence of needs; hence, the

criteria must not necessarily be known but they can be. Market and motive research, like the projective techniques of psychology, try, in this sense, to find the motives; apart from that the methods of empirical research of attitudes and those of observation can be used as empirical instruments.

3) Bradshaw's 'expressed need' is essentially a verbalization and/or manifestation of a felt need by the individual need carrier; in this it is not essentially different from the previous need type as it relates specifically to the manifested self-respect and self-realization of the individual. However, one should remember that verbalization of the need creates a pull in the direction of culturally inherited interpretation matrices limited by language<sup>40</sup>. On the other hand, this type of need can also be interpreted an explanation of individual behaviour by external observers. In this sense, in order to explain behaviour, the term 'need' is taken as a hypothetical construct for similar or at least comparable behavioural aspects of the individual. Whether the individual accepts this interpretation of behaviour or not is but a secondary point. What is important is that in this second case the interpreter of needs should be the scientist who analyzes activity and time budgets<sup>41</sup>.

4) A fourth type of need, according to Bradshaw, is the 'comparative need'. Here, neither the individual nor the doctor or scientist interprets behaviour and needs; an abstract criterion serves as legitimation of need, namely, that of equality. This criterion is, of course, only applied to socially relevant and priority areas and not - to overstate it - to the equality of the colour of hair or the length of eye-lashes. A further limitation is that the criterion of equality is meaningfully applied only to the 'real' needs and not to the 'instrumental' needs. Thus, it could be important as a first approximation of a need-oriented public health service to determine which provider/population ratios exist between rural and urban areas, e.g. regarding the density of doctors or distribution of dentists; but this would be only an approximate question as - due to the respective climatic, geographical, biological and other constellations - differences between 'real' needs could be equalized by different combinations and quantities of 'instrumental' needs. Thus, the term 'comparative need' in the strict sense can be used meaningfully only for 'real' needs.

These and similar need taxonomies drawn up by the WHO, French health economists and a British social politician intersect reality slightly differently each time, but this is not important in this context. What is important is the indication of the qualitative differences between need and demand.

### 5.3. 'Real' Needs

From such classifications - which can be established in a similar manner for other need complexes, too - the following conclusion may be drawn. An identification of demand = requirement = need and an obscuring of the differences between these terms misses the central questions of state interventionist economic and social policies. This was pointed out above in relation to the German Democratic Republic's economic planning. Because, in the social sectors it had always been clear that an orientation of national actions to demand did not suffice - not only because of consumption externalities - to achieve a political goal function. Government social policy is, on the contrary, by definition market-correcting, and that means not only demand-oriented but at the same time need-oriented. Mobilization of the demand and of those needs which do not lead to a demand in the market due to structural barriers, is one of the essential socio-political goals. This is seen very clearly in the sectors of public health and education, where at least a compromise which is often very pragmatic - between demand and need orientation of state and para-state activities takes place.

As the interdependence between the state intervention areas and the social consequences of a limited economic or social intervention become more and more clear, this differentiation is valid not only for the so-called social sectors, but also in the same manner for the economic sectors such as industry, transport and agriculture. The discussion on 'merit wants' was not the first to draw attention to this and to the difference between need, requirement and demand. For those economists who saw the limits of economics, it was always clear that the goal of economics lies outside itself, it lies in consumption and in the fulfilment of needs. The demand for agricultural goods is indeed an economically interesting and important fact; but it does not necessarily express anything about the requirement of agricultural goods (instrumental needs) in order to fulfil particular nutrition needs (real needs). Only in this functionality and in this relation between need, requirement and demand do economic facts get their socio-economic meaning, which up to now was almost always hidden behind the fetish of income and money as apparently universal guarantees of fulfilment of needs - not without vested interests. In this sense, a generalization of the problem to cover the so-called economic sectors leads to the starting point for an economic analysis with which the proportionality problem - e.g. between agriculture and industry and between transport and energy - can be meaningfully tackled.

The mentioned need taxonomies point to a second important problem, namely to the borderline between need and non-need. This threshold value or area decides about the existence or perception of existence of a need. It is clear that there is no clear-cut simple threshold limit between health and disease, between well-being and need; this can be seen in

the concepts of dissatisfaction, discomfort, disability, confinement, isolation, coma and similar concepts<sup>42</sup>. Such differentiation between two concepts is naturally always right, but what is more important is the problem of justifying such a threshold limit.

Setting such a threshold limit is certainly not only a problem of a purely subjective and thus somehow arbitrary interpretation of an individual; there are in this sense 'true', 'real' and 'false' needs as such. This is in fact the reasoning for differentiating between professionally defined, scientifically defined and individually defined needs. 'True' needs are thus those needs which can be justified by pointing to regular and/or necessary consequences of need deprivation, which itself measured by the status of social development – is not necessary. Such consequences are seen, for instance, in the case of health, in prolonged sickness, in the existence of waiting lists or queues. In the area of nutrition, such consequences of need deprivation can be seen very clearly, for instance, in mental deficiency and in higher susceptibility to infectious diseases. All this need not be dealt with in detail here. In this context, what is important is only the realization that a legitimate justification and interpretation of need is that which points to the consequences of neglected fulfilment of needs and unnecessary need deprivation. There are functional and/or causal relationships between nutrition and housing, for example, and between health and education; such relationships can be diagnosed with the aid of causal and correlation analyses. Based on such relationships, a nutritional need can be legitimized by pointing to the consequences of deprivation of nutrition and on the other areas of needs. The more convincing the reasons which can be brought forward in this sense, the more important and 'true' and 'real' is the need. But the more reasons one can bring forward in this functionally interdependent sense, the more the problem of multifunctionality of actions and goods and services<sup>43</sup> for the fulfilment of even one need emerges, and the more the principle of multivalency of needs appears. Thus, strictly seen, one must speak only of an analytical separability of needs which is often difficult to justify in substance, particularly in the case of basic needs.

Bradshaw's need classification, too, has some overlapping of need types. A needs hierarchy can be set up on this basis. A concurrence of normative, felt, expressed and comparative needs could be found at the base of this need pyramid. A need which can be justified individually, socially and scientifically in this sense is less open to interpretation and thus more fundamental and urgent than a felt need for which scientific justification cannot be found by pointing to regular or necessary consequences of a deprivation and which, at the same time, does not correspond to the postulate of equality. Such a concurrence of individual wishes, social postulate of equality and scientific justifiability is found firstly and most clearly in the rough and ready concept of survival of the individual. Conceptually, this threshold was mostly defined as "to stay alive" and - that is ideologically the common denominator even between quasi-capitalist and quasi-socialist countries - "to maintain working capacity"<sup>44</sup>. This

is where the discussion on basic needs generally starts. The stronger the functional and/or causal relationships are between the individual need complexes, the less these needs are worthy or capable of interpretation. The 'normative' or 'true' or 'real' or 'objective' need focuses on this. Here, normative standards can be justified most easily, for instance in the sense of a rational nutritional budget per day for a medium-sized person with so-and-so much energy output through medium workload. The same applies to other areas of need complexes. There can certainly be differences between real needs which are thus defined and operationalized and the felt needs of the population. But normally the plausibility of everyday life supports these norms. Objective standards and subjective standards in the area of fundamental needs are normally not far from one another, apart from some social fringe groups with pathological need distortions. The determination of such normative standards generally implies the criterion of equality at the same time: 2222 calories per head per day, for instance, is valid for the lower class in the same manner as for the upper class.

It is easy to argue that a need-oriented planning and evaluation is not at all and not even initially concerned with the guarantee of any defined basic needs but essentially with the question of equality, the relict and mandate of the French Revolution. This is indeed true and it also gives a formal answer to the questions, but it does not hit the mark. For, initially, it is indeed a question of equality, but not of an equality covering all aspects and facets of living; rather it is a question of equality of the essential prerequisites to survive with human dignity. In this sense, a need-oriented planning and evaluation is initially concerned with the base of the hierarchy of needs which can be characterized - for instance in the categories of the most prominent psychological needs hierarchy of Maslow - by psychological needs, which are naturally only analytically separable from their social aspects, and by security needs; only after this - according to Maslow - can the need for belonging, love, recognition and, finally, self-realization be considered<sup>45</sup>. Here, at the base of the needs hierarchy, a technocratic planning is more suitable because of the multiple legitimation of basic needs. On the other hand, at the peak of the needs hierarchy, in the case of subsidiary needs, secondary needs or however they may be termed, a need-oriented planning and evaluation will be confronted with the problem of creating preconditions for a democratic interpretation of needs as the main basis of legitimation.

The idea that a free and rational discussion of free and rational citizens could lead to a legitimation and justification of needs, to the constitution of 'objective' needs, is supported by many authors. Dreitzel writes: "A society is, therefore, repressive to the extent that the OBJECTIVELY possible satisfaction of needs enabled by the status of the productive forces is hindered by ruling interests. All individual and collective need situations are measured against this, but SUBJECTIVE need situations at first. Only a rational discussion on their relative rank in comparison to other needs and the possibility of a satisfaction measured

against other possibilities of satisfaction can prove their "objectivity" - if it is permitted to use the term "objective" here. In the advanced industrialized societies, repression is to be found more in the prevention of a rational discussion of the relative legitimacy of social need situations than in the direct refusal of conscious subjective needs. Needs which can be satisfied as such are suppressed in a repressive society and are partly sublimated in subjective needs whose satisfaction is either favourable to ruling interests or does not affect them; in some cases, they take the form of the neurotic "return of the repressed" which then manifests itself in increased psychological disorders. The repressive nature of a society results from the objective possibility - not anyhow and once for all, but in a specific historical/social situation - of need satisfaction and value realization offered by the status of the productive forces, and from the need satisfaction and value realization that actually takes place. This difference is, however, not determined by the subjective experience of the individual even though this can be applied as a corrective factor. It is also not determined by the dogmatic rules of some social philosophy but only by the possible degree of social self-determination of the individual which may be derived from the empirically verifiable level of the information received. Only a rationally directed discussion should be permitted to develop yardsticks to measure the objectively possible"<sup>46</sup>.

Of course, if one accepts the scientific necessity of a hierarchization of needs on the basis of a conception of a material fundament and a multilayered possibility of legitimation of needs, then such positions become questionable. They become particularly problematic when they are generalized as some authors do. "Only a (non-existent) public can determine what a social need is or not in a free discussion at any place and at all levels of society"<sup>47</sup>. At times, therefore, guidelines are drawn up for events which serve the purpose of interpreting and discussing needs: All persons must participate, their bargaining power must be equal and all necessary information must be available<sup>48</sup>. However, it appears to be a theoretical problem of comprehension if only such events are taken as a basis of legitimation for 'real' needs, because a scientist "is already on the plane of moral argumentation when he talks of 'reasonable', 'objective', 'true' needs"<sup>49</sup>. Reasonable, true, real, and objective are juggled about freely and given a moral bias.

This reasoning that the conception of 'genuine' or 'real' or 'true' needs - even if they are meant to be approximate - is 'moral', and this is mostly equivalent to unscientific, is in fact problematic. What is considered to be 'scientific'? Is science not measured by the extent to which it creates vital knowledge not only for one or the other but for all and for each individual? And the extent to which it can differentiate between what is vitally necessary for all and what is less necessary? Is it unscientific to state, on the basis of empirical fact, that food is vitally necessary but that wearing earrings is not - at least with a higher probability, to satisfy nit-pickers. That, therefore, nutrition is a 'more genuine', 'truer', 'more real' need than

the need to wear earrings? Is it a subjective value determination as Badura, Glastetter and all the others state, when they say: "The whole discussion on 'genuine' or 'false' needs obviously proves that it cannot be conducted without solid subjective value conceptions - without any room remaining for a scientific solution"<sup>50</sup>. Such argumentation drives the ignorance of some scientists to the peak even if they show themselves in modern robes, for instance, with the demand for a democratic rational discussion of needs. But that is exactly the tradition which had long prevailed in economic theory which delegated such things to the politicians; now, in the name of equality, it is delegated to the totality of free and rational citizens without, however, explicitly considering the interests of the population outside the front door of the industrialized countries. Factually seen, this is a delegation to the Greek calends as one can have a brilliant discussion on when rationality has finally arrived. A rationality which evidently could not supply science with any arguments. A rationality which apparently somehow originated spontaneously. A rationality which need not depend on such simple empirical arguments as: undernutrition leads to irreversible damage of cellular development. Is it not rather a fact that science has first to lay the basis for such rationality and has to create the preconditions for that? And has to design the basis for satisfaction of 'genuine' basic needs? In order to create needed knowledge - knowledge which will banish need?

The reasons for a democratic/rational legitimation of needs seems to be right and wrong at the same time. It seems clear that at the top of the needs hierarchy, needs can only be legitimized by a democratic interpretation of needs and that, therefore, those needs which in analytical vagueness are called subsidiary or secondary needs must be legitimized by a rational discussion by rational citizens. It seems Utopian on the one hand, and not absolutely necessary on the other, to conduct a rational discussion by rational citizens on the subject whether food is necessary for survival. At the base of the needs hierarchy the solution to the question, who should interpret the needs and weight their importance, is more multilayered than it is at the top of the needs hierarchy. It just does not suffice to delegate the question of legitimation of needs to a Utopian discussion circle; that is certainly one important element for the legitimation of needs, but not the only one. Science, too, can give reasons for a legitimation of needs - but not uncontrolled and autonomously without the participation of the people. Here too, a democratic legitimation is necessary but not sufficient. Just as a scientific legitimation is necessary but not sufficient. Therefore, different sources of legitimation must be considered<sup>51</sup>.

#### 5.4. Rational Norms and Budgets

In practice, basic needs can be operationalized by means of democratically and axiomatically legitimized norms and normatives. Axiomatic here means - let it be repeated - on the basis of the axiom of the equivalence of each human life. Such normatives represent "needs which are socially recognized as legitimate"<sup>52</sup>. Till now such normatives were determined particularly as consumption norms for food; that does not, however, mean that they cannot be set up for other areas, too, and that they can only be related to an "object-related deficiency symptom"<sup>53</sup>. In the Soviet Union, a number of such normatives were developed in order to establish the first basic law of socialism as the starting point of planning, and not formal planning criteria alone, such as reaching and overtaking capitalist production levels<sup>54</sup>. Such normatives and standards were developed within several international organizations, too<sup>55</sup>.

Even in the Soviet Union, there are still different conceptual approaches with regard to the elaboration of such rational norms or normatives between those who wish to bind the rational norms rigidly to the production potential and those who wish to determine them more independent of space and time<sup>56</sup>. What is decisive, however, is that such normatives do not explain economic activities but try to assess and control them<sup>57</sup>. Scientific justifiability, compatibility with the patterns of behaviour of the population (as long as these are not openly irrational) and compatibility with the social and economic goal are seen as additional attributes of rational norms. These are rational consumption norms, from which secondary norms for the production of intermediate goods and production means can then be derived; this is an essential point of need-oriented planning. Such rational norms are set up with the aim of attaining an equal level of need satisfaction or at least a structurally equal standard of living for a particular group of the population, irrespective of whether different social and economic tools have to be used, depending on the climatic, geographic and morphological environmental conditions. Rational norms are thus output-oriented, not input-oriented.

In this connection, the differentiation made by economists of the German Democratic Republic between standard of living and status of living is interesting. While the concept of status of living includes, for example, power structure, anxiety about life, and the position of women, the concept "standard of living" covers the "absolute level of consumption of material goods and services, the real status of working conditions, the extent and the condition of leisure time utilization"<sup>58</sup>. The standard of living is thus related to a budget of goods and services for consumption and to a time budget. Such budgets are required as guidelines for planning; Keck speaks of a "new thinking in planned economic management where planning has to start from the end product"<sup>59</sup>. The demand of the German Democratic Republic economic theorist, Keck, is almost the same even in its wording as that of the World Bank

advisor, ul Haq<sup>60</sup>. Because of the interdependence of needs amongst themselves and the multifunctionality of goods and services and time, such an end product can be meaningfully defined only as a comprehensive budget of time, goods, and services.

Real needs are related to this structure of end-use goods and services and to the use of leisure time. It would be relatively meaningless to speak of a need for infrastructure, because this term contains a mixture of goods for intermediate use and end-use, even if such a differentiation becomes arbitrary somewhere in the marginal areas. "The concept of the level of living differs essentially from the concept of income in that while income is basically intended to represent the means of subsistence, at the disposal of the individual or group of individuals, the level of living concept is more concerned with end products and the satisfaction of needs"<sup>61</sup>. A planning oriented to basic needs starts at such end products, at their structure and at the use of time.

In conceptual terms, a need-oriented planning is at first an orientation to a certain number of end-use goods and services. The number of end-use goods and services included in the planning process is mostly limited for pragmatic reasons - as is reflected in Soviet planning practice by the fact that rational norms for some areas of living or need complexes have not or have not yet been set up: for luxury goods, for recreation, colour television, circus visits, wallpaper designs, etc.<sup>62</sup>. This is not only advisable for pragmatic reasons, but also for the conceptual reasons mentioned above, which point to a dispersion of interests with increasing fulfilment of basic needs, and to the necessity of a de-technocratization of planning in relation to these secondary needs. Thus, the norms for these secondary or higher needs are set up residually. They are not a central subject of planning. Here, one could localize associatively not analytically - the difference between plan and market, between sociological/technocratic determination of needs and participatory/democratic articulation of needs.

A first essential question for the use of rational norms and rational budgets is thus: at which level of aggregation do they lie, and which need complexes do they cover? This is in a way a question of planning practice, i.e. also of resources which are allocated to planning. But it is, at the same time, a question of a qualitative leap in the needs hierarchy. Chombart de Lauwe characterizes both the extremes as the 'attitude of anxiety' on the one hand, and the 'attitude of free interests' on the other<sup>63</sup>; similar distinctions are legion. They point back to what was referred to above as primary or basic needs.

This first question can, however, be answered only after a second one is asked and answered. For, it is not a question of setting up an atomized normative or an individual standard for each need which can barely be defined analytically; given the multifunctionality of goods and services for need satisfaction, it is rather a question of an integral and comprehensive operationalization of a total pattern of needs. A coherent rational budget is much easier to

justify at the base of the needs hierarchy than at the peak. Integral here is the conception of survival or the more material definition of need as "that which is required and necessary for maintaining the existence of a human being"<sup>64</sup>.

That does not mean that the setting up of rational budgets is only and exclusively concerned with the operationalization of an existence minimum, however this may be defined; this concept has often been criticized, and rightly so<sup>65</sup>. It is also a question of what Mandel indicated with his conception of an almost spontaneous tendency towards a rational consumption which he diagnosed in abundance. In this sense, one can also raise the question of a maximum of consumption, which is particularly limited by the time at a person's disposal; the maximum of food is determined by repercussions on health; the maximum of clothing is determined, among other things, by the size of the wardrobes; the maximum of housing is determined by the time one is prepared to spend on cleaning, etc.<sup>66</sup> Hence, in this sense, minimum and maximum levels can be fixed and incorporated as normatives in social and economic planning. Rational budgets occupy a place between these two extremes.

A need-oriented planning and evaluation in the sense indicated here is therefore not interested in the encyclopaedic claim of setting up rational budgets and rational norms for all detailed aspects of life, but with determining the qualitative framework for a life 'with human dignity' by starting from fundamental, primary needs and need complexes. Such a framework can be set for capitalist and socialist societies. In capitalist societies, they have at first the function of an early warning system, which indicates the necessity for state intervention in situations of crisis and in the case of excessive need deprivation of individuals and groups; in this sense, it is an indicator system for market failure. But as it has become evident in the countries of the Third World and also increasingly in the emerging poverty enclaves of the First World, that a certain structural market failure with regard to a large part of the fundamental needs of a growing number of persons is an apparently regular and almost automatic phenomenon, a need-oriented social and economic policy of the state will have to be prepared to undertake intervention in areas which were hitherto "private". If, however, implementation and legitimation of such planning is viewed with scepticism in capitalist countries, then it is all the more necessary to outline - in anticipation - concepts of a need-oriented planning and evaluation as a tool for assessing the social impact of interventions by the state and private investment.

## 5.5. Summary and Outlook

Functional and/or causal relationships link the individual need complexes with one another and substantiate standards and rational norms. An approximation towards rationality is the minimization of opportunity costs and a maximization of social equality. At the base of the needs hierarchy, this can be easily demonstrated by the reference to the opportunity costs of a public health service in the case of prevailing undernutrition - due to a primarily export-oriented agricultural policy. In technocratic terms: It is optimal for all and for the community if every person gets about 2500 calories per head per day, than if 20 % are overfed and 20 % are undernourished, as this creates unnecessary costs for the health service. A number of additional rationality criteria could be mentioned: social, economic, financial, distributory, etc. As their justification can hardly be derived in general, they must be dealt with later<sup>67</sup>. Rational consumption and time budgets must, therefore, fulfil several conditions, if they are to be called 'rational'; they must, among other things, be relevant for survival, they must be compatible with the productive forces and they must be compatible with daily living habits. A corresponding time budget will consider the necessary working hours and leisure time which is functional for the provision and long-term securing of a rational budget of goods and services. In this sense, needs become operational only through the final or end-use of time, goods and services.

The end-use of goods and services, however, is only one step of the consumption process between design, production, procurement, transport, utilization and final liquidation<sup>68</sup>. At first, needs directly attach themselves to the utilization of goods and services, they are operationalized through them; that is, production is naturally a necessary but not a sufficient precondition for needs satisfaction, similarly procurement and the transport of goods and services, and so forth. The individual utilization of goods and services is thus the salient point of any operationalization of needs. The utilization of goods and services should, however, be further examined according to several criteria. Kotik, who has outlined some very important considerations in this context on social wealth, value-in-use, utilization, and needs, names five criteria: usefulness, durability, handling or controllability, maintenance and safety<sup>69</sup>. These five criteria point to what may be called value-in-use planning in the narrower sense<sup>70</sup>. This is anchored in the analyses of the implications of so-called irrational consumption, "consumption terror", etc. Value-in-use planning in the narrower sense tries to make consumption rational and production consumption-oriented in this rational sense. Value-in-use planning in the narrower sense "de-discredits" consumption in the sense of a meaningful use.

Value-in-use planning in a broader sense - and that will be dealt with in the following - relates to the utilization or end-use of goods and services which are socially produced. The usefulness of this utilization shows itself in the degree of securing social equality, firstly of primary need satisfaction, then of secondary need satisfaction, etc.<sup>71</sup> Primary need satisfaction in this sense can be defined in a simplified manner as survival with human dignity. What follows subsequently is less a problem of technocratic planning than of participatory democracy. But technocratic planning and evaluation under the aspect of need should and must outline the prerequisites for it. The basis of a need-oriented planning and evaluation is thus initially the lower scale of the needs hierarchy, which has to be secured structurally in the long term: survival in its historical, social and humane sense. It is relatively plausible and easy to justify that this particularly concerns health and nutrition, and that health and nutrition have, at the same time, transcendental effects on other areas of planning. Because of the multifunctionality and the multivalency of needs, it is relatively immaterial from which side one views this interrelated pattern of a fundamental rational budget - from the side of health or from the side of nutrition. Both are so closely interrelated that they are in fact only two different staircases to one and the same room. A useful approach for the gradual development of need-oriented planning and evaluation can possibly be sought in these planning areas.

## 6. Goal Function or Operationalization of Basic Needs by Means of Rational Consumption Budgets

At the beginning of the Second Development Decade, more technocratic terms than 'basic needs' had been used when discussing the social inadequacy of traditional development policies: The goal functions were: ensuring a minimum standard of living consistent with human dignity and improving the living conditions of the mass of the population.

What do "ensuring a minimum standard of living consistent with human dignity" and "improvement of living conditions" actually mean? The debate in the highly industrialized countries on the related concept "quality of life" seems to indicate that its definition and operationalization encounter insurmountable difficulties even though international organizations and national authorities have already issued orders for its implementation<sup>1</sup>.

What the term "living conditions" and "standard of living" actually imply for the wage-earners, small farmers, workers and unemployed of the Third World, is better understood by these groups themselves than by scientific congresses, namely: nutrition, housing, clothing, health, education, employment and working conditions, and not very much more. The issues involved here are not the sophisticated refinements of a highly cultured quality of life but, to

put it in a nutshell: survival under conditions compatible with human dignity - survival of each and all.

### **6.1. Macro-Performance Analysis: Assessing Social Progress with Social Indicators**

Due to the functional linkage of level-of-living components - e.g. the health status of a population reflects its nutritional status - the level and development of the living conditions of the mass of the population can be diagnosed by means of a system of representative indicators. In another work, this author made a detailed study of level-of-living components, their subjective weighting and their functional interrelations<sup>2</sup>. The level-of-living components mentioned there are more or less identical with the components which are gaining increasing significance in the field of international needs research. Based on this study, the author proposed a so-called system of "indicators of social justice"<sup>3</sup>. With the aid of this indicator system, the three solely analytically separable dimensions of social justice are operationalized: satisfaction of basic needs, social equality and social security. Health and education represent the satisfaction of basic needs most validly; the respective indicators are taken as indicators of this first dimension of social justice and disaggregated according to the two other dimensions. The amount of data required for a macro-performance analysis based on this three-dimensional system of indicators is kept as small as possible.

If more extensive information is available or if there is any doubt about the reliability of some of the more essential data, the data sheet given in Table 3 can be used. This data sheet incorporates information on employment, income, social security, education, health, nutrition and housing. This information makes it possible to diagnose the level and development of the living conditions of the population. In the case under discussion, there appears to be growing pauperization of the people: rising unemployment, falling real income and a declining supply of calories characterize this trend. Moreover, growing interregional disparities with respect to unemployment and average income of industrial workers are to be found. It may be rightly concluded that there is certainly no evidence of an improvement in living conditions. The 1.3% nominal rise to US \$ 110.- income per capita in the years 1960 - 1971 can scarcely be substantiated at all.

But, even if an improvement of living conditions were visible, would this imply that a minimum standard of living consistent with human dignity - which is the aim of international development strategy and social economics - has already been attained?

Items of Appraisal	Indicators	Nation		Range of Variations (Inter-State)			
		1971		Best State		Worst State	
		1961	1971	1961	1971	1961	1971
Employment	1. Percentage of Workers to Total Population	42.98	33.54	59.40	52.08	42.65	28.63
	2. Percentage of Cultivators and Agricultural Workers to Total Workers	69.48	68.63	38.30	48.63	83.09	80.40
	3. Per Capita Income in National Units per Year	255	561	295	818	149	325
	4. Average Daily Income of Rural Labourers in National Currency Units (NCU)	1.41		4.14		1.11	
	5. Average Daily Income of Workers in Manufacturing Industry in NCU	5.13	8.90	6.18	9.71	2.55	5.46
Social Security	6. Real Earnings of Factory Workers (Base 1961 = 100)	100	98				
	7. Persons Protected by "Employees State Insurance Scheme" in 1000	5528	16306				
Education	8. Literacy Rate (> 4 Years) per 1000	283	293	551	602	130	183
	9. Primary Enrolment Ratio in %	62	79	108	120	41	57
Health	10. Infant Mortality Rate per 1000		139				
	11. Death Rate per 1000	12.9	16.7				
Nutrition	12. No. of Calories per Day p.c.	2020	1985		2832		1498
	13. Grams of Proteins per Day p.c.	51.5	55		98		36
Housing	14. Average No. of Persons per Household	5.2					
	15. Average No. of Persons per Room	9					
Sources: See Note 4							

## 6.2. Needs-Analysis: Assessing the Basic Needs of the Mass of the Population

The concept of a yardstick to evaluate the actual level of living was introduced some time ago into scientific and socio-political discussions on development under the keywords poverty line, poverty budget, minimum living standard, minimum needs and rational budget; at the policy level, it was the International Labour Office (ILO) which took the lead; at the national level, this was done mainly by trade unions and wage boards<sup>5</sup>. It is true that the classical representatives of economic science had already pointed out that the concept of an absolute minimum standard of living was absurd because traditions and even a "moral element" could not be exempted from this concept, and that the prevailing notions of a minimum living standard tended to reflect existing power relations between employers and employees rather than unbiased requirement norms. Despite this, it seemed and still seems that a quasi absolute, i.e. objective measure for some level-of-living components will be useful and necessary if - for any reason whatsoever - one will not or cannot accept the political norm of equal satisfaction of basic needs for all.

The general question underlying the search for criteria to determine the minimum living standard or poverty line or whatever the synonym for this may be, has two interconnected aspects: (1) which persons or which part of the population are poor, and (2) which social relationships or which shortage of goods indicate or determine poverty?

Right from the very beginning, literature on national and political economy has given a number of answers to this dual question. They will not be repeated here. The empirical base of the question is the evidence of economic and social inequality, its politico-economic base is the political goal of redistribution and, concomitantly, the economic goal of keeping up production.

The dominating present-day trends in the reply to this dual question in the discussion on development are quite clearly set out in an - admittedly tentative - statistical table which has been drawn up by the World Bank and is reproduced in Annex 1. The term "poor" is applied to those living below a defined minimum income threshold. Given the income distribution in various developing countries, an arbitrary fixing of a minimum monetary level-of-living at US \$ 50.- p.a. would mean that 1 % of the population in Lebanon, 14 % in Brazil and 58 % in Tanzania would be considered as the lower class. The second part of the question is therefore quite easily answered: lack of income determines poverty or inclusion in the lower range of the population.

The difficulties arising from this purely monetary approach are to be found in the following aspects:

- it is seldom applicable in subsistence economies;
- in different countries different goods and services are imputed to the standard of living;
- in different countries with the same nominal income, real income can fluctuate depending on variations in collective consumption, i.e. in the provision of public goods and services;
- different countries can have varying price structures;
- the attainment of this minimum standard of living does not necessarily imply that a minimum standard of living consistent with human dignity has been achieved for the whole population.

The national Wage Board of Guatemala calculated that 11.5 % of the urban population and 3.6 % of the rural population live above the minimum living standard<sup>6</sup>. This calculation tries to take account of some of the above-mentioned critical factors in the World Bank approach. Similar calculations are being made, or could be made, in almost all countries.

The point of departure is minimum daily requirements for the intake of calories, proteins, vitamins, etc. established by the Food and Agriculture Organization of the United Nations (FAO) and translated into minimum dietary budgets by national and interregional organizations. For instance, a rational budget for food and nutrition recommends the following minimum food consumption per day for a Guatemalan rural family of six: milk 822 g, meat 478 g, pulses 225 g, vegetables 796 g, fruit 144 g, roots and tubers 41 g, cereals 387 g, sugar 417 g, etc.<sup>7</sup>. This rational budget is then priced. On this basis the amount of cash required by a family to cover its nutritional needs at least can then be calculated. However, as family expenditure not only covers food but also expenses for clothing, housing, health and education, this minimum income calculated above does not really meet nutritional requirements as it has to be used for other expenses as well. Family expenditure budgets classified by income groups give the ratio between food expenditure and other expenses; for the lower class, this ratio is roughly 70:30, for the upper class it is about 30:70. Therefore, the minimum monetary living standard may be defined as the level of expenditure at which the above-mentioned minimum food expenses are covered even in the context of other socially conditioned expenditure.

In this approach, the minimum living standard is largely determined by food consumption. This criterion was applied in industrialized countries, too<sup>8</sup>. In the US Anti-Poverty-Program, one poverty line is the threshold where 33 % of the total expenditure of an urban family of four is used for food. Another well-known definition of the poverty line is based on the quantity-income elasticities method: the poverty mark is passed if the level of income permits not only the food expenditure but also all other expenses to progress from additional quantitative consumption to qualitative consumption. A third method operates with interviews

on a decent standard of living. Even in the Soviet Union, such minimum budgets were calculated firstly in the twenties and later, to a greater extent, in the post-Stalin era.

Following the same principle, optimization problems are solved in many countries by applying the following formula: maximize nutritional benefits and minimize costs for a nutritionally just acceptable food budget geared to the consumption habits of the population and calculate its monetary value at current prices.

This method of monetarizing the minimum living standard - which can be and generally is carried out for each individual country or for each individual population group - takes special account of the second and fourth critical points in the World Bank approach mentioned above, i.e. criticism of the negligence accorded to diverging price structures and different goods and services which, for reasons of different geographical conditions and social traditions, have to be imputed to the minimum living standard. It can seldom be applied to subsistence economies or even to social systems where the standard of living of the population is partly secured through publicly administered collective consumption such as public canteens and an efficient public health service. In this case, a rational budget based on physical consumption norms should be drawn up. This budget is a combination of both expert budget and consumption reality and should also include those areas which cannot be translated into physical consumption norms as easily as food consumption can, namely, housing, clothing, education, health, etc.

This means that a rational budget can be set up most easily for food and perhaps also for drinking water. In the field of education, the guideline could be the political norm in the UN strategy document ensuring at least primary schooling for every child of school-going age; in the case of housing and health, the criterion of regional or social equality could be applied to determine need, for the other areas, a monetary need criterion could be selected, e.g. adjustment to the expenditure level of those living just above the minimum nutritional standard or adjustment to the average standard of living. What is required in the establishment of a rational consumption budget - defined as far as possible in physical terms - based on scientifically substantiated and politically secured requirement norms. For the last-mentioned areas, however, scientifically substantiated rational requirement norms have not yet been developed. Therefore, for pragmatic reasons, the following simplified approach should be provisionally applied in order to identify the basic needs of the population resulting from the differences between rational budget and consumption reality.

- 1) Formulation of a rational consumption budget: fixing the rational requirement norm for a nutritionally sound level of food consumption with due consideration of consumption habits, prices and productive forces, and - if feasible - setting up rational norms for the other level-of-living components.

- 2) Calculation of the actual class-specific consumption budgets in physical units. Very often, if data on the corresponding consumer goods prices are available, these consumption budgets can be derived from the monetary expenditure budgets of class-specific families; they would then have to be adjusted according to non-monetary consumption.
- 3) Finally, by comparing need and consumption, the two questions asked at the start - who is poor and what is poverty - can be answered.

This approach is a pragmatic compromise between the necessity to have valid and reliable statistical figures and the actual availability of statistical data, not forgetting shortage of time and staff in actual procedures of project appraisal<sup>9</sup>. Even though it is possible - by comparing consumption reality and consumption norm - to calculate the proportion of the population living below the minimum living standard, the approach outlined above is not solely geared towards the procurement of this information. This approach provides preliminary information about the composition of the goods and services required by the mass of the population to meet their basic needs and thus overcomes the futility of the income indicator.

For a needs-analysis which is to become an integral part of development planning and which is to provide the frame of reference for the evaluation of socio-economic effects of investment projects, the starting point will have to be the following considerations. In the discussion on development strategy and in national and international strategy documents, the most important target group is always defined as the majority of the people or the mass of the population or, in some cases, those who live below the minimum standard of living or the poorest 40 % of the population. From the context and the cross references in these statements it devolves that these groups are those parts of the population which, in the terminology of the social sciences, are classified as lower class. For operational purposes, therefore, this lower class or this majority of the population referred to in the strategy documents can be defined as 50 to 60 % of the population, i.e. those groups which live below or close to the minimum standard of living. This pragmatic approach has several advantages:

- This figure approximates to the World Bank calculation of an average 50 % of the Third World population who can be classified as lower class, taking US \$ 75.- per capita and year as the poverty threshold.
- This figure is very often more realistic than any lower figure as it is more oriented towards the average standard of living in the country or region under study.
- This figure refers to the target group of social economics and development policy, i.e. the majority of the population.
- Finally, this approach is politically "cleaner" as it does not degrade the basic criterion of social economics to a social charity and social welfare criterion.

In the following, the example of a needs-analysis will be demonstrated on the basis of data from rural India.

The expenditure budgets established by the Indian National Sample Survey (NSS) at periodic intervals are differentiated according to income groups and towns and rural areas, and the figures obtained for the rural population of India in the years 1964/65 are those given in Annex 2. These are the most up-to-date figures available, and they still form the basis of Indian development planning as expenditure patterns have remained relatively constant. The Annex gives both the absolute and the relative consumption expenditure for three population classes and also shows their relative share in the consumption of the respective goods and services. The lower class represents 56 % of the population, the middle class 34 % and the upper class 10 %.

The NSS surveys also make it possible to present daily per capita class-specific food consumption in physical units, as Annex 3 shows. For some foodstuffs, the findings of a food survey in the state of Karnataka may be taken; the figures are not differentiated in class-specific terms but, given the survey population, they may be considered to represent the lower class adequately.

The class-specific consumption structure of the rural population of India obtained above is compared - in the field of food consumption - to the rational norms laid down by the Nutrition Research Institute (NRI) in Hyderabad; these rational consumption norms make a distinction between moderate and heavy work and between vegetarian and non-vegetarian diet, as shown in Annex 4. This rational food consumption norm recommends, for instance, a daily per capita intake of 80 g of pulses for vegetarian diets and 65 g for non-vegetarian diets. If this norm is compared with actual consumption (given in Annex 3) it becomes evident that the lower class has a substantial dietary deficit, i.e. 54 g for vegetarian food, and that even middle class consumption falls 29 g below the norm.

At this moment, no rational norms with comparable validity can be set up for physical units of consumption of the other goods and services contained in the basket of lower class families. In this case, a monetary rational norm may be applied, i.e. a norm which stipulates a rise in the private consumption of the lower class to attain the average consumption level of the whole population of India. This means that the rational norm for private use of goods and services such as tobacco, transport and pharmaceuticals and expenditure for housing, clothing and education is based on monetary and not on physical requirement units.

Table 4 - Needs - Analysis (India)						
Goods and Services (1)	Availability to the Lower Class (2)	Rational Norms (3)	Deficit Index (4)	Relative Expenditure Pattern (5)	Priority of Needs Index (6)	Priority of Needs Percentage (7)
Rice (1)	227 Grams per Day	269	118.3	30.6	3620	13.95
Wheat (2)	56 "	66	118.3	6.1	722	2.78
Jowar (3)	69 "	82	118.3	7.2	852	3.28
Bajra (4)	25 "	30	118.3	2.6	308	1.19
Maize (5)	34 "	40	118.3	3.3	390	1.50
Barley (6)	19 "	22	118.3	1.9	225	0.87
Ragi (7)	18 "	21	118.3	1.8	213	0.82
Small Millets (8)	9 "	11	118.3	0.9	106	0.41
Gram (9)	12 "	14	118.3	1.4	166	0.64
Cereal Substitutes (10)	17 "	20	118.3	1.0	118	0.45
Pulses (11)	26 "	73	280.8	4.8	1345	5.20
Salt (12)	13 "	-	106.9	0.3	35	0.13
Vegetables (13)	35 "	200	571.4	3.4	1943	7.48
Fruits, Nuts (14)	1.4 "	30	2142.9	0.6	1286	4.96
Sugar, Gur, etc. (15)	18 "	40	222.2	2.2	489	1.88
Milk and Products (16)	80 "	200	250.0	6.1	1525	5.88
Edible Oils (17)	3.3 "	40	1212.1	3.1	3758	14.49
Meat, Eggs, Fish (18)	4 "	(30)	(750.0)	2.4	1800	6.94
Tobacco (19)	34 Paisas per Month	49	144.1	2.1	303	1.17
Cotton Clothing (20)	50 "	179	358.0	3.0	1074	4.14
Other Clothing (21)	0 "	11	0.0	0.0	0	0.00
Education (22)	4 "	21	525.0	0.2	105	0.40
Health (23)	10 "	50	500.0	0.6	300	1.16
Services (24)	17 "	50	294.1	1.0	294	1.13
Conveyance (25)	7 "	28	400.0	0.4	160	0.62
Fuel, Light (26)	114 "	582	510.5	6.9	3522	13.58
House Rent (27)	1 "	9	900.0	0.1	90	0.35
Rest (28)	97 "	196	202.1	5.9	1192	4.59

Sources: Annexes 2, 3 and 4

N.B.: Detailed comments on this table are given in Note 20.

The supply and consumption deficits of the lower class, i.e. their unsatisfied need for goods and services, can be determined by comparing the rational budget to real consumption. In the Indian example under discussion, a so-called objective deficit index was calculated for each group of consumer goods, which gives the ratio of the actual availability to the rational budget. In this case, the index shows that the shortfall of supplies to the lower class covers all goods and services, even though the size of the deficit varies. The largest shortfalls occur for certain foodstuffs, but also for fuel, light and clothing. If the objective deficit index is linked to subjective need intensity as manifested in the behaviour of the lower class - e.g. the lower class spends more income, that means more human labour and energy, on the purchase of rice than on the purchase of tobacco - a priority index for different goods and services showing the relative need of the lower class can be obtained. Table 4 gives an outline of this obviously very rough method; but it can be viewed as a first step in tackling the basic problem.

The following remarks elucidate Table 4. In Col. 1 the goods and services included in the expenditure budgets of Indian lower class families are listed. Col. 2 presents the actual consumption and expenditure budget of the lower class. Food consumption is expressed in grams per capita and day, other consumption is expressed in monetary units. Col. 3 gives the rational norms. For food intake the norm for moderate labour intensity of an adult male was taken as the basis; an equal proportion of vegetarian and non-vegetarian diets was assumed. For various cereals there is evidence of different quantities consumed but not of different rational requirement norms, due to the reciprocal substitution of these cereals there is only a cumulative rational requirement norm; therefore, the overall norm for cereals of 475 grams per capita and day plus 100 grams for roots and tubers was distributed proportionately among the individual cereals in accordance with the actual consumption structure of the lower class, in order to take account of the food habits of the population. This is why Col. 4, Row 1 to 10, have the same deficit indices. The other deficit indices in the food sector are derived from the ratio of Col. 2 to Col. 3. The deficit indices for the remaining goods and services represent the ratio between actual availability and monetary rational norm based on the political norm of equal distribution. Col. 4 therefore represents the pattern of supply deficits in this sense. In Col. 5 this pattern is compared to the relative expenditure budget of the lower class. By multiplying Columns 4 and 5, a priority index is obtained in Col. 6. Finally, in Col. 7 a linear transformation of this index into a percentage scale totalling 100 % is undertaken in order to make it more amenable for further calculations. These values are indicators of the relative additional need for goods and services of the Indian rural lower class.

This operationalization of the relative need of the lower class for basic goods and services seemingly has a number of shortcomings: it only makes implied references to collective consumption, it operates on a rather problematic data base, it seldom mentions interdependences and functional linkages between various goods and services, it is based on

simplified assumptions and proclaims supply deficits and not social conditions to be the determinants of poverty. The scale of requirement intensity, as indicated by the relative expenditure pattern, can naturally be constructed in a different manner depending on whether this intensity is conceived inversely proportionate to the saturation tendencies to be shown, or whether some other weighting factors are introduced. Such weighting factors can be arrived at meaningfully only if a conceptual problem is first posed and approximately answered. Conceptually speaking, the most problematic aspect of this approach is the fact that the various need complexes must be weighted; expressed in exaggerated and technocratic terms, it is a question of justifying whether health is more important than nutrition, nutrition is more important than housing, etc. In a strict sense, this statement of the problem is naturally wrong because - given the proven interdependencies between these need complexes - there is little sense in setting up such a simple sequence. And if the actual monetary volume of expenditure derived from consumption surveys and expenditure budgets of families is used as a weighting factor, then this seems to be equivalent to getting Beelzebub to drive out the devil. Because, the market prices whose distorting effects were to be cut out, do intervene after all<sup>10</sup>.

In this sense, it would be necessary to derive the requirement intensity index not from expenditure budgets but from several different argumentations which, on the one hand, represent the felt need of the population and, on the other hand, the expressed need and, not least, a comparative need. These aspects have already been pointed out earlier<sup>11</sup>.

All these objections may be valid, but it seems to be more important to give an answer - even if it is only very approximate - to the question of supply deficits of the population and that means to the question of the living conditions of the mass of the population, rather than to elaborate a global theory or a more precise and perhaps statistically more reliable answer to the oft misleading and irrelevant monetary sub-aspect of this question. However, there remains an initial approximate answer which can and should stimulate discussion.

### **6.3. A Rational Food Budget**

A detailed approach to a rational consumption budget will be given in the following, taking the example of a Peruvian region and the food sector. Here, the questions raised earlier on the various interpretation sources of needs will be taken into consideration<sup>12</sup>.

The basis for the elaboration of a rational food budget is the norm requirements for the intake of essential nutrients: calories, proteins, carbohydrates, minerals, vitamins, amino acids. Even though the requirements or recommendations to be set up here are not undisputed, they are

less controversial than the norms for the incidence or prevalence of disease, for the provision of housing or for anthropometric indicators.

The requirements for the intake of nutrients are usually differentiated with regard to sex, age and the level of physical activity. If they are intended for a particular region on the basis of the health, age and activity structure to be found there, then they either can be used directly as a measure for comparing the actual nutritional status or they can be transformed into a particular structure of food consumption. This structure of food consumption can be made up either from differently aggregated groups of foodstuffs, which cover the whole spectrum of food consumption (e.g. cereals, legumes, meat, eggs, fish, etc.) or all the individual foodstuffs consumed usually on a disaggregated level, or it can be oriented to certain culturally traditional meals (e.g. continental breakfast; American breakfast; pig's knuckles with pea-pudding, sauerkraut and potatoes, etc.)<sup>13</sup>.

If the aim of the elaboration of a rational food budget is to set the orientation points for a planning and evaluation of projects, then a mere comparison of the actual intake of nutrients with the requirements does not suffice; because, the material aim of the project is usually the direct or indirect provision of food for human consumption. In the context of this task it is necessary to give the normative nutrition model a concrete form through the structure of foodstuffs. This procedure becomes all the more necessary if additional constraints like a minimization of food expenditure are introduced; nutrients only have an indirect price via the individual foodstuffs. The argumentation suggests at the same time that each individual foodstuff should be taken into consideration as far as possible, as the prices of foodstuffs within the same food group could greatly vary (e.g. meat) , and so could the export quotients (as far as they are taken into account). At the same time, there are considerable differences in the nutritive values of foodstuffs within the same food groups.

Till now, the usual procedure for preparing a food budget was mostly to refer to a few comprehensive food categories on the basis of nutrient requirements. This procedure should be disaggregated as far as possible in the context of the arguments presented here.

The inclusion of culturally traditional meals in a rational food budget is indeed interesting at first sight, but it has the inherent disadvantage that an infinite number of possible combinations emerge from a limited number of actually consumed individual foodstuffs. The essential point in the inclusion of culturally traditional food combinations is the reference to the necessity of considering food habits. But, when preparing a rational budget, this can also be done on the basis of nutrient requirements and individual foodstuffs.

The objection sometimes raised against the elaboration of such a budget is that it implicitly contains the erroneous conclusion that the main problem of adequate nutrition is an increase

in the supply of food, whereas the crucial problem is a better organization of food distribution<sup>14</sup>. The elaboration of a rational budget does, in fact, imply a just distribution as the nutrient requirement norms have to be raised drastically if there is an extremely unequal distribution of food. With a constant distribution structure within a society, planning on the basis of a rational budget will perpetuate short supply to certain social classes through the excessive food consumption of other social classes; the social necessity for a surplus supply of food is therefore camouflaged. In a constant distribution structure the supply side is certainly a problem. The use of a normative model which implies equality - the norms are after all the same for the poor and the rich, for the exploiter and the exploited - makes the actual inequalities in food supply seem all the more conspicuous.

A rational food budget comes closest to fulfilling its objective if the actual food consumption of various social classes is measured according to this model. A comparison of the actual average food consumption of society as a whole by means of the model of rational nutrition would hide the problems on the supply side as well as the problems of food distribution.

The food budget should be applied to illuminate the different class-specific levels of nutrition in order to indicate the supply deficits of various social classes.

Such a food budget cannot be based meaningfully on nutrient requirements alone; if this were so, one would obtain recommendations for a socially unacceptable food consumption made up of a few foodstuffs only. A food budget can, therefore, only be considered "rational" if nutritional arguments are not the only ones to be included but also social and economic arguments. The consideration of actual food habits - they are after all relatively constant - plays the most important role in the social arguments. In the case of the economic arguments, it is not only the prices of foodstuffs which are important but also economic arguments which refer to export and import strategy, to mention just one problem area. Only the consideration of such arguments in the elaboration of a food budget can meaningfully lead to a normative nutrition model which may be called "rational".

### Nutrient Requirements and Recommendations

The starting point for the elaboration of a rational budget is the recommendation on the required intake of nutrients<sup>15</sup>. These requirements vary depending on sex, age, physical size, climatic and geographical conditions and other constellation features. Because of the large number of determinants to be taken into account, such requirements can only be approximations. As a rule they are differentiated according to countries and regions, sex, age and level of activity.

For the rational budget to be prepared here, the region-specific requirements as defined by the National Institute of Nutrition were taken as the starting point. These requirements were differentiated according to ecological criteria (coast, high land, dense forest), according to sex (male, female) and according to age groups.

At first, the sex-specific age structure of the survey region was ascertained: the basis for this was the census data (cf. Table 5). On the basis of this information, the minimum requirements for the various nutrients for the total population of the survey region were determined. The following Table 6 presents the result of Table 5.

Country-specific requirements of amino acids were not available. So the minimum requirements set forth in the literature on the subject were taken (cf. Table 7).

The question whether 'maximum requirements' for some nutrients should also be taken into consideration is controversial. A recommendable maximum value for the intake of essential amino acids cannot be determined as surplus protein in the human organism is used to produce energy for action and therefore enters the calorie balance. The same applies to the consumption of total protein. But, on the assumption that protein-rich foods are more expensive than foods with a lower protein content, it would be meaningful to fix a 'maximum requirement' here too. 'Maximum requirements' may also be assumed for calories, calcium, phosphorous and iron (cf. Table 8).

The consideration of requirements for the daily intake of amino acids seems to be especially important in the elaboration of a rational food budget because the problematic question of a meaningful ratio between animal and vegetable protein can be bypassed; the rules of thumb which were often used in this context seemed at times to discredit production and consumption structures, which preferred vegetable products as the main source of protein. Especially the argument that production processes for the provision of refined animal protein are very energy-intensive seems to suggest that amino acids should be considered in the elaboration of a rational food budget.

Age and sex		Number of Persons 919161	Calories	Proteins gr	Calcium mg	Iron mg	Thiamin mg	Riboflavin mg	Niacin mg	Ascorbic Acid mg
0 - 12	months	37046	4100922	1178062.8	26006292	181525.4	20745.76	52234.86	195973.34	2185714
1 - 2	years	63593	77074716	1971383.0	36693161	381558.0	35612.08	78219.39	404451.48	4546899.5
3 - 5	"	98305	137135470	3401353.0	58098255	688135.0	58983.00	127796.50	770711.20	7657959.5
6 - 7	"	62320	106442360	2823096.0	41941360	560880.0	54218.40	94726.40	668693.60	4860960.0
8 - 9	"	53839	108054870	2665030.5	38441046	597612.9	55454.17	88834.35	669218.77	4845510.0
10 - 12	"	80930	196417110	4912451.0	79958640	1027811.0	97925.30	174808.80	1165392.00	9193648.0
13 - 15	" male	33783	93139731	2388458.1	31688454	510123.3	43917.90	73309.11	563838.27	4307332.5
13 - 15	" female	31636	79501268	1977250.0	31541092	461885.6	37330.48	65486.52	454292.96	4098862.0
16 - 19	" male	34833	102200020	2445276.6	28563060	543394.8	44934.57	67576.02	603307.56	4653688.8
16 - 19	" female	34390	89551560	2121863.0	25644180	526167.0	38860.70	63965.40	490745.30	4240287.0
20 and above	" male	185730	490884390	11162373.0	119052930	3157410.0	250735.50	295310.70	3044114.70	20968917.0
20 "	" female	202756	445252170	11455714.0	127533520	3041340.0	245334.76	314271.80	2921713.90	203556702.0
Total requirement per year			1966663787	48502311.0	649162190	11677843.0	984052.62	1496539.85	11952453.08	91914480.30
Per capita requirement per day			2140	52.8	706.25	12.7	1.07	1.63	13.00	100.00

Sources: Oficina Nacional de Estadística y Censos, Censos Nacionales IV de Población II de Vivienda, 4 de Junio de 1971. Resultados Definitivos. Nivel Nacional, Lima 1974; Instituto Nacional de Planificación, Estudio del Consumo, Lima 1974, Table 28

Table 6 - Minimum Nutrient Requirements in the Survey Region of Cajamarca, Peru (per head and day)

Calories	2140	units
Proteins	52.8	g
Carbohydrates	140	g
Calcium	706.25	mg
Phosphorous	1000	mg
Iron	12.7	mg
Thiamine	1.07	mg
Riboflavin	1.63	mg
Niacin	13.0	mg
Ascorbic acid	100	mg
Sources: Table 5; data from the Institute of Nutrition		

Table 7 - Minimum Requirements of Amino Acids (per head and day)

Isoleucine	700	mg
Leucine	1100	mg
Lysine	800	mg
Methionine	1100	mg
Phylalanine	1100	mg
Threonine	550	mg
Tryptophane	250	mg
Valine	800	mg
Sources: Food Ministry; Institute of Nutrition		

Table 8 - Maximum Nutrient Requirements (per head and day)

Calories	4109	units
Proteins	105.6	g
Calcium	922	mg
Phosphorous	1500	mg
Iron	19.1	mg
Source: Recommendation from the Peruvian Food Ministry		

### Consideration of Food Prices

Expenditure is mostly considered as one of the essential constraints on the elaboration of a rational food budget. A food budget which fulfils nutritional norms but, at the same time, is beyond the financial reach of the mass of the population, can certainly not be considered optimal. Most food budgets therefore have the following objective: supply of sufficient nutrients at minimum cost. This objective can be achieved with the help of current optimization techniques, for example, with the aid of linear programming while considering a great number of variables, that is, food categories<sup>16</sup>.

For calculating an optimal food budget (goal function: minimizing of expenditure; constraint: sufficient supply of nutrients), the values of nutrients in every 100 grammes of the edible component of 72 food categories - which cover the whole spectrum of food supply in the survey region - were taken into consideration in the following results; the basic information for this was obtained from the food analyses of the Peruvian Institute of Nutrition, from the Institute of Nutrition of Central America and Panama (INCAP) and from the Food and Agriculture Organization of the United Nations (FAO); priority was given to the data from the Peruvian Institute of Nutrition<sup>17</sup>. The information on food prices originates from the results of the Peruvian survey on food consumption (ENCA)<sup>18</sup>. These prices refer to the purchased amount of gross food but not to the biologically convertible quantity of actually consumed and nutritionally assimilated foodstuffs. That is why this ENCA data was converted into prices per 100 g of edible component of each foodstuff; the basis of these conversions were the food-specific rates of loss shown in the Peruvian food balance<sup>19</sup>. On the basis of this information a linear programming model can be worked out as an answer to the question raised here.

The following Table 9 presents a food budget for the survey region, which guarantees a sufficient supply of nutrients at minimum cost: The results of this optimization indicate very clearly that this is not a "rational" food budget at all; this budget is not socially acceptable; that is why it is called here the "technocratic food budget".

The price of such a budget is 3.76 soles. If the minimum amino acid requirement is not taken into account, the price is reduced - by changing the combination of foodstuffs - to 3.50 soles. If all given minimum and maximum requirements are taken into account, the budget obtained costs 60 centavos more than a budget which does not take these maximum requirements into consideration. This budget therefore becomes considerably more expensive if maximum requirements are applied. Table 10 presents the optimization results in the case of different numbers of constraints in relation to the nutrient requirements.

Table 9 - Technocratic Food Budget <sup>a</sup> (g per head and day)	
Arracacha <sup>b</sup>	174.23
Oca <sup>c</sup>	79.41
Chancaca <sup>d</sup>	149.14
Pallar <sup>e</sup>	314.45
Milk	370.43
<p><sup>a</sup> goal function: minimizing of expenditure; value of goal function: 3.76 Peruvian Soles; constraints: minimum nutrient requirements</p> <p><sup>b</sup> corresponds approximately to Pastinak</p> <p><sup>c</sup> a Peruvian tuber/bulb</p> <p><sup>d</sup> unrefined sugar</p> <p><sup>e</sup> a variety of bean in Peru</p>	

Table 10 - Technocratic Food Budget in the Case of Alternative Assumptions <sup>a</sup> (g per head and day)				
	Recommendation for Food Consumption with Consideration of			
	All Minimum and Maximum Requirements	Minimum and Maximum Requirements (without amino acids)	All Minimum Requirements	Minimum Requirements (without amino acids)
Maize	117	93	0	0
Arracacha (Pastinak)	76	172	174	271
Oca (yellow root)	0	0	79	31
Yuca	203	133	0	0
Unrefined sugar	113	214	199	298
Pallar (type of beans)	215	150	314	199
Milk	441	422	370	367
Values of the goal function (in centavos)	450	410	376	350
<p><sup>a</sup> goal function: minimizing of expenditure  constraints: nutrient requirements  procedure: linear programming</p>				

### Consideration of Food Habits

The first step towards a "rational" food budget is the consideration of the food habits prevailing in the region. In the past, the inclusion of food habits in the elaboration of an optimal food budget was done in a rather impressionistic way. On the basis of representative consumption surveys like ENCA it is now possible to solve this problem quantitatively. Food habits can be operationalized as a position in the area between a determinable minimum and maximum consumption of individual foodstuffs. Whatever the determinants of this consumption may be, it can be considered relatively constant. Food habits, therefore, range between a minimum and maximum consumption of certain foodstuffs. The range of variation is naturally determined by the selection of extreme groups, i.e. groups with corresponding minimum or maximum consumption.

For the inclusion of food habits in this study, the actual consumption of the income-wise differentiated lower class (1st to 5th decile on the income scale), middle class (6th to 9th decile) and upper class (10th decile) was at first determined on the basis of ENCA and with respect to the 72 groups of foodstuffs used in the optimization. From this data, minimum and maximum consumption was identified for each food group. It was seen that minimum consumption was by no means always to be found in the lower class, nor maximum consumption in the upper class, but partly in the middle class, too.

In the following optimizations, therefore, in addition to the nutrient constraints (minimum and maximum), constraints resulting from food habits were also taken into account. Based on the method described above, values for minimum and maximum consumption (in g per head and day) of the population were assumed for each of the 72 food groups as the limits for the variation range of a recommended low-cost food structure.

If the food habits of the population are included in this way in a rational food budget, then it becomes evident that in the survey region not even maximum consumption corresponds to minimum requirements. Maximum consumption falls short of the minimum requirement for calcium, but at the same time it exceeds the maximum requirements for phosphorous and iron.

If the maximum food consumption is raised arbitrarily by 20 %, acceptable optimization results are obtained only if the minimum nutrient requirements are introduced as constraints. In this case, a food budget would cost 10.49 soles and the exclusion of amino acids would make the budget only slightly less expensive.

Therefore, consideration of the food habits actually prevailing, as operationalized here, does not lead to acceptable optimization results. But these food habits can be partially included if actual minimum consumption values for all individual foodstuffs are assumed as constraints. In this case, the following recommendation emerges for food consumption per head and day

in grammes, which fulfils all given maximum and minimum requirements for nutrients and is low-cost at the same time. Table 11 shows the results. This food budget costs 6.90 soles. Non-consideration of the maximum requirements for nutrients would reduce the price by 9 centavos and non-consideration of amino acids would reduce it by 25 centavos.

It is especially interesting that the use of minimum requirements for amino acids does not lower the cost of this budget; that was to be expected as it would have enabled a restructuring of consumption from refined and therefore more expensive proteins to unrefined vegetable proteins. This is obviously not the case.

### Consideration of Production Conditions

In the international discussion on the elaboration of rational budgets, as found in the planning discussion in the Soviet Union and the German Democratic Republic, actual production conditions are only partly viewed as an argument which should be taken into consideration in the elaboration of rational budgets. Some authors already feel that a budget is rational if it takes the above-mentioned financial and nutritional viewpoints into account. Other authors wish to link a rational budget with the actual and/or potential production capacity<sup>20</sup>.

In the following, an attempt is made to take the production conditions into consideration in the elaboration of a rational budget and to indicate their implications. The most important differentiation with respect to production conditions in the survey region is the differentiation between subsistence economy and market economy. In addition to this, the foreign trade relations evident in the imports and exports of food should be taken into consideration. National development priorities which may be described by the slogans "rehabilitation of subsistence economy", "opening up markets", "import substitution", and "international division of labour", are linked to these differentiations. Which of these trends will be given importance, is a political decision. What is scientifically interesting is what implications different decisions have in this context.

A crucial national development priority in Peru is that of saving foreign exchange through reduction of food imports and domestic supply of basic foods with a concurrent increase of foreign exchange earnings through food exports<sup>21</sup>. The first question to be asked on the basis of this political priority is whether, with due consideration of nutritional norms and consumption habits, a self-reliant supply of basic foods to the population can be achieved or whether this requires food imports. Furthermore, it should be examined what financial implications these various alternatives will have. Finally, some thought is given to the implications of an assumed import restriction.

Table 11 - Food Budget with Consideration of Food Habits		
Variable No.	Value of the Variables (g per head and day)	Food Group
1	52.358	Rice
2	0.000	Oats
3	0.481	Barley
4	42.987	Maize
5	0.000	Quinoa (millet)
6	98.860	Wheat
7	62.859	Pastinak
8	16.388	Sweet potato
9	78.595	Oca (yellow root)
10	19.644	Potato
11	81.800	Yuca
12	2.526	Olluco (root)
13	56.230	Sugar
14	7.299	Unrefined sugar
15	0.000	Honey
16	5.366	Peas
17	2.712	Beans
18	0.000	Chick peas
19	0.295	Broad beans
20	1.417	Lentils
21	139.330	Pallar (type of bean)
22	0.000	Coconuts
23	0.000	Ground nuts
24	0.000	Other nuts
25	0.820	Capsicum
26	0.741	Garlic
27	2.764	Onion
28	4.531	Cabbage
29	38.386	Vegetable maize
30	1.946	Green broad bean
31	14.135	Green peas
32	4.809	Green beans
33	0.804	Tomato
34	0.000	Lettuce
35	0.014	Celery
36	0.000	Cauliflower
37	3.090	Zapallo (kind of pumpkin)
38	1.996	Caigua (small pumpkin)
39	0.000	Poro
40	0.021	Beetroot
41	0.938	Carrot
42	0.127	Chirimoya (sweet pear)
43	0.483	Lime
44	0.000	Mango
45	0.115	Apple
46	0.000	Peach
47	1.612	Orange
48	1.103	Avocado
49	0.000	Papaya
50	18.143	Banana
51	0.000	Water melon
52	0.000	Cactus fruit
53	0.043	Pomegranate
54	1.593	Calabash (kind of pumpkin)
55	0.000	Pear
56	0.016	Egg plant
57	2.425	Poultry meat
58	0.000	Mutton (goat)
59	0.000	Rabbit meat
60	1.242	Guinea pig meat
61	0.523	Mutton (sheep)
62	1.731	Pork
63	0.887	Beef
64	0.000	Beef innards
65	3.253	Eggs
66	1.820	Sea fish
67	0.028	River fish
68	407.808	Milk
69	3.629	Cheese
70	8.574	Oils
71	0.394	Cocoa
72	0.278	Beer, etc.
Value of the goal function in centavos: 690.46751		

With the use of linear programming, these aspects are operationalized as follows. The data on food-specific market production is calculated - on the basis of ENCA data or data from the Peruvian food balance sheets - as availability per head and per day in grammes. These calculated values are then confronted with the limits for minimum consumption as limits for maximum consumption. A food recommendation which also takes the given minimum and maximum requirements for nutrients into consideration must range within these limits. The minimization of food expenditure is viewed as the goal function of optimization.

In the survey region most of the foodstuffs are produced in the subsistence sector. In the rural areas of the survey region, the share of food consumption from the subsistence sector in the total consumption of the rural population (on the basis of a conversion of value into soles) is 54 %, while in the urban region it is only 3 %. Given this quantitative significance of subsistence consumption, the question arises whether an adequate supply of food which takes account of food habits and nutritional norms is possible by means of subsistence production.

This is not so in the case under examination here. Subsistence production falls short of almost all minimum requirements for nutrients and active substances with the exception of carbohydrates and ascorbic acid; in the case of amino acids, methionine is lacking. There are no acceptable optimization results for this case. An adequate provision of nutrients is not possible if food habits are included, but it is also not possible on the basis of market production alone (including production for export). Here, only calcium is lacking; market production falls short by 41 mg per head per day in the case of calcium.

If market production and subsistence production are aggregated, then it is possible to produce an adequate supply of food for the people which corresponds to the food habits. Such a food budget, covering all minimum and maximum norms for all nutrients, would cost 10.91 soles per head and day. The cost of this budget would fall to 9.52 soles if the above-mentioned maximum requirements for some nutrients were not taken into consideration. Non-consideration of amino acid requirements leads only to a relatively insignificant fall in the cost of the budget. The following Table 12 presents the food budget under the specified constraints including minimum and maximum requirements for all considered nutrients or with non-consideration of maximum requirements. These recommendations imply that the proportion of market production intended for export can be consumed domestically and they also imply further that no food is imported. Such implications are outlined more explicitly in the following.

Food Group	Value of the Variables with Consideration of all	
	Minimum Requirements	Minimum and Maximum Requirements
Rice	52.358	52.358
Oats	0.000	0.000
Barley	53.726	0.481
Maize	142.222	58.741
Quinoa (millet)	1.347	1.347
Wheat	157.560	104.004
Pastinak	25.279	25.279
Sweet Potato	45.550	45.500
Oca (yellow root)	14.163	14.163
Potato	19.644	292.814
Yuca	137.954	137.954
Olluco (root)	2.526	2.526
Sugar	178.311	215.614
Unrefined sugar	5.079	5.079
Honey	0.000	0.000
Peas	24.950	24.950
Beans	28.820	28.820
Chick peas	0.587	0.587
Broad beans	4.659	4.659
Lentils	1.417	1.417
Pallar (type of bean)	1.190	1.190
Coconuts	0.000	0.000
Ground nuts	0.000	0.000
Other nuts	0.000	0.000
Capsicum	0.820	3.841
Garlic	0.741	0.741
Onion	31.578	31.578
Cabbage	12.645	12.645
Vegetable maize	38.386	38.386
Green broad bean	1.946	1.946
Green peas	14.135	25.672
Green beans	4.809	9.907
Tomato	0.804	0.804
Lettuce	0.000	7.478
Celery	0.014	2.154
Cauliflower	0.000	0.000
Zapallo (kind of pumpkin)	3.090	10.294
Caigua (small pumpkin)	1.996	11.603
Porro	2.210	2.210
Beetroot	0.021	0.021
Carrot	0.938	2.577
Chirimoya (sweet pear)	0.127	3.030
Lime	0.483	0.483
Mango	0.000	0.000
Apple	0.115	0.115
Peach	0.000	0.000
Orange	6.149	24.859
Avocado	1.103	1.103
Papaya	10.460	10.460
Banana	18.143	18.143
Water melon	0.000	0.000
Cactus fruit	8.800	8.800
Pomegranate	0.043	0.043
Calabash (kind of pumpkin)	25.358	25.358
Pear	0.000	0.000
Egg plant	0.016	0.109
Poultry meat	2.425	2.425
Mutton (goat)	0.000	0.000
Rabbit meat	0.000	0.000
Guinea pig meat	1.242	1.242
Mutton (sheep)	0.523	0.523
Pork	1.731	1.731
Beef	0.887	0.887
Beef innards	0.000	3.470
Eggs	3.253	3.253
Sea fish	14.210	39.547
River fish	0.028	0.028
Milk	223.173	223.173
Cheese	7.526	7.526
Oils	8.574	8.574
Cocoa	0.394	0.394
Beer, etc.	0.278	0.278
Value of the goal function in centavos	952.35	1091.39

## Foreign Trade

In order to show the nutritional implications of foreign trade, optimizations with the following alternative assumptions were carried out. One assumption is that the current export will be maintained and that therefore a smaller quantity of food than was assumed above will be available to local consumers; this optimization variant is called the export variant. Another assumption is that the current export level as well as the current import level will be maintained; this optimization variant is called the export/import variant. These variants are compared with the variant which was presented in the previous section which will be referred to as the self-sufficiency variant.

The following Table 13 presents the values of the goal function (costs of the food budget per head and day) for the different variants with consideration of the food habits of the population and with consideration of nutrient requirements.

	Self-sufficiency Variant	Export Variant	Import/Export Variant
Minimum and maximum requirements for all nutrients	10.91	12.31	11.69
Minimum requirements for all nutrients	9.52	9.66	9.24
Minimum and maximum requirements for all nutrients without amino acids	10.82	12.31	11.69
Minimum requirements for nutrients without amino acids	9.26	9.59	9.09

If all nutritional criteria are applied in the elaboration of a rational food budget, i.e. minimum requirements for all nutrients including amino acids and maximum requirements for calories, proteins, calcium, phosphorous and iron, the following picture emerges: The self-sufficiency variant costing 10.91 soles per day is the cheapest variant. If the food production intended for export is deducted from the volume available for local consumption, the costs for every individual consumer rise by about 13 %. This additional expenditure can only be partly compensated by food imports. In this case, the self-sufficiency variant is the cheapest for the consumer. The same statement also applies when amino acids are not included in the requirements.

If, in the elaboration of a rational budget, the assumption of maximum requirements for a few nutrients is dropped and only the minimum requirements for all nutrients are considered, the results are reversed. The export variant becomes more expensive than the self-sufficiency

variant, but this is more than compensated by the export/import variant. Under these assumptions, the self-sufficiency variant costs 9.52 soles per head and day, and the export/import variant is about 3 % cheaper.

These results permit the conclusion that, in the given case, a self-sufficiency policy is indeed financially cheaper than a policy of foreign trade relations if strict nutritional standards are applied, but that a slightly reversible trend becomes apparent if less strict standards are taken. As the use of maximum requirements is not uncontroversial in nutritional terms, a rational food budget which is used as an orientation point for project evaluation should start from the export/import variant rather than the self-sufficiency variant. The self-sufficiency variant should be taken as an orientation point only if the need to have national security of domestic food supply is considered to be worth about 4 million soles for the total population - this corresponds to about 90,000 US\$. Since this is not an excessively large sum to guarantee the security of national food supply, in view of fluctuating food prices on the world market, the self-sufficiency variant is taken as the hypothetical basis for the following deliberations.

#### A Rational Food Budget: Result

On the basis of the reasoning presented above, it appears that every food budget for the population in the survey region which takes account of (a) nutritional requirements, (b) minimum consumption through food habits, and (c) total production for local consumption (consisting of market and subsistence production) as food specific maximum consumption, can be called rational. Table 12 shows this "rational food budget".

There is no doubt that other social and economic arguments could be found to make such a budget "more rational", even in this study the rational food budget developed for the survey region is only an approximation of a rational food budget.

#### Production versus Distribution?

Such a rational food budget is based on the actual food production. In this sense, its elaboration tends to imply political arguments in the direction of a distribution of food rather than a production of food if deficits are to be identified. Only if existing disparities and imbalances in the distribution of food consumption are considered relatively constant and not alterable in the short term, can a rational food budget be the orientation point for a production-specific supply and demand strategy which is more production-oriented than distribution-oriented and equalizes existing deficits.

Such reflections must always be made in every concrete case when a rational food budget is interpreted. Per se, a rational food budget implies neither a production-oriented interpretation nor a distribution-oriented interpretation; all interpretations should be substantiated individually in each concrete case. Because, a rational budget is not valid per se; it acquires validity only when compared with the actual situation of production and consumption.

### From Need to Requirement

The goal of a rational food budget is to evaluate the actual nutritional status and the actual food consumption of the population. It is necessary in this context to compare the actual consumption of food with the rational food budget presented here. The real food requirement emerges from this comparison while the rational budget operationalizes needs. Table 14 shows the actual consumption and compares it with needs in order to identify where there is requirement.

### Résumé

A rational food budget operationalizes nutritional needs in order to be able to identify food requirements from a comparison of actual supply with nutritional needs. The approach suggested here tries to include some of the points which were considered theoretically to be of importance above. Firstly, the rational budget developed here is located between a maximum and a minimum consumption; therefore, it does not operationalize a minimum level of living but an orientation point for rational nutrition. Secondly, it takes account of the various sources of need interpretation outlined above; it links the felt needs of the population (operationalized as food habits) with the normative needs of science (operationalized as minimum and maximum nutrient requirements) and with comparative need (implied through the equality of norms for the poor and the rich, the exploiter and the exploited). Above and beyond this, it tries to cover other factors trying to raise its rationality which is always approximate, such as production conditions and costs.

A rational budget can only be drawn up if there is clarity about the underlying political norms always incorporated in such a budget. Here it is a question of determining which arguments are important and which are not. In nutritional terms, it is not important whether carrots or pastinak are eaten, what is more important is whether enough calories and nutrients can be biologically absorbed.

Table 14 - Deficits: Rational vs. Actual Consumption (in g per head and day)					
Food Group	Rational Budget	Actual Consumption		Deficits	
		Lower Class	Middle Class	Lower Class	Middle Class
Rice	52.358	63.562	66.833		
Oats	0.000	0.125	0.328		
Barley	53.726	42.675	19.965	+	+
Maize	142.222	184.390	146.762		
Quinoa (millet)	1.347	0.000	1.369	+	
Wheat	157.560	101.292	93.425	+	+
Pastinak	25.279	38.903	17.508		+
Sweet potato	45.550	20.107	16.580	+	+
Oca (yellow root)	14.163	7.625	2.381	+	+
Potato	19.644	270.918	232.994		
Yuca	137.954	86.672	24.783	+	+
Olluco (root)	2.526	3.067	3.394		
Sugar	178.311	131.075	56.886	+	+
Unrefined sugar	5.079	7.712	5.842		
Honey	0.000	0.000	0.000		
Peas	24.950	41.530	17.822		+
Beans	28.820	32.744	16.529		+
Chick peas	0.587	0.000	0.068	+	+
Broad beans	4.659	1.141	2.775	+	+
Lentils	1.417	1.721	2.188		
Pallar (type of bean)	1.190	0.000	0.000	+	+
Coconuts	0.000	0.000	0.000		
Ground nuts	0.000	0.000	0.001		
Other nuts	0.000	0.048	0.000		
Capsicum	0.820	0.995	1.122		
Garlic	0.741	0.899	1.290		
Onion	31.578	3.356	5.669	+	+
Cabbage	12.645	8.959	6.037	+	+
Vegetable maize	38.386	40.442	46.401		
Green broad bean	1.946	2.389	1.722		+
Green peas	14.135	33.997	14.300		
Green beans	4.809	9.673	10.258		
Tomato	0.804	0.996	3.236		
Lettuce	0.000	0.000	0.299		
Celery	0.014	0.009	0.015	+	
Cauliflower	0.000	0.042	0.149		
Zapallo (kind of pumpkin)	3.090	3.389	3.180		
Caigua (small pumpkin)	1.996	4.481	4.859		
Poro	2.210	0.050	0.000	+	+
Beetroot	0.021	0.026	0.355		
Carrot	0.938	1.153	1.786		
Chirimoya (sweet pear)	0.127	0.153	0.796		
Lime	0.483	0.587	1.260		
Mango	0.000	0.000	0.000		
Apple	0.115	0.210	0.116		
Peach	0.000	0.000	0.332		
Orange	6.149	1.809	2.286	+	+
Avocado	1.103	2.190	1.116		
Papaya	10.460	0.000	0.000	+	+
Banana	18.143	37.506	9.557		+
Water melon	0.000	0.065	0.000		
Cactus fruit	8.800	0.000	0.190	+	+
Pomegranate	0.043	0.000	0.350	+	
Calabash (kind of pumpkin)	25.358	36.529	25.436		
Pear	0.000	0.176	0.068		
Egg plant	0.016	0.058	0.016		
Poultry meat	2.425	2.945	4.361		
Mutton (goat)	0.000	0.000	0.000		
Rabbit meat	0.000	0.000	0.051		
Guinea pig meat	1.242	1.608	1.256		
Mutton (sheep)	0.523	0.635	5.373		
Pork	1.731	2.102	6.145		
Beef	0.887	1.077	6.332		
Beef innards	0.000	0.116	0.073		
Eggs	3.253	3.948	5.456		
Sea fish	14.210	2.873	3.291	+	+
River fish	0.028	0.034	0.585		
Milk	223.173	27.706	46.010	+	+
Cheese	7.526	4.460	4.240	+	+
Oils	8.574	11.110	11.277		
Cocoa	0.394	0.478	0.767		
Beer, etc.	0.278	6.744	3.871		

In social terms, it is important whether certain foods are acceptable to the people or not. In terms of distribution policy, it is important whether national production capacity suffices to feed each and every individual satisfactorily. In economic terms, it is important whether the necessary resources are available.

Questions of this nature must be clarified, so must those of implied power politics - who benefits from all this - before a rational budget can be prepared. But it must be prepared if the demand for need-oriented planning and evaluation is to be taken seriously. Because, it is just not enough to take hollow terms - more suited for preambles - such as "well-being" and "improvement of opportunities of life for all" as an orientation point for a critical analysis of factual policy or as a goal function for social planning. What is necessary is that these questions must be asked and tentative answers found. From the criticism of such tentative answers, such as the rational budget presented here, an approximative point of orientation for planning and evaluation can be derived.

#### **6.4. Rational Budgets for Time and Consumption**

The rational budgets presented till now only operationalize a small part of the rational budgets for time and consumption demanded above for the modelling of a way of life. But they can indicate the method approach required to tackle this problem, and they can also point out the implications and fallacies which appear. There can and should be no attempt here to model a rational way of life.

Perhaps the following thought can illustrate the necessity for such modelling even in industrialized countries. Assuming - and this is Utopian - that a world-wide equal distribution of opportunities of life had been achieved, then such budgets would have to be drawn up as the world-wide productive forces would not suffice to keep up the actual standard of living of the rich population of the world. Limits would have to be set for maximum consumption of energy, for example. And such normatives would then have to be oriented to the very axiom which underlies this study - the axiom of the equality of every single life, wherever it may manifest itself. It would certainly be exciting to prepare such a budget which would, quite technocratically, assume the equality of all human beings. It would certainly be a highly instructive model of assessment for the international and national policies of capitalist and also socialist industrialized countries.

## 7. **Planning or Health Planning as an Example of Value-in-use Planning**

One starting point for a need-oriented planning and policy is the elaboration of rational consumption budgets. Food budgets, as elaborated in the foregoing chapter, refer mainly to goods. It seems to be interesting to elaborate budgets for services, too. This will be tried with reference to a rational service budget for health planning in this chapter.

The medium-term target of health planning is to identify and implement those policies which make an optimum contribution under the given political, administrative and socio-structural constraints to the improvement of the physical, mental and social well-being of the population. The following reflections and results of an empirical research project outline an information system for health planning which will lead to the identification of such policies, which are not only based in the health sector. Furthermore, this information system enables an identification of those administrative, political and socio-economic restrictions which should be eradicated at the earliest in order to guarantee the physical, mental and social well-being of the population - a goal not only of health planning in the narrow sense - on a long-term basis. Even in this case, health planning is anything but a partial sector planning.

### 7.1. **An Information System for Integrated Health Planning**

Health planning was for a long time considered to be health sector planning or sub-sector planning<sup>1</sup>. The former progressive planning approaches in the field of eradication of epidemics and manpower planning, and also recent system-analytical and network planning approaches are limited to the attempt to rationalize a sub-system in an environment of social irrationality<sup>2</sup>. The arbitrary limits of health planning are usually traditional administrative structures, expression and witness of privileges gained in social fights for power. Nowhere was this restriction observed more strongly than in Latin America<sup>3</sup>. The demand for an integration of health policies in the national development policy and the attempt to break the sectoral borders by means of planning approaches is one of the predominant subjects among progressive health planners in Latin America today, and not only there<sup>4</sup>.

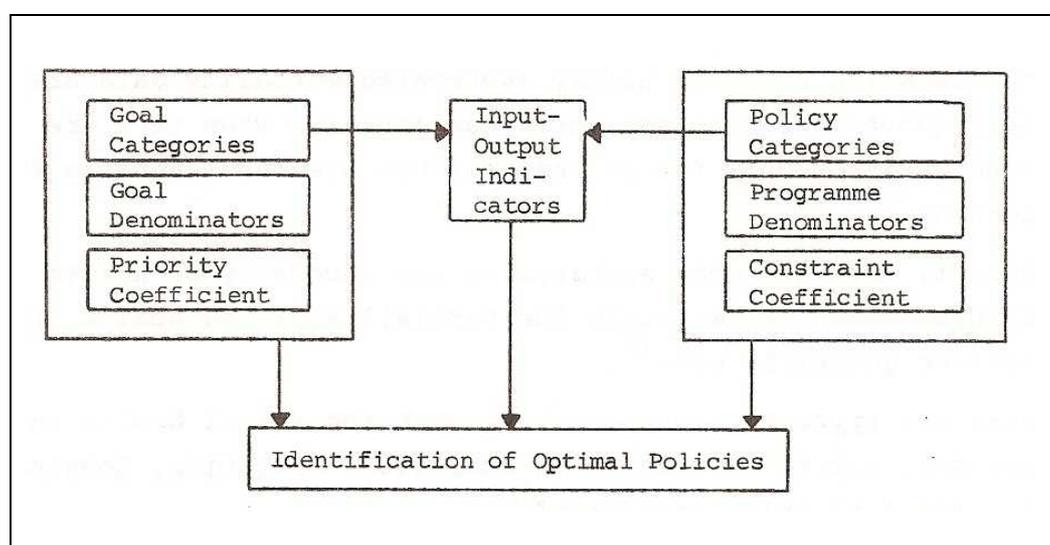
If it is the object of health planning to contribute to the realization of social equality of physical, mental and social wellbeing<sup>5</sup>, and if it can be shown that this need not remain a verbal appeal only but something that can be transformed into a quantified planning approach,

then this seems to indicate an alternative to the growth-oriented development policy of the countries of the impoverished world particularly in this field<sup>6</sup>.

Such an alternative, however, can only be outlined if health planning is not considered only as a traditional sector planning or sub-sector optimization but as an integral part of an integrated social planning, which steers towards the goal of social justice within the framework of national self-reliance<sup>7</sup>.

The concept of information system here denotes a coordination of the information essential for health planning in the above-mentioned sense<sup>8</sup>. An information system in this sense is a network of information which serves the object of identifying those policies which, under the given limitations, can improve the health status of the population at the earliest, or can identify those administrative, political and socio-structural limitations which must first be eradicated in order to guarantee physical, mental and social well-being for all members of society.

The information system suggested here consists of 7 different information segments: (1) goal categories, (2) goal denominators, (3) priority coefficient, (4) policy or programme categories, (5) programme denominators, (6) constraint coefficient, and (7) input-output indicators.



These seven information segments can be connected with one another in such a way that with the aid of a numerical optimization procedure, those policies can be identified, which provide a highest possible contribution towards goal achievement by means of the highest possible probability of execution, i.e. for example with minimum costs, by means of high political probability of execution, by means of financial feasibility for the population, etc.<sup>9</sup>

## 7.2. Physical, Mental and Social well-being as the Goal Function

If the goal of health planning is to improve the health of the people<sup>10</sup>, and if an international consensus also exists that health means not only the absence of disease or infirmity but a state of complete physical, mental and social well-being, then it appears to be senseless to convert internal efficiency indicators to the traditional health sectors to goal indicators<sup>11</sup>. On the contrary, this goal of health planning should be operationalized directly with the aid of indicators which are verifiable by data.

The following tendencies which are to be observed in operationalization can be seen in the literature on the development of health status indices<sup>12</sup>.

- 1) Most of the indices on health status are still formulated negatively, i.e. they refer only to damage to health<sup>13</sup>.
- 2) Indices which refer to highly aggregated mortality data are being questioned more and more, particularly when they are to be used not only for an analysis but also as the basis for planning<sup>14</sup>.
- 3) There is more and more emphasis on the necessity of health surveys, which can overcome the partiality of the health indicators generally used<sup>15</sup>.
- 4) There are approaches where, along with the actual health indicators, social indicators on nutrition, education, housing, etc. are also being considered<sup>16</sup>.
- 5) Indices are suggested, which refer to various stages of intensity of well-being, which therefore reject a mere nominal distinction between sickness and health as being too simple<sup>17</sup>.
- 6) All indices have some weighted denominators like incidence, vulnerability, duration, etc. which allow a comparability of health categories<sup>18</sup>.
- 7) The subjective health outlook of the people is being increasingly considered not only as the determinant of the need for health services<sup>19</sup>.

The first step towards operationalization of the goal of health planning is a categorization of physical, mental and social wellbeing. The World Health Organisation suggested internationally standardized categories for damages to physical and mental health, i.e. the International Classification of Diseases, and a mixed working group of the United Nations suggested categories for damages to social health<sup>20</sup>. If one takes the recommendations of both

organizations as the basis of a categorization, then a very differentiated catalogue of health damages can be compiled. The damages to physical and mental health can be categorized according to this on very varied aggregation levels<sup>21</sup>. The same is true analogically - even if less clearly - for damage to social health. The concrete planning constraints, particularly the resources available for planning and the aggregation level of available data determine the choice of the aggregation level.

When categorizing health for planning purposes, it is not a question of listing partial and mutually substitutable individual indicators<sup>22</sup>. The point of departure for an operational definition of health is a nominal definition, which considers health to be a catalogue of categories. The justification of the categorization chosen can only be examined on the basis of external criteria. Indices of validity can be: correlation with an external criterion and/or expert opinions (face validity)<sup>23</sup>.

The face validity in particular points to a second angle under which health is to be defined: to the definition of health from the viewpoint of the people<sup>24</sup>. In this case, the categories of well-being cannot be compiled only and categorically by health experts, but intermediary mechanisms which break through the possible one-sidedness and operational blindness of categorization by health experts should be institutionalized. Such mechanisms cannot be set in motion to identify goals, needs, motives, hopes and wishes of the planning objects by a method approach alone<sup>25</sup>, but above all by the participation of the people in goal identification and in programming<sup>26</sup>. Under the existing conditions of imbalance of knowledge and power, it is dubious whether, because of the lack of health education on the part of those affected by planning, the categories of physical health compiled by health experts can be validated by the people through this approach<sup>27</sup>. Particularly in the field of social health and even in the field of mental health, indications of the validity of the categories suggested by health experts should emerge on the basis of a participation of those affected by planning and a subsequent discussion with the planners.

In a case study in Valle del Cauca, Colombia, 23 categories of physical, mental and social health were used. The categories of physical and mental health, which are formulated negatively here, correspond to the International Classification of Diseases; they cover all the categories of diseases listed there and are compiled in 19 categories. In pragmatic terms, this method approach is necessary because otherwise any statistical information on the incidence and prevalence of these diseases can hardly be collected. The related categories of social health refer to the aspects of education, income, employment, and housing. The basis of health planning in this sense is the compilation of the list of nominal categories, which is shown in Table 15.

The nominal categories of health are per se not comparable<sup>28</sup>. They can become comparable only when common denominators can be found<sup>29</sup>. A common denominator can be the duration of the damage or the number of the individuals presently affected by such damage<sup>30</sup>. Only the identification of such common denominators - we refer to them in the following as goal denominators - can be an indication of the similarity or dissimilarity of certain aspects of goal categories and thus of priorities.

Table 15 - Nominal Categories of Health, Formulated Negatively

1. Tuberculosis
2. Intestinal infectious diseases
3. Diseases caused by hookworms and others
4. Other infectious and parasitic diseases
5. Nutritional deficiencies
6. Neoplasms
7. Diseases of the sense organs and hypertrophy of the tonsils
8. Diseases of the circulatory system
9. Diseases of the respiratory system
10. Diseases of the digestive system
11. Diseases of the genito-urinary system
12. Complications during pregnancy, child birth and the puerperium
13. Complications with abortive outcome
14. Goitre and diabetes
15. Dental diseases
16. Congenital anomalies and diseases of earliest childhood
17. Mental disorders
18. Accidents, poisoning and effects of violence
19. Other diseases
20. Ignorance (people with less than 5 years of schooling)
21. Poverty (people with an income below the minimum limit)
22. Unemployment
23. Unhygienic housing (without bathroom, toilet and latrine)

Indications of such goal denominators are to be found not only in the priorities of development plan documents, but also in some suggestions for the elaboration of health status indices. Examples for the priority dimensions in health plans are: damages which particularly affect working people<sup>31</sup>; damages which particularly affect the rural population<sup>32</sup>; damages which particularly affect mothers and children<sup>33</sup>; damages which are communicable<sup>34</sup>; damages which are of an endemic nature<sup>35</sup>; etc. Vulnerability, incidence, importance or transcendence<sup>36</sup>, duration<sup>37</sup> and cost intensity<sup>38</sup> are other examples of goal denominators. From the health statistics available, almost any number of further denominators can be shown

by means of indicators<sup>39</sup>. These denominators of the nominal categories of health consolidate one single aspect each time, with which the health status of the population is connected with its socio-economic context<sup>40</sup>.

1. Morbidity	Health problems, which occur most frequently in the Department
2. Economic significance	a) health problems, which affect the active population b) health problems, which affect the working population
3. Social significance	Health problems of a) the under-privileged population groups b) the women c) the illiterate d) the poor e) the rural population f) the old people g) the children
4. Hospitalization	a) out-patient health problems, which make great use of health institutions b) in-patient health problems, which require a short stay in health care institutions (hospitals)
5. Reduction costs	Health problems, which could be solved by a minimum cash expenditure
6. Accessibility for preventive measures	Health problems, which can be influenced favourably by preventive measures
7. General accessibility	Health problems, which affect that part of the population which till now has not had sufficient medical attention
8. Transitivity	Health problems which are connected with infectious diseases
9. Duration of the disease	Health problems, which affect well-being over a long period
10. Diagnosability	Health problems, which because of the insufficient education of the people are not considered serious
11. Lethality	Health problems, which have a favourable ratio of fatal cases to sicknesses
12. Interdependence	Health problems, which with great probability occur together with other diseases
13. Vulnerability under existing conditions	Morbidity rate in 5 years without a change in the health sector
14. Vulnerability under optimal conditions	Morbidity rate in 5 years with optimal changes in the health sector

If it is the goal of health planning to realize social equality with regard to physical, mental and social well-being, then the denominators which reflect social discrimination acquire strategic relevance: damages which particularly affect the rural population; damages which particularly affect minorities; damages which till now have affected the under-privileged classes, etc. An analysis of the determinants and consequences of social discrimination shows which denominators are relevant for health planning<sup>41</sup>. If it is the aim of health planning to give flank protection to economic development, then those denominators which refer to the working population or to the reduction costs of damages, etc. will acquire strategic relevance<sup>42</sup>.

Only after such denominators have been conceptualized, does the problem of collecting data and deciding on data quality arise. It would be beyond the scope of this study to discuss the problem in detail<sup>43</sup>. In principle, it is naturally important to take reliable and valid data as the basis of planning; the standard of the data quality, however, is, as a rule, determined by the availability of human, financial, temporal and statistical resources for planning. If epidemiological research is not possible because of time and budget constraints, then available statistics will have to be used; and if this is not possible in the planning region, one will have to operate with estimates by experts<sup>44</sup>; and if this is also not possible, then one has to revert to the statistics or research which may not refer to the planning region in question, but which could possibly give an approximate picture of the situation there. Even the combination of fragmentary data can be more important for planning than the traditional irrationality of intuitive decisions of individuals<sup>45</sup>.

In a case study, 22 denominators for the nominal categories of well-being were identified by means of hypotheses, literature studies, interviews with experts and available statistics. Table 16 shows the goal denominators and their meaning. The quantification of the goal denominators generally followed on the basis of available statistical material. For the denominators 'morbidity', 'vulnerability' and 'interdependence', estimated values were obtained by consulting experts because of the unavailability of statistical material. To determine vulnerability, the interviewed epidemiologist was given the morbidity data for all of Colombia, which at the time of the enquiry was incomplete - for List C of the International Classification of Diseases, only 35 of the most common diseases from a total of 70 were on the list. Based on this data, the corresponding regional morbidity was estimated for the present period. With the aid of these estimates, a basis was established for estimating vulnerability under the existing conditions and for vulnerability under optimal conditions. At first, a prognosis was sought of regional morbidity within the next five years under the condition that unlimited resources would be available (optimal prognosis). This optimal prognosis was confronted with a minimal prognosis, a prognosis under the condition that within the next five years nothing would change in the health sector. The difference between

the minimal prognosis and the optimal prognosis marks the possible sphere of influence of health policy.

The denominator 'interdependence' was quantified through a similar procedure. Interdependence here means the probability of the joint occurrence of a damage with other damages, i.e. multimorbidity. In that, the score of 7 signifies a very high probability of interdependence, the score of 0 signifies a relatively low probability.

To quantify the vulnerability with regard to social damages, the following methods were chosen:

- 1) Education: The value of minimal prognosis for the entire population was estimated on the basis of census results on school education of the age group 9 to 17 years in 1964 and by using the additional information given by the school authorities who stated that the number of teachers' posts was not increased either in 1971 or in 1972, which in case of a high population growth would mean a lowering of the general standard of education. The optimal prognosis for the entire population was ascertained on the assumption that in the next five years the capacity of primary schools would be gradually expanded so that all school-age children would go to school.
- 2) Income: The value of the minimal prognosis was estimated on the basis of various sources, which predict a strong rise in unemployment for the planning region, indicating an increase in the number of families with very inadequate income. The optimal prognosis is based on the reflection that a certain reduction of the number of families with inadequate income can be achieved, but that five years is too short a period to drastically increase the income of so many families.
- 3) Employment: The estimation of the minimal prognosis is based on statements from various sources, which predict a spontaneous unemployment rate of 30 % for the planning region for 1980. Even with the use of all possible means, the optimal prognosis can at the most assume a fall in the rate to 8 %.
- 4) Housing: The figure from the housing census of 1964 was taken as the minimal prognosis; for the optimal prognosis, the deficit in minimum standard housing was halved.

Table 18 (rows A to V, Y and Z, columns 1 to 23) shows the results of the quantification of the goal denominators. For reasons of comparability the values were transformed to a scale defined between 0 and 1.









Table 18 – Health Planning Information System

List of all 47 Programmes

Constraint coefficient	Vulnerability	minimal prognosis (per 1,000)	Y	60	120	440	Weighting Factors	maximum prognosis (per 1,000)	Z	10	40	80	Goal Denominators	Goals	Programmes	Tuberculosis	Intestinal infections diseases	Diseases caused by hookworms and others	q	1	2	3	Description	20
																							Further training in health and sex education for primary school teachers	20
																							Sex education and information on family planning	21
																							General food control	22
																							Pasteurization of milk	23
																							a) 33 % of the milk b) 67 % of the milk c) 100 % of the milk	23
																							Control of milk quality	24
																							Construction of drinking water pipe-lines	25
																							a) for 10 % of the population b) for 20 % of the population c) for 50 % of the population	25
																							Construction of sewage systems in rural areas	26
																							a) 10 % more b) 20 % more c) 50 % more	26
																							National production of standard drugs	27
																							Improvement of rural food supply by promotion of small-scale vegetable cultivation	28
																							Increase of milk production	29
																							a) doubling b) trebling	29
																							Improvement of the road network	30
																							a) 5 % more b) 10 % more c) 15 % more	30
																							Electrification of rural and suburban areas	31
																							Construction of additional low-cost sanitary housing	32
																							Development of standardized house types, built of locally available materials	33
																							Obligatory sanitary fittings in all new houses	34
																							Distribution of grants only for houses with sound sanitation	35
																							Better garbage disposal in poorer areas	36
																							Improvement and stricter control of sanitary guidelines in commercial organizations and public institutions	37
																							Creation of jobs	38
																							a) for 20 % of the unemployed b) for 50 % of the unemployed	38
																							Better credit terms for small rural establishments	39
																							Primary education for all children	40
																							Improvement of the quality of teaching	41
																							Extension of all incomplete primary schools to 5 classes	42
																							Six-monthly compulsory education for youth without complete primary education	43
																							Vaccination programmes	44
																							a) TBC for all infants b) BPI for infants and polio for all	44
																							Free supply of all medicines	45
																							Legalization of abortions	46
																							"Barefoot doctors"	47

The weighting of goal denominators reflects the political weighting of the various strategical components of the goal definition. The denominators are thus compared to one another and ranked according to their importance. The individual denominators were firstly ranked according to their relative weight in a range of 1 to 9 and secondly according to a scale from 0 to 7. This method avoids a too-narrow variation width in ranking and guarantees varied margins between the assessments. The most important denominator which ranks at first place was marked by factor 19, the next in importance with 18, etc. These values were multiplied thereafter with the corresponding value which they were given in the scale (0 to 7) whereby the original ranking was corrected. Five doctors who also had political administrative functions were called in as experts; the results can be seen in Table 18 (left values, rows A to V).

The results show that the general concept of "social importance with regard to the underprivileged" was given relatively little weight (34.3), whereas the sub-concepts of "social importance with regard to the rural population or children, respectively" were given high (65.3) or the highest importance (111.6). The lowest scores were given to the dimensions "social importance with regard to the old people" (1.6) or "with regard to the illiterate" (1.3). These extremely wide-ranging values indicate that it was right to subdivide the concept of "social importance" into several categories. It is interesting to see that the dimensions "economic significance" as well as "reduction costs" were assessed relatively low (47.6 and 47.3).

Priorities only result in a rational way when the related goal denominators are weighted or compared according to their functional relationship. In most of the suggested health status indices, this occurs in the form that the applied denominators are either weighted equally or weighted with certain external factors<sup>46</sup>. Here the criterion for such a comparison is called the denominator of goal denominators. Such weightings are undertaken in every health policy. One of the aims of an information system is to make such decisions visible and open to criticism<sup>47</sup>. From the interrelations between goal categories, goal denominators and denominator for goal denominators, it is possible to derive a priority list of health damages which - under consideration of the socio-economic context of health - should be reduced more than others by policies, if the goal is the improvement of the health of the population<sup>48</sup>. A priority coefficient which reflects the political priority of the individual disease categories was formed from the combination of quantification and weighting of the goal denominators. Formally, it is the weighted arithmetic mean of the values of the goal denominators and was transformed to a scale between 0 and 1. Table 18 shows its values in row W. This proves that, according to the criteria chosen, intestinal infectious diseases are to be given the highest priority and mental disorders the lowest. The five most important groups of diseases are: intestinal infectious diseases, diseases of the respiratory system, diseases due to hookworms

and other worms, complications during pregnancy, childbirth and puerperium, nutritional deficiencies. Less important are: mental disorders, neoplasms, and diseases of the sense organs.

### **7.3. Selection and Weighting of (Health) Policies**

While some approaches towards the use of such a priority coefficient are to be found in some health planning methods, there is little discussion on the search for policies (understood here as a global concept, covering programmes, instruments, actions, activities, measures, etc.) - as they have been proposed here. In this context, almost all the methods of health planning are only oriented to the resources traditionally used in the health sector<sup>49</sup>.

There is also little effort to find out which policies could improve the health of the population, at best it is asked to what degree specific resource combinations in the traditional health sector can influence a change in the health status of the population<sup>50</sup>.

At least four different method approaches may be analytically differentiated:

- 1) A cause analysis which isolates those factors ex post which have brought about a change in the health status. Such a cause analysis necessarily extends beyond sector limits<sup>51</sup>.
- 2) An inventory of available resources and executed actions in the health sector, whereby the decisive question is how far unconventional resources are taken into consideration or not<sup>52</sup>.
- 3) An inventory of all policies which could influence the improvement of the health status of the population in the planning region; this, however, is a step which requires social imagination<sup>53</sup>.
- 4) An inventory of all policies which have been executed in planning regions with similar starting levels for improvement of the health status of the population<sup>54</sup>.

All these method approaches must be used for effective planning. There are no rough and ready rules for this. "The preparation of health programmes is no mechanical job: it is more an art than a science"<sup>55</sup>.

In our case study in Colombia, for example, the third method was selected. With the aid of an open questionnaire which covered the three components of the basic definition of health, i.e. physical, mental and social well-being, not only doctors and paramedical personnel were

interviewed but also housewives, teachers, technicians and land labourers. This survey resulted in 155 more or less heterogeneous programme proposals which were in no way restricted to the narrow health sector. The sector-external programmes were related to a raise in the standard of living of the under-privileged rural and urban population, in particular to the improvement of the health status, the level of education and to the increase and stability of income. For pragmatic reasons, it was not possible to operate with such a long list of programme proposals. Therefore, in a new interview of persons of different professional and social origin, the list of programmes was reduced on the basis of the anticipated influence of these programmes on an improvement of physical, mental and social well-being. The result was a list of 47 programmes which is presented in Table 18, rows 1 to 47.

Through an identification of anticipated constraints, the policies were characterized and made mutually comparable<sup>56</sup>. Constraints or programme denominators are those strategic elements or aspects which hinder the implementation of policies under the given socio-economic conditions in the planning region.

The socio-economic analysis of the power structure and the network of vested interests as well as an analysis of the scarcities in the survey region are required before a search for the constraints for implementation of policies can set in<sup>57</sup>. Experience with policies acquired in other comparable planning regions can also indicate constraints<sup>58</sup>. Almost all publications on planning and evaluation point to general constraints for individual types of policies: implementation costs, ratio of operating costs to investment costs, acceptance by the population, class interests, etc.<sup>59</sup>.

By identifying such constraints, the policies are characterized and made mutually comparable. In this sense, a policy is nothing more than a function of financial, economic, technical, social, political, administrative and other constraints. In a cost/effectiveness analysis the costs are explicitly taken as the essential strategic aspect of policies<sup>60</sup>, whereas the criticism of this approach points to the other constraints which usually impede the execution of policies, such as political feasibility, compatibility with existing power structures and administrative traditions, etc.<sup>61</sup>. Here too, this process of search for the strategically relevant constraints is a process of analytical imagination.

In our case study, a total of 14 constraint categories were determined on the basis of hypotheses and interviews with experts; these constraints are typical, regularly recurring barriers against the execution of projects, programmes and policies. Table 17 shows the constraints or programme denominators which have been taken into account; at the same time, it points to the operationalization of the question. As no statistics on these aspects were available, interviews with experts had to be used.

1. Financial capacity of the population	Do you think that the programme corresponds to the economic capacity of the people?
2. Short term availability of the necessary human and material resources	Do you think that the human and material resources necessary for the execution of the programme are available at short notice?
3. Administrative feasibility	Do you think that the institutional possibilities suffice for the execution of the programme?
4. Political feasibility	Do you think that the political decision-makers approve of this programme?
5. Duration of the programme until the first results appear	Do you think that the programme will be effective soon?
6. Understanding and willingness of the people to cooperate	Do you think that this programme will be accepted by the people?
7. Continuity of implementation	Do you think that the continuity of programme implementation by the administration is assured?
8. Costs	What costs are incurred through execution of the programme? (detailed analysis)
9. Group interests of the doctors	Do you think that the programme is directed against the interests of the doctors?
10. Interdependence of programmes	Do you think that the success of the programme depends on the execution of other programmes?
11. Dependence on several budget items	Do you think that the programme obtains its funds from different budget items?
12. Dependence on foreign exchange	Do you think that the programme requires a large amount of foreign exchange? (detailed analysis)
13. Coverage of the population	Do you think that a large part of the population will be covered by this programme?
14. Ratio of running costs to investment costs	Do you think that this programme affects the running costs more or the investment costs?

The quantification of the specific scores of individual constraints were submitted for evaluation to experts who seemed to be particularly qualified to answer these detailed questions because of their political and administrative functions. For this questionnaire, too, the 8-point scale was used. The arithmetic mean of the scores of the individual answers was taken and transposed to a scale from 0 to 1 so that these answers would be more suitable for

calculations. Table 18, rows (a) to (p), shows the individual scores of the constraints for each programme.

A constraint coefficient can be constructed in the same way as a priority coefficient. For this, it is first necessary to identify a common denominator for the constraints, such as the degree to which the individual constraint influences the implementation probability of policies in the planning region, i.e. a weighting of each constraint against the other as a result of their (assumed) functional interrelationship<sup>62</sup>.

In our case study, these constraints were weighted on the basis of an interview of experts; here, sociological scaling methods were mostly used. From the combination of this weighting of the constraints and the respective scores of the individual constraints for the individual programmes, a constraint coefficient which indicates the relative difficulty of the implementation of individual programmes was derived. Programmes which cost less, are little dependent on foreign exchange, have a relatively wide coverage of the population, and can show quick results, are easier to implement than programmes which require foreign exchange, conflict with the group interests of doctors and require human and material resources which still have to be created. All these arguments are reflected in the constructed constraint coefficient for the programmes listed above; Table 18 shows these values in row 9.

The objection raised against the use of optimization techniques in health planning was sometimes that it is unrealistic to assume that the effects of one programme or one measure on a change in the health status could be identified<sup>63</sup>. This does indeed seem to be a grave statement. It would imply that a doctor could, in the case of gastritis, equally prescribe a head bandage, a leg operation or pills; but, organized health measures are not at all conceivable without well-founded hypotheses about the probable relationship between a health measure and the change in the health of a patient. Such - stochastic, not deterministic - relations between measures and objectives, between input and output, can be identified<sup>65</sup>, not only at the level of direct experience which characterizes the daily practice of medical personnel, but also at a very abstract level of analysis<sup>64</sup> which characterizes the terrain of social scientists.

Even though these relations between measures and objectives can usually be proved by an ex post evaluation, this is not a conclusive objection against ex ante hypotheses; in both cases the crucial methodological problem is the attribution to individual factors<sup>66</sup>. At a medium level of experience, which is most closely associated with the area of health planning, there are indeed epidemiological/sociological studies which deal with such input-output relations, for instance, the influence of different types of medical care on the reduction of infant mortality<sup>67</sup>. In all evaluation studies on health programmes and in all sector analyses the conclusions are based on such surveys<sup>68</sup>.

Input-output relations can be most precisely determined with the aid of detailed epidemiological/sociological studies; but the transferability of the findings to another historical/social context is often questionable<sup>69</sup>. Given the large number of input-output relations which must be considered in health planning and the paucity of resources for research, there is little probability that a large number of such studies can be undertaken immediately<sup>70</sup>. The results of ex post evaluation of policies can and must be increasingly fed into the information system<sup>71</sup>. If necessary, estimates by experts must be used<sup>72</sup>. But here it is necessary to obtain the technical knowledge of experts on the relation between policies and goal achievement, but not their ideological views which may be coloured by professional interests<sup>73</sup>. Furthermore, attention should be paid to the representativity of different socio-economic environments; input-output relations which are valid for urban centres are possibly not valid for rural areas<sup>74</sup>.

In our case study, such input-output relations were determined by interviews of experts. For instance, a tuberculosis specialist was asked to state whether and how far each one of the mentioned programmes could reduce the incidence of tuberculosis within a particular plan period - 5 years. The other categories of physical, mental and social well-being were dealt with similarly. The varied importance of various programmes for the reduction of individual diseases or the improvement of health status were operationalized by a 7-point scale; the value of 7 indicated a high importance for the improvement of health. Table 18, rows 1 to 23, columns 1 to 47, shows some important input-output relations.

Table 18 presents the whole information system for health planning, as it was determined in our case study in Valle de Cauca, Colombia. The information collected with the aid of such an information system can be meaningfully combined and coordinated in order to obtain political recommendations with the help of a constraint/effectiveness analysis or with the help of an optimization method<sup>75</sup>. If one combines the input-output scores or utility values, priority coefficients and constraint coefficients, and compares this information package with the aggregated information on those constraints which do not seem to be variable at present, then an indication is obtained of those policies which can - under the given constraints - develop their utility most strongly, i.e. which can contribute optimally to an improvement of the goal function.

A numerical optimization technique was used in the case study as it held prospects of finding the optimum of a goal function consisting of assessed sub-goals, whereby a number of constraints were taken into consideration. Linear programming could not be used because of the non-linearity of a number of input-output scores of several programmes; the so-called evolution strategy was used. The utility of an individual programme is calculated as follows. The input-output score, which can vary between 0 and 7, is transformed to a scale between the minimal prognosis and the optimal prognosis of morbidity in 5 years. The utility scores of all

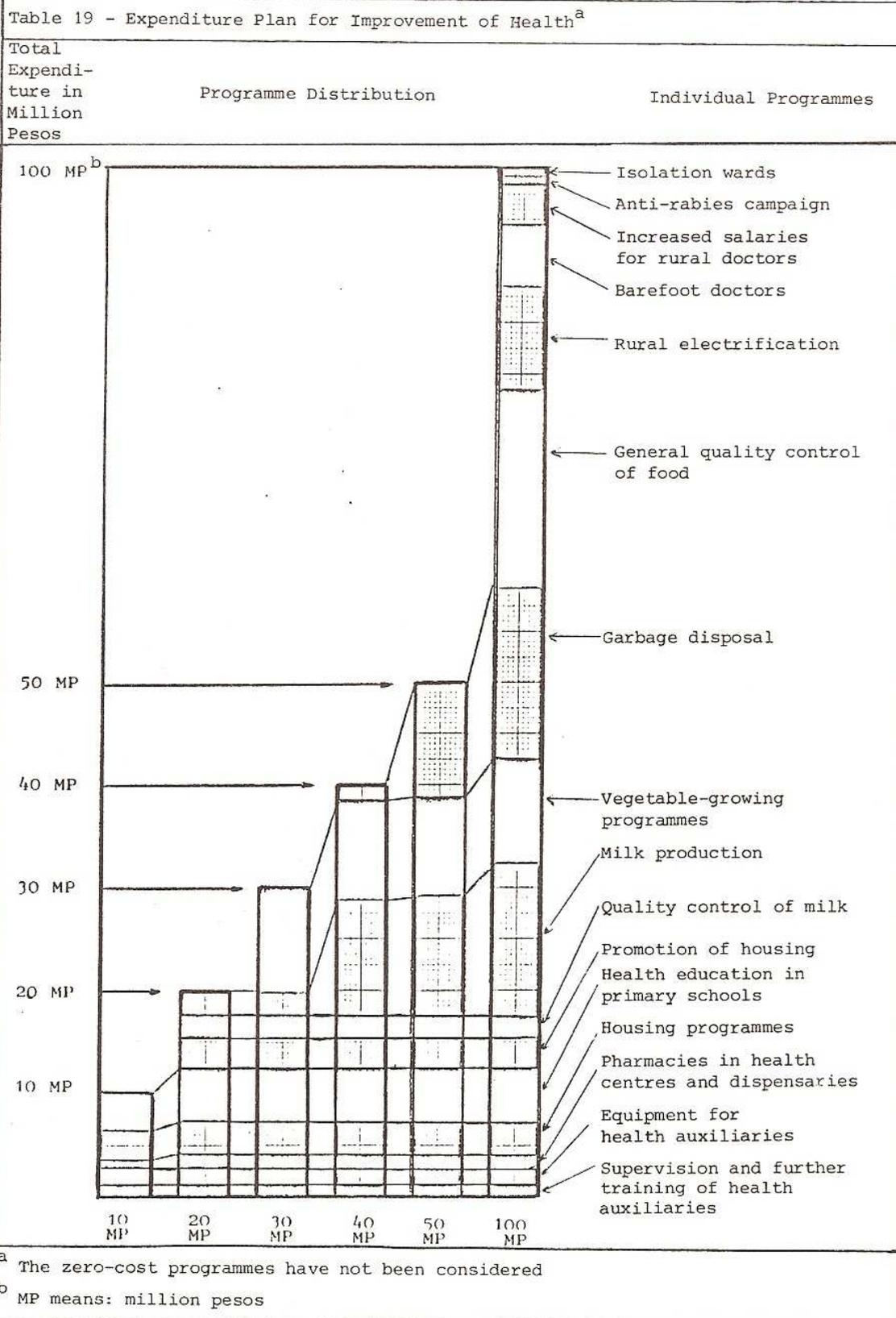
goal categories are summed up and multiplied by the corresponding constraint coefficient. In case the total cost is not recommended in the optimization, but only a reduced cost level, the utility score is changed in proportion to the relation between cost and effectiveness. For programme 22, for example, the utility score is computed as follows:

$$X = ((120-40)/7 \times 6.4) + ((440-80)/7 \times 5) + ((30-9)/7 \times 6.4) + ((180-35)/7 \times 3.6) + ((110-50)/7 \times 6) + ((45-20)/7 \times 5.2) \times 0.77$$

This total utility value of  $X = 380$  is related to the total cost of 19 million pesos. If only 7.5 million pesos are to be proposed, then the utility score is reduced to 149. Different types of functions can be formed depending on how many such utility scores are available per programme. If one has only two scores (including the score 0), a linear function can be formed; in case of three values, a quadratic function, etc.; depending on the importance one gives to a programme, one can determine one or more scores. The degree of accuracy and probability of the function increases with the number of scores. By feeding all these values in the final optimal combination of the health programmes can be determined.

Table 19 shows some of the results of optimization. These results present allocation recommendations under alternative assumptions that 10, 20, 30, 40, 50 or 100 million pesos will be available. It is particularly interesting that even programmes outside the health sector are recommended for execution, i.e. some of the programmes outside the health sector have a higher utility than many of the programmes in the health sector. These results indicate that the health planning methodology applied in this case study actually goes beyond sector boundaries and does not only suboptimize within the narrow boundaries of the health sector.

It may be emphasized here that this case study has a highly approximative method approach as the results are based to a great extent on estimates of experts which are not representative and, as such estimates of experts usually do, reflect personal and professional interests. All such objections to the quality of data are justified. However, the aim of the case study was to show the interrelationship between different information elements and to derive the justification of such an information system from the results; the case study was only intended to be a model for a health planning methodology or a methodology leading to a "rational service budget". A realistic health planning will have to operate with much more rigid data - in all respects. But the model presented here can show what information must be collected and how it can be combined. This was the sole aim of the case study.



#### **7.4. Health Planning as Trans-sectoral Planning**

This brief outline of the information system for health planning presented here not only makes it possible to break through the traditional sector boundaries and to give sector-internal decision aids at the same time, but it also implies a step in the direction of democratization of health planning. Not only is access obtained to the knowledge and experience of those affected by planning - who hitherto were not involved in the planning process - within the framework of a structured planning dialogue, but at the same time coordination of isolated technical knowledge is rendered possible.

Health planning becomes strategically relevant for development only when it - at first experimentally - questions the political and socio-economic constraints of health policy itself. The identification of constraints within the proposed information system for health planning permits the identification of those constraints which most impede a technically reasonable policy. Based on this information, a priority list could be prepared which makes the eradication of these constraints the starting point of planning. Thus, if health planning is to be strategically relevant to development, then the eradication of constraints must be transformed to a goal function which sets the whole planning process in motion again<sup>77</sup>. It may then possibly be seen that it is very important for health planning to break the influence of budgetary allocation barriers on health policy decisions or to reduce the constraint of dependence on foreign exchange.

From the goal of improved physical, mental and social well-being of the population, strategic elements could emerge which would point to necessary and "practicable" political and socio-structural measures which - supported by a democratic dialogue - could provide the basis for a policy dedicated to social development goals. Such a policy is by no means restricted to activities within the so-called 'social sectors'.

#### **8. Evaluation or Constructive Plea against Socio-monetarism**

In the past, so-called "social projects" were often evaluated with different criteria than were so-called "economic projects and investment schemes". For this purpose, a simple formula was used: Projects in the social sector, e.g. in the health and education sector = social projects. As one could hardly expect such projects to have comparable effects on the usual indicators of economic performance, such as cost/benefit ratio, cash flow and internal rate of return as

projects in directly productive sectors, methods were developed in the 'sixties which emphasized the difference of investment schemes in social sectors and also stressed their non-comparability with economic projects<sup>1</sup>.

### **8.1. Political, Methodical and Scientific Objections**

The starting points for the following reflection on socio-economic evaluation of investment projects are different. They concern investment projects in any sector. To begin with, there is a political - i.e. a non-value-free - starting point which declares a particular definition of social development as goal and thus as goal and evaluation criterion: improving the living conditions of the mass of the population, securing a minimum level of living conformable with human dignity, and satisfaction of basic needs. Secondly, there is a methodical starting point which is particularly directed to the criticism of the income indicator as an alleged socio-economic criterion of evaluation. And not least, there are the substantive/scientific considerations on the inappropriateness of the gross national product (GNP) and its monetary derivatives as indicator(s) of social and economic development, and on the need-orientation of public activities which form the basis of the following deliberations and attempts at operationalization. It is therefore not a question of pure theoretical/methodological contribution on the possibilities and impossibilities of evaluation and also not of how evaluation can be implemented in the actual social decision-making process. The point here is, initially, a different one: On the basis of a value judgement, a practicable method of evaluation of investment projects, which is also theoretically justifiable, is to be presented.

To begin with, a few words on the goal function of evaluation. Of course, it would be interesting to speak of different goal-defining groups of persons and of various possibilities of a goal definition at different planes of abstraction and at different positions of an almost infinite goal-means chain. The following approach is more modest and limited. It tries to operationalize the development goals of international development strategy, i.e. the international goals which are related to the satisfaction of basic needs and to an improvement of the living conditions of the mass of the population. The relevant target group, for which an improvement of the living conditions or a minimum level of living conformable with human dignity is to be secured, is called the 'poorest majority' by some, the 'poorest 40%' by others, and simply the 'majority of the population' by some<sup>2</sup>. Such formulations not only concern development policy, but also every national policy and every economic activity. For, economic theory once set out to fulfil the needs of all members of society, to improve their living conditions. But, in its preoccupation with the more instrumental free price system and

its allegedly omnipotent control capacity, economic theory often lost sight of this original need-orientation. The indicator "gross national product" and other monetary macro data were considered - as described - to be supposedly universal and good indicators of social and economic progress.

These questions of 'GNPism' or 'growthmania' or 'growthphobia' will not be dealt with here in detail. But it must be pointed out that a criticism of GNP as indicator of social and economic progress does not necessarily imply a criticism of growth. But it does imply a criticism of unqualified growth, the composition and target group of which remain vague. Social development under this aspect can be defined as economic growth which is qualified with regard to composition, kind and value-in-use of produced or provided goods and services and with regard to its target group. The criticism of GNP as an indicator of social and economic progress also points to the false claim which social project evaluation methods often make; frequently they tried to put costs and utility on a monetary basis, in order to make their results comparable with the results of economic project evaluation. Thereby they overlooked the fact that economic project assessments usually bypass fundamental socio-economic problems or even discredit them.

#### Socio-monetary Project Assessment

All these points were naturally seen by some economists. For instance, John Adler of the World Bank described three methods for assessing such projects which contribute to an improvement of the distribution of income<sup>3</sup>.

1. One method which serves this goal is the one which only considers the social returns for the target group - which for the World Bank is the lowest 40 % of the population - for assessment and selection of projects.
2. A second method is not as radical; the share of the population groups in the social return of a project is weighted in inverse proportion to their position on the scale of income distribution. In principle, all this means is that the weighting, which until now was implicitly distorted in favour of the rich, is tendentially corrected.
3. A third method, which John Adler proposes for the consideration of income distribution aspects in the selection of projects, is that which gives preference to labour-intensive projects through a normatively directed determination of shadow prices for labour.

These proposals of Adler have one thing in common: They try to tackle the living conditions of the majority of the population monetarily, and they give arbitrary weighting to the socio-economic importance of the poorest 40 % of the population. This is particularly true of the second and third method, i.e. the methods of disproportionate weighting and shadow prices. The most consistent method is the first one, which only considers the "social returns" for the target group.

Nevertheless, there are two objections to this. Firstly, the consideration of only the lowest 40 % of the population as target group is difficult to justify, as the living conditions of the lower 80 % of the population in most countries is at least similar. A limitation of the socio-economic assessment to the effect of projects on the living conditions of the lowest 40 % of the population would change the fundamental goal of social development to an aspect of charity and social care. A project, however, not only has monetary effects and a monetary side, but also a material-physical one. That is the second general objection against the methodology of the 'socio-monetarists', as the advocates of that method could be called. This second general objection is the theme of the further deliberations and operationalization attempts.

Criticism of the socio-monetarists - what does this mean? It means that income is a bad indicator of the living standard or of the need satisfaction of the mass of the population and that the distribution of income is a bad indicator for the question, whether and how far social equality or inequality exists. If that is so, then the traditional starting point of socio-economic project assessment, as it is put forth by some development banks, is at least relativized and problematized. This traditional starting point of socio-economic project assessment was to identify the direct employment effects of a project and through that its effect on income and distribution of income. But why is the income indicator a bad indicator or at least a one-sided one?

(1) The problems of data collection and data reliability in these areas are not to be mentioned here at all; this situation is typical for socio-economic data. One has to live with it and one can do so. It is not worthwhile to wait for collection of good data for years and to twiddle one's thumbs till then<sup>4</sup>.

(2) In view of worldwide inflation, nominal income indicators must be adjusted by determination of real income. Real income means: consumption of material goods and services as materialization of income.

(3) In case of inelastic supply of goods and services, particularly of goods and services for daily consumption by the mass of the population, a rising cash income of a group of persons

can possibly indicate a direct impoverishment of the rest of the population, if prices increase and wages remain the same.

(4) The income indicator suggests that all essential goods and services will be distributed through the market and through the allocation mechanism of employment. Both assumptions are wrong, at least in developing countries, both bypass worldwide realities and both discredit societies and economies which avail or must avail partially of other allocation mechanisms because (a) full employment is a Utopian goal in many countries, and (b) it would have to be examined whether a rehabilitation of subsistence economies is not necessary - to name only two reasons.

These examples should illustrate that multiple factors can break through the often assumed direct relation between employment, income and living conditions: social traditions, power relations, price policy, distribution policy, subsistence, factual inelasticity of supply, changes in productivity, etc. It is therefore not sufficient to reduce socio-economics to a formal employment or income criterion. It is rather a question of examining both sides of the coin: generation of income through employment and use of income through consumption of goods and services, which fulfil human needs through value-in-use. It is therefore a question of examining the socio-economic importance of employment on the one hand and the socio-economic importance of the product and its distribution on the other.

## **8.2. Employment and Need Satisfaction<sup>5</sup>**

As a rule, the traditional approach for socio-economic project appraisal was not to directly measure the contribution made by an investment project to a socio-economic goal criterion, but to take one instrument which was thought to be vital for this goal achievement as the central point of the analysis - this instrument being employment. It was assumed that employment should be viewed as a necessary but not wholly sufficient condition for the satisfaction of needs. The simple facts of the social significance and family consequences of unemployment were all too evident. Apart from this, it did not seem too difficult to measure the employment effect of an investment by applying the capital investment per worker criterion.

The use of this criterion is not without problems, however. The main problem is its international and inter temporal comparability as the cost side includes changes both in customs duties and taxes as well as in exchange rates, so that the economically readjusted investment costs would have to be taken as the yardstick. Furthermore, the capital investment

per worker is not the only project-relevant criterion, there are also the ratio of total current expenditure to staff costs, the ratio of permanent to temporary jobs, etc. It is very doubtful whether all this information could be incorporated in one single criterion.

Very often this criterion is considered to be inappropriate for an intersectoral comparison; for instance, power stations and steel plants are nearly always more capital-intensive - due to their technology - than simple textile factories or some irrigation projects. This investment casts per worker criterion is intended to point out this very fact. If creation of employment is given high priority - for any political, economic or social reasons whatsoever - than, in terms of employment effect, a capital-intensive project has less priority than a labour-intensive project. However, the limited validity of this criterion becomes very clear when other project appraisal criteria are included. For instance, the alternatives could be: a labour-intensive project to manufacture gold-embroidered dog-collars for domestic use on the one hand, and a capital-intensive project to produce protein-enriched staple foods on the other.

A naïve interpretation of this economic criterion 'capital investment cost per worker' as a socio-economic criterion implies the assumption of a clear-cut and unbroken relationship between employment and need satisfaction on the one hand, and it abstracts from the (socio-) economic meaning and significance of physical project output on the other, as the example shows.

Some relatively simple considerations will elucidate this objection:

- In different societies - depending on social traditions and power structures - a varying number of persons can live on the work and employment of other persons even if the former are capable of working themselves; employment is not a necessary instrument for physical, mental and social survival.
- If collective consumption rises, living conditions can improve without necessarily having to raise the employment level.
- If the supply of vital goods and services stagnates, rising employment rates resulting from an increase of unproductive employment, overstaffing, a reduction of individual working hours, etc. cannot improve the overall average level of living; however, in social systems where employment is the main mechanism for the distribution of levels of living, this approach can, under favourable circumstances, enable more people to gain access to vital goods.

The above-mentioned examples are intended to illustrate that multiple factors can disrupt the clear-cut relationship often assumed to exist between employment and living conditions, e.g. social traditions, power structures, price policy, distribution policy, effective inelasticity of

supply, changes in productivity. It therefore does not suffice to reduce social economics to a formal employment criterion. It is essential firstly to analyze the socio-economic significance of employment, i.e. see whether employment really does bring about an improvement in living conditions for employed persons, and also for the mass of the population, and secondly to consider the order of importance to be assigned to the creation of employment.

The following considerations attempt to structure these problems methodically and to operationalize them for a project appraisal characterized by time and cost constraints. Two main subjects will be discussed:

1. the socio-economic significance of employment, and
2. the socio-economic significance of the product and its distribution.

The term "socio-economic significance" here stands for the relationship between employment and the living conditions of the mass of the population on the one hand, and between product (distribution) and living conditions of the lower class on the other.

The following Table gives a rough outline of the functional sequence by which a project can contribute - through its employment effect - towards securing a standard of living consistent with human dignity or improving living conditions.

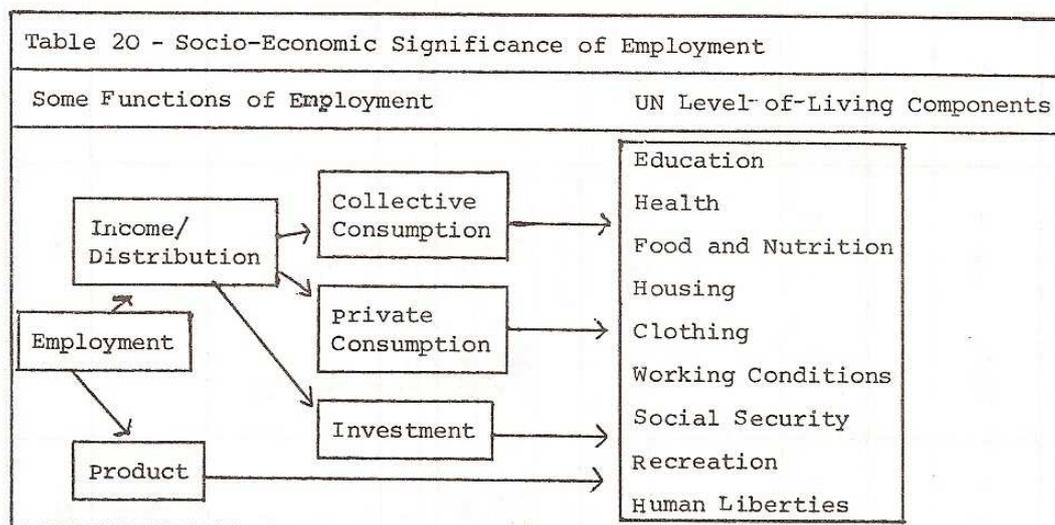


Table 20 shows the items which have to be examined to assess the project-specific significance of employment, namely, income, distribution, education, health, food and nutrition, housing, social security, etc. The indicators required to study these items are commonly known; therefore, they do not have to be derived here. Their application for project appraisal will be demonstrated with the aid of hypothetical examples. The items 'social security' and 'distribution' refer to qualitative differentiations of other items just mentioned. 'Social security' refers primarily to the stability over time of the level-of-living components.

The term 'distribution' refers generally to the differences in the living conditions of different social groups or classes, both within and outside the category of project employees. This item will be used here especially for the analysis of the distribution of project-generated income. At this stage, only preliminary suggestions can be made for this analysis; they will later have to be expanded and fitted into the framework of the other analytical steps (e.g. macro-performance analysis).

Comparison is the most important methodological tool for assessing the social effects of a project. Almost all social indicators are meaningless if they are not compared with reference values. If the direct effects of employment of the employees are to be investigated, there are two levels of comparison which play an important role: the temporal and the sectoral comparison. Table 21 shows this on the basis of a hypothetical example for the items 'employment', 'income', 'distribution' and 'working conditions'.

The temporal comparison gives us information about the status and development of indicator values. In the case of project appraisal, values at the time of appraisal are generally compared with probable future values. In the case of follow-up or final assessment, indicator values at the time of project appraisal are compared with values at the time of current assessment.

In the example presented in Table 21 the temporal comparison shows some noteworthy developments, particularly in the case of fatal accidents at work. The following points are also striking: the relative decline in the income of employees as compared with the increasing participation by the state or by capital holders, the relative decrease in the salaries of executive staff in connection with a high recruitment rate, the decline in workers' man-days per person per year in connection with a relatively high degree of absenteeism, etc.

The sectoral comparison gives us information on the status of the project-specific indicator values as compared to the values of other projects. On the one hand, indicator values are compared for different categories of employees, mainly executive staff, salaried employees and wage-earners; on the other hand, indicator values for project employees are compared with values for employees of similar projects and sub-sectors. For example, the construction workers of a project are compared with the construction workers of another investment project. The aim of the sectoral comparison is, firstly, to develop sector-specific or project-specific standards for employment, income and working conditions, and secondly, to identify potential areas of conflict which could arise due to relative disparities between wage-earners and salaried employees in one project and/or between groups within the sector. This socio-technical question has more to do with possible industrial problems during project implementation than with the socio-economic question of whether a project generates employment to gradually secure and improve the minimum living standard of the mass of the population.

Table 21 - Intra-Project Social Economics I: Employment, Income, Distribution, Working Conditions										
		PROJECT			SUBSECTOR		SECTOR		COUNTRY	
Item of Appraisal	Indicator	1964	1974	Rate of Increase	Latest Value	Difference to Project	Latest Value	Difference to Project	Latest Value (4) : (10)	
(1)		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Employment	No. of Staff	9681	12667	30.8						
	- Officers	176	417	136.9						
	- Employees	1893	2533	33.9						
	- Workers	7612	9717	27.7						
	Man Days per Year	242	225	- 7.0						
	- Officers	230	257	11.7						
	- Employees	260	261	0.4						
	- Workers	238	214	-10.1						
Income/ Distribution	Distribution of Income Generated by the Project (Value Added) Divided Between									
	- Wages and Salaries inclusive Social Service Charges and Expenditure	55	46	-16						
	- Capital Income (net) inclusive Ground Rent									
	- Own Capital	1	7	600						
	- Outside Capital	26	21	-19						
	- Government Share (Taxes etc.)	19	26	27						
	Distribution in % Between									
	- Domestic	80	85	6						
	- Foreign	20	15	-25						
	- Public Sector	19	26	17						
- Private Sector	81	74	- 9							
	Wages/Salaries per Capita and Month in NU	165.30	322.96	95.4	241.79	-81.17	220.17	-102.79	40.76	8
	- Officers	709.04	703.42	- 0.8						
	- Employees	197.78	433.24	119.1						
	- workers	133.71	277.79	107.8						
	Minimum Wages for the Lowest Paid Unskilled Male Worker per Day in NU	2.32	7.14	207.8	3.23	-3.91	1.31	- 5.83		
	Per Capita Expenditure for Social Services per Month in NU	21.44	29.62	84.8						
	- Housing	10.34	5.59	-45.9						
	- Health	4.61	9.77	111.9						
	- Education	2.23	5.21	133.6						
	- Other	4.26	19.05	347.2						
Working Conditions	Industrial Injuries									
	- Fatal : Non-Fatal	0.003	0.016	433.3	0.003	0.013	0.002	0.014		
	- Fatal per 100,000 Man Days	0.085	0.351	312.9	0.08	0.271	0.05	0.301		
	- Non-Fatal per 100,000 Man Days	30.056	21.822	-27.4	23.97	-2.148	23.56	-1.738		
	Absenteeism in %		21.7		14.3	7.4	13.4	8.3		
	Labour Turnover									
	- Accessions per 100 Employed Persons	2.1	8.6	309.5	27.6	-19.0	39.0	-30.4		
	- Separations per 100 Employed Persons	1.6	1.9	18.8	26.4	-24.5	38.1	-36.2		
	Labour Unions									
	- Union Members to Employees in %	81	78	- 3.7	22	0.56	34	0.44		
- Average Union Membership	3980	4929	23.8	762	4167	652	4277			
	No. of Man Days Lost p.a. due to Industrial Disputes	0	0	0	0.12	0.12	3.31	3.31		

From the point of view of social economics, such comparisons do not suffice. The mass of the population and their level or standard of living must also be taken as a point of comparison. This comparison should be made against a scientifically based rational norm, e.g. a monetarized minimum living standard; if this lies below the average income of the population, then the average should be taken for the comparison. In the hypothetical example this procedure led to an indicator value of 8 for this criterion, i.e. the average income of the project employees was 8 times that of the mass of the population.

In the present case the income of the project employees is so favourable in comparison to the living conditions of the masses that it does not appear necessary to study the actual living conditions of the employees and their families. Table 22 shows that this impression is correct. This is not always the case. If there were signs of this, then in each case it would have to be examined whether the jobs created and the resulting income contribute to a minimum level of living<sup>6</sup>.

Table 22 - Intra-Project Social Economics II: Real Living Conditions				
Item of Appraisal	Indicator	Project	District	Country
Income	Per Capita Income p.a. in N.U.	(1000)	676	120
Education	Literacy Rate in %	50.7	36.7	34.2
	Enrolment Rate in %	158	161	102
Health	Hospital Beds p.t.i.	2.5	0.8	0.1
	Doctors p.t.i.	0.4	0.1	0.2
	Infant Mortality Rate	120	250	-
	%age of Infect./Parasitic Diseases	15	16	22
Housing	Persons per Household	5.5	6.1	9.0
	Persons per Room	1.3	2.8	3.4
Nutrition	Calorie Consumption p.c.p.d.	(2500)	2189	2097
	Protein Consumption p.c.p.d.i.g.	(66)	57	51

Note: (-) = Estimate  
 N.U. = National Currency Units  
 p.t.i. = per thousand inhabitants  
 p.a. = per annum  
 p.c.p.d.i.g. = per capita per day in grams

In the integrated economic cycle, employment is essentially a source of income, and in market economies, income is a key element for access to values-in-use: food, clothing, housing, etc. Therefore, it must be determined whether the employment created directly or indirectly by the project fulfils this function or not. Because sometimes the opposite happens, as can be seen in some cases where jobs and income were created for some workers, and this income - because

of relative inelasticity of supply of goods and services - worsened the socio-economic situation of the people working outside the project whose income remained unchanged while prices of consumer goods rose. Therefore, it is not enough to theoretically induce the functions attributable to income and to an increase of income, but it must be checked empirically whether employment in an integrated economic cycle really fulfils its functions.

Hence, the following deals with an empirical approximation of the problem. To begin with, some direct and indirect effects and the importance of this income for human consumption will be analyzed. At the same time, a class-specific differentiation will be undertaken as it is known that different social classes show different uses of income.

In the selected example of a dam project three different sources of job creation must be considered: firstly, jobs which were created by the construction of irrigation works (reservoir, canals, tunnels, etc.); secondly, jobs which were created through additional agricultural production, and thirdly, jobs which resulted from the further processing of the additional agricultural products.

Table 23 presents, as an example, the jobs created through the construction of the reservoir and the income resulting from this. In this table the different occupational groups are assigned to the different social groups (lower, middle and upper class) on the basis of their monthly wages or salaries. The same method is used for determining the created jobs and the resulting class-specific income in the other phases of construction.

An analogous approach leads to the identification of subsequent employment and income effects due to change in agricultural production. The base information for this was data on the changes in area (increase or reduction of area) during the life of the project, product-specific employment coefficients and data on the daily wages. On this basis the annual effects of the employment and nominal income shown in Table 24 could be determined.

Employment and income effects brought about by further processing of the agricultural products is partly included in Table 24; this is true particularly of sugar. Because of the relatively low processing intensity of the other products grown in this region, this aspect can be neglected here.

Table 23 - Employment and Income in the Construction Phase (Reservoir)								
Occupational Categories			Number of Man-months	Monthly Salary or Income in Soles	Class <sup>a</sup>	Created Total Income in Soles		
S T A F F	Engineers		547.2	15,000	0	8,208,000		
	Technicians		278.3	8,500	0	2,365,550		
	Office Staff		272.8	8,000	0	2,182,400		
	Total Staff		1,098.3					
W O R K E R S	W O R K E R S	Supervisors		1,589.5	3,125	M	4,967,188	
		Foremen		163.9	4,375	M	717,063	
		Skilled workers		1,004.3	7,500	0	7,532,250	
		Workers		790.9	1,300	U	1,028,170	
		Unskilled workers		2,051.5	1,300	U	2,666,950	
	Total		5,600.1					
	W O R K E R S	C O N T R A C T W O R K E R S	Contractor A		210.6	750	U	157,950
			" B		371.2			278,400
			" C		196.0			147,000
			" D		52.0			39,000
" E			192.0	144,000				
" F			266.2	169,650				
" G			259.2	194,400				
Total contract workers		1,537.2						
Total workers		7,137.3						

<sup>a</sup> U = lower class; M = middle class; 0 = upper class



In the context of the original problem of this study it is necessary to analyze the class-specific distribution of income and employment. In this connection a class-specific breakdown of employment and income was carried out in Tables 23 and 24; this was based essentially on data about the distribution of income in the study region. Table 25 gives a summary of the results of this class-specific breakdown shown separately for the construction phase of the project and for agricultural production based on increased and continuous water supply. It is seen that during the construction phase of the project 11 % of the jobs and 2 % of the total created income went to the lower class while 95 % of the jobs and 91 % of the additional income created by the project-induced change in agricultural production went to the lower class.

		Created Jobs		Created Income	
		Man-months	%	Soles	%
Construction phase (total)	Lower class	4,531	11	5,197,720	2
	Middle class	32,374	78	52,079,434	21
	Upper class	4,410	11	196,907,310	77
		41,315	100	254,184,464	100
Agricultural production (per year)					
		Created Jobs		Created Income	
		Man-days	%	Soles	%
	Lower class	1,381,068	95	141,691,689	91
Middle class	68,100	5	13,747,189	9	
	1,449,168	100	155,439,189	100	
Sources: Tables 23 and 24					

It is relatively problematic to make the data on created employment comparable. Firstly, the employment in the construction phase is temporary; secondly, employment in agricultural production is either permanent (in sugar production and sugar processing) or seasonal (in the case of rice). Because of this, the following considerations are based on a computational transformation of man-days or man-months into permanent jobs; the basis of transformation is the following assumption: 1 permanent job corresponds to 40 man-years = 480 man-months = 12,000 man-days. If this conversion is used for the jobs created in the construction phase, it is seen that 9 permanent jobs were created for the lower class, 67 for the middle class and 9 for the upper class. As the jobs created through irrigation effects are annually recurring ones, the conversion produces 4,637 permanent jobs for the lower class and 227 permanent jobs for the middle class. The same problem arises with regard to the comparability of income created in

the different project phases. The comparability can be established by assuming a 50-year duration of the project.

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If - by arithmetical conversion - a comparability of the created jobs and income in the construction phase and in subsequent agricultural production is established, the following participation of the different classes in created jobs and income is derived.

Table 26 - Class-specific Participation in Employment and Income		
	Jobs (%)	Income (%)
Lower class	93.9	88.3
Middle class	5.9	9.2
Upper class	0.2	2.5
	100.0	100.0
Sources: Tables 23 to 25 and text		

The computed participation rates of the different social classes in the jobs and income created by the project are only indirect indicators of the social relevance of the project. In order to show this, the class-specific use of income must be analyzed, i.e. figuratively speaking, the end use of employment and income. The end use expresses itself in the consumption of values-in-use, as was determined in the representative surveys on consumption conducted by ENCA.

Table 27 - Class-specific Structure of End Consumption (Foodstuffs, Calories, Proteins)

	Gross Food Consumption per family per year in kg			Waste (%)	Net Food Consumption per family per year in kg			Calories per g	Calorie Consumption per family per year			Proteins per g (g)	Protein Consumption per family per year in g		
	Lower Class	Middle Class	Upper Class		Lower Class	Middle Class	Upper Class		Lower Class	Middle Class	Upper Class		Lower Class	Middle Class	Upper Class
Cereals	505,048	505,262	743,181	13	439,392	517,878	646,567	3,61	1586205	1869540	2334107	0,0857	37656	44382	55410
Roots and tubers	305,822	278,294	352,062	15	259,949	236,550	299,253	1,08	280745	255474	323193	0,0164	4263	3879	4908
Legumes	108,000	104,077	137,509	2	105,840	101,995	134,758	3,33	352447	339643	448744	0,2149	22745	21919	28959
Nuts	1,737	2,825	5,813	24	1,320	2,127	4,418	4,16	5491	8848	18379	0,1039	137	221	459
Fruits	75,056	171,982	349,849	33	50,288	115,228	234,399	0,75	37716	86421	175799	0,0089	448	1026	2095
Vegetables	110,638	194,557	241,712	30	77,447	136,190	169,198	0,52	40272	70819	87983	0,0205	1588	2792	3469
Meat	84,346	175,175	236,375	23	64,946	134,085	182,009	2,02	131190	272468	367658	0,1819	11814	24536	33107
Eggs	4,897	12,417	20,025	12	4,309	10,927	17,622	1,51	6507	16500	26609	0,1290	556	1410	2273
Seafood	87,035	96,051	152,415	35	56,573	62,433	99,070	1,35	76374	84285	133745	0,2030	11484	12674	20111
River fish	1,371	1,343	,187	49	,699	,685	,095	1,35	944	925	128	0,2030	142	139	19
Milk	51,740	257,247	340,991	0	51,740	257,247	340,991	0,99	51223	294675	337581	0,0556	2877	14303	18959
Oils and fats	73,827	65,197	81,752	3	71,612	63,241	79,299	8,72	624457	551462	691487	0	0	0	0
Sugar	210,723	207,505	220,028	0	210,723	207,505	220,028	3,79	798640	786444	833906	0	0	0	0
									3992211	4597504	5779319		93710	127281	169769

Note: With a family size of 6 for the lower class and 7 for the middle and upper class, this annual calorie and protein consumption per family corresponds to a daily per-capita consumption of:

Lower class	..... 1,823	calories per head and day	42,79 g	proteins per head and day
Middle class	.... 1,799	"	49,82 g	"
Upper class	..... 2,262	"	66,45 g	"

Sources: ENCA and Food Balance 1971

Such representative consumption surveys are absolutely imperative for the analysis presented here. However, it is not necessarily implied that they must be undertaken every year. Presuming that consumption structures are relatively constant, it is quite possible to operate with real income indices. This is all the more necessary as at present in Peru the inflation rates for the different social classes deviate considerably from one another. In the study presented here, this aspect was not included due to lack of time and because a relatively recent representative consumer survey was available.

Table 27 presents the class-specific differences in the end-consumption of food, broken down according to broad food categories. On the basis of this table the consumption of food was simultaneously converted to

consumption of calories and proteins. A summary is given in Table 28.

This table shows the demand for calories and proteins generated for the different classes by the created jobs, and the resulting calories and protein consumption per head and per day. On the basis of this table the total demand for nutrients can be determined - analogous to the determination of nutrient supply produced by the increase in agricultural production attributable to the project. The total demand per year is 19,951.4 million calories and 474.3 million g of protein. It would be interesting to compare this demand with the supply. If this is done, the following demand/supply relation emerges: 0.016 for calories and 0.084 for proteins, i.e. the supply is greater than the created demand. However, in other projects the situation could be reversed.

Table 28 can also serve as a starting point for the nutrition based evaluation of the created jobs and the resulting real income. The lower class participates to the extent of 93.0 % in the calorie demand generated by the created jobs for the lower class and to the extent of 91.8 % in the resulting protein demand; the values for the middle and upper class can be taken from the table. Neither for the lower class nor for the middle class does this demand for calories and

proteins correspond to the norm for the daily calorie and protein requirement. Thus, only 0.2 % of the jobs correspond to a rational consumption of food, i.e. only 0.2 % of the created permanent jobs enable the fulfilment of the most fundamental food norm.

Information on the real status of living conditions of the employed must always be collected when the nominal income indicator does not reflect the real situation. This is usually the case when the wages and/or the income of the employed lie below the average income of the mass of the national population or below the monetarized minimum level of living. Information on this problem must also be collected when the wages or salaries or income of the employee of

**Table 28 - Effects of Employment and Income on Nutrition**

	Created Jobs		Calorie Consumption			Protein Consumption (g)		
	Number	%	Total	%	p.h.p.d. <sup>a</sup>	Total	%	p.h.p.d. <sup>a</sup>
Lower class	4646	93.9	18,547,812,306	93.0	1823	435,376,660	91.8	42.8
Middle class	294	5.9	1,351,666,176	6.8	1799	37,420,614	7.9	49.8
Upper class	9	0.2	52,013,871	0.2	2262	1,527,921	0.3	66.5
	4949	100.0	19,951,492,353	100.0	2140 <sup>b</sup>	474,325,195	100.0	52.8 <sup>b</sup>

<sup>a</sup> p.h.p.d. = per head per day; <sup>b</sup> Nutrient requirements  
Sources: Tables 23 to 27

a project lie above the requirement level, but there is an unfavourable relation between the development of wage income and the development of the consumer price index for the working class.

Based on the methodology described above, the project-internal socio-economics can be methodically tackled as follows: As long as there is justification for the assumption that the nominal income is a meaningful indicator for the status of the living conditions of the workers and staff, this income indicator should be compared with the income indicator for workers and staff in comparable projects in comparable sub-sectors; through this, possible relative inequalities (deprivations), which can indicate potential labour conflicts, can be detected; the same applies to the comparison of working conditions.

From the socio-economic, developmental point of view, this is a necessary but not sufficient assessment criterion for projects. If national and international development strategy gives priority to the creation of jobs for the improvement of living conditions of the majority of the population, then only the difference between the living conditions of the project employees and those of the majority of the population can be used as an assessment criterion - if specific conditions exist, measured by the income indicator. The greater the difference, the more questionable the project in socio-economic and developmental terms.

#### Project-Performance Analysis: Some Indirect Effects of Employment<sup>7</sup>

Whereas the study of the internal socio-economic effects of a project centres around the direct effects of employment on the living conditions of the employees, the project-performance analysis developed below is a step towards the identification of some indirect effects of employment. Theoretically, at least two different types of indirect employment effects may be distinguished: firstly, the effects of the creation of employment on the population in the project region not directly connected with the project, and secondly, the indirect employment effects emanating from the product side of the project, i.e. from the use or further processing of the physical project output. The following considerations will be directed towards the indirect effects of the project emanating from the creation of employment which here is essentially the generation of income and purchasing power. What does this mean in real terms for the living conditions of the people who live in the environment of the project but are not employed by it?

An empirical study of this question can be conducted by means of a comparison of social groups over a period of time. For an ex post assessment the method to be applied is obviously the following: A comparison is made of the evolution of indicators for living conditions in the project environment with the evolution of indicators in another comparable environment

(without a project). The application of this method in an ex-ante project appraisal is problematic because not only would a comparable environment have to be located, but a comparable project in a comparable environment would also have to be found.

For the time being, a project-performance analysis will be applicable mostly for ex-post assessment until a body of accumulated experience will permit its application in an ex-ante appraisal of projects. Furthermore, this method can only be used for relatively large projects - as a rule of thumb, one could tentatively take projects with 1,000 employees or more. It is true that smaller projects also have indirect employment effects, however, the empirical tools which have to operate under the normal constraints of project appraisal are scarcely sensitive enough to detect them.

What is problematic in the project-performance analysis is not so much the collection of data but mainly the comparability of regions and the problem of attributing the effects to the project. In terms of scientific methodology any assumption of the comparability of two regions is as questionable as the attribution of any effects to one factor. Nevertheless, the collection of such a body of data on the living conditions of the people in two regions at two different points in time will provide a variety of information which can help in identifying some social implications of an investment project. The suggested method is therefore rather a heuristic search principle than a precise method.

The demarcation of the project environment and of the comparable regions usually results from the available data; generally, administrative units such as municipalities, districts and provinces are taken. The selection of dates and periods too is a pragmatic compromise which is often geared to census years. Finally, the selection of 'comparable' spatial units is essentially based on economic, geographic and demographic arguments. The following example of a project-performance analysis for an investment project with more than 10,000 employees will cover all these aspects and illustrate the validity of such a search method.

The investment project in the example is a large-scale project in the industrial sector which manufactures durable consumer goods for a market outside the area of the direct project environment. During the period under observation, its employment increased by 48 %. Two thirds of the workers and the staff of this factory the N.E.N.E. Ltd. - live in N.E.N.E.-Town, a newly constructed township within the municipal limits of the town of Bamba and administratively apart of the latter. To begin with, the data on the living conditions of the workers and staff and their families in N.E.N.E.-Town will be compared with corresponding data for the whole of Bamba Town. These data will then be compared with the social profile of Alpha, the province to which Bamba belongs, because every 32nd employee in Alpha is employed by the industrial project under study which makes a substantial contribution to the industrialization of Alpha. The control region is the province of Beta which has the same

number of inhabitants and whose economic level of development was equivalent to that of Alpha in 1961. Alpha had an annual per capita income of NU 319, that of Beta was NU 307. However, with respect to industrialization, Beta was far behind Alpha at the beginning of and during the last decade. Finally, for further comparison, the corresponding data for the whole country are given. The information on the status of living conditions is differentiated for 1961 and 1971. Table 29 compiles the available information.

### Migration

The direct project area was the focus of domestic migration from 1961 to 1971. While the increase of population was 24.5 % for the whole country (23.1 % for Beta and 27.3 % for Alpha), the increase for the whole of Bamba Town amounted to 54.1 %. This raise in population mainly affected old Bamba. This migration can partly be explained by the recruitment requirements of the project which prescribed a minimum residence period of 6 months in the district for project employees, and partly by the high unemployment rate in the whole country. The data in Table 29 show that Bamba Town had more unemployed persons in 1961 and in 1971 than the comparable regions. However, the increase in unemployment was lower in Bamba Town than in the other regions - a much higher rate of unemployment than 75 % is indeed hardly conceivable. Altogether, the intensive migration activity towards Bamba Town is definitely due to the project - there is no other plausible explanation.

### Employment

The following conclusions can be drawn regarding the effects of the industrial project on the vocational structure of the population. Due to the prevailing multiple job system in which factory workers were often landowners at the same time, the relative decline in the farming population of the project region in the last decade was less marked than in the comparable regions. On the other hand, the proportion of agricultural labour in the project region as well as that of persons working in commerce and transport in Bamba Town increased considerably. At the same time, there was a relative decrease in industrial employment in Bamba Town, Alpha and Beta Provinces, as against a stronger industrialization trend in other provinces of the country. This can and must be compared with the capital intensity of the project, which more than doubled between 1961 and 1971, only in part due to inflationary trends.

Indicators	N.E.N.E.Town			Bamba Town			Alpha Province			Beta Province			Country		
	1961	1971	Δ	1961	1971	Δ	1961	1971	Δ	1961	1971	Δ	1961	1971	Δ
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
<b>EMPLOYMENT</b>															
1 Unemployment %	708	744	5	645	708	10	557	680	22	527	683	30	545	653	20
2 Farmers %	14	10	-29	24	17	-29	221	124	-44	350	196	-44	246	139	-43
Agricultural Workers %	5	25	400	6	31	417	51	102	100	26	37	42	75	93	24
Others in the I. Sector %	1	2	100	5	4	-20	16	11	-31	29	23	-21	14	16	14
Home Industry %	3	2	-33	11	13	18	15	9	-40	15	6	-60	30	15	-50
Industry %	192	154	-20	105	82	-22	24	20	-17	9	8	-11	18	21	17
Construction %	17	16	-6	28	24	-14	46	7	-85	4	8	100	8	6	-25
Commerce %	7	13	86	53	62	17	15	19	27	9	12	33	17	20	18
Transport %	3	7	133	13	29	123	5	8	60	3	6	100	5	9	80
Other Services %	50	25	-50	110	30	-73	50	20	-60	28	34	21	42	28	-33
<b>INCOME</b>															
3 Per-Capita-Income				364	1000	175	319	676	113	307	495	61	285	540	89
<b>SOCIAL SECURITY</b>															
4 Socially Insured %	960	770	-20	525	410	-22	120	100	-17	45	40	-11	90	105	17
<b>EDUCATION</b>															
5 Literacy %	41.0	50.7	24	41.6	50.1	20	28.1	36.7	31	24.3	30.5	26	25.4	31.5	24
6 Primary School Enrolment %	)	158	)	)	154	)	83	122	47	84	113	35	72	107	49
Secondary School Enrolment %	)	)	)	)	)	)	13	39	200	13	30	131	7	31	343
Primary and Secondary School Enrolment %	)	158	)	)	154	)	96	161	68	97	143	47	79	138	75
<b>HEALTH</b>															
7 Hospital Beds per Thousand Inhabitants	1.21	2.45	102	2.20	2.54	15	0.57	0.67	18	0.48	0.89	85	0.58	0.97	67
8 Doctors per Thousand Inhabitants	0.10	0.17		0.09	0.12		0.05	0.06		0.09	0.08		0.03	0.04	
9 Infant Mortality Rate %	251	220													
10 Diseases %															
C1 - 19		9.04			16.12			11.31			15.58			15.34	
C24, 26		4.87			12.57			10.98			5.42			7.95	
C31 - 38		6.48			3.34			3.92			5.49			5.37	
C39 - 45		12.27			3.61			5.26			6.10			7.16	
C49		3.37			8.52			4.01			1.21			4.48	
C56		8.83			6.36			5.17			7.55			8.50	
Others		55.14			49.48			59.35			58.65			53.20	
<b>HOUSING</b>															
11 Persons per Household	5.2	5.5	6	5.1	5.1	0	5.6	6.1	9	5.5	5.9	7	5.4	5.8	7
12 Persons per Room		1.3		2.1			2.7	2.8	4	2.9	2.9	0	2.8	3.1	11
13 Walls: Grass etc. %		0		91			336	251	-25	53	39	-26	74	68	-8
Clay %		0		352			496	428	-14	862	804	-7	463	334	-28
Bricks %		1000		553			76	210	176	70	123	76	109	160	47
Roof: Grass etc. %		0		218			531	400	-25	191	156	-18	257	478	86
Bricks %		655		456			419	527	26	796	802	1	358	378	6
Corr. Sheets %		0		126			29	26	-10	5	6	20	27	31	15
C.S.S. %		345		194			16	40	150	7	25	257	297	1	-100
<b>NUTRITION</b>															
14 Calories per Day									2189			2609			2656
15 Proteins in Grams per Day									57			72			78
<b>CONSUMPTION</b>															
16 Consumer Price Index for Working Class															
Food	100	209		100	209					100	189		100	201	
Total	100	205		100	205					100	178		100	191	
17 Consumer Goods Prices Rs															
Rice, new kg		1.90			1.90			1.60			2.00				
Rice, old "		2.60			2.60			2.40			2.40				
Jowar "		1.20			1.20			1.00			n.a.				
Ragi "		1.55			1.55			1.10			1.40				
Gram "		3.00			3.00			2.40			2.60				
Milk "		1.40			1.40			1.40			1.20				
Groundnut Oil "		6.80			6.80			7.00			6.60				
Chicken "		9.80			9.80			9.00			n.a.				
Mutton "		7.00			7.00			8.00			12.00				
Dried Fish "		4.00			4.00			4.00			4.00				
Leafy Vegetables "		1.00			1.00			0.70			1.50				
Vegetables "		1.20			1.20			0.80			1.40				
Plantains "		2.00			2.00			1.75			3.00				
Sugar "		3.60			3.60			3.60			3.80				
Salt "		0.20			0.20			0.20			0.20				
Dry Chillies "		3.75			3.75			3.75			5.80				
Tea "		7.00			7.00			7.00			13.00				
Shirting m		3.50			3.50			2.00			4.50				
Long Cloth "		4.75			4.75			2.85			3.50				
Dhoti "		6.00			6.00			6.50			5.90				
Saree "		3.00			3.00			2.00			5.00				
Plastic Shoes Pair		9.95			9.95			9.95			9.95				

### Education

There is hardly any difference between the level of education of the population in the project region and that of the urban population both in other districts and in the whole country. It is slightly higher in the urban regions of the country than in the direct project area; however, in the latter it is higher than the total average of the comparable regions including rural and urban areas.

### Health

A similar structure can be seen regarding the health status of the population. The morbidity pattern of the inhabitants of N.E.N.E.-Town more or less corresponds to that of the more developed urban centres of the country, while the morbidity structure of Bamba Town (excluding N.E.N.E.-Town in this case) - with about 16 % infectious and parasitic diseases (C 1 - 19) and almost 13 % direct nutrition ailments such as avitaminosis and anaemia (C 24, 26) represents that of an impoverished and squalid town. Although it is probable that the relatively poor position of Bamba Town is due to the project, there is no documentary evidence of this as there are no data on the health status of the population of 10 years ago. What springs to the eye is the obviously lacking correlation between the morbidity structure of the Bambaites and the number of doctors and hospital beds available. A possible explanation is that a disproportionately large part of these health resources was used in the commercial and curative health sector.

### Housing

The direct social policy of the project was concentrated in the years 1961 - 1971 on the quantitative and qualitative aspects of housing. Considering the quality of construction, the provision of housing is a notable achievement for the company. Even in quantitative terms, the provision of housing - particularly for those directly employed by N.E.N.E. - may be judged extremely good. Positive effects on the rest of the project environment were not in evidence.

### Food and Consumption

A more detailed analysis of the food situation of the population than the one shown in Table 29 cannot be given. With regard to the supply of calories and proteins, the wider project environment (Alpha Province) is clearly at a disadvantage when compared to less industrialized Beta Province. If the prices for staple foods in Bamba Town and Alpha Province are compared, then the disadvantage for the direct project environment becomes quite obvious. Other studies also show that this must be regarded as a consequence of the project. The weighted prices of the most important consumer goods are approximately 25 % higher in Bamba than in Alpha. As this is due to the purchasing power of the 12,000 N.E.N.E. employees who constitute 46 % of the employed population of Bamba Town, this means a relative impoverishment of at least the rest of the population in the direct project environment whose wage level is the same as that of Alpha Province.

### Income

In view of these findings the income indicator, which too often is interpreted uncritically, loses much of the validity imputed to it. Against the background of a relatively high per capita income in the industrialized Alpha Province, there is a relatively poor food supply for the mass of the population which has not found employment in the project, but has become impoverished through its effects. On the other hand, the compared Beta Province has a low per capita income along with a relatively good food supply which is obviously secured in part outside the market. The high per capita income in Bamba Town therefore has hardly any valid meaning for the living conditions of the population there.

### Conclusion

The most essential effects of the project on that part of the population in the project region which is not employed by N.E.N.E. is a drastic rise in consumer goods prices and a shift in the vocational structure towards dependent and insecure work. Seen from the socio-economic point of view, this implies a deterioration of the living conditions and the consequent impoverishment and increasing misery of the mass of the people to the benefit of a minority of privileged workers. At present it seems not to be possible to transform the results of the project-performance analysis presented above to a one-dimensional scale.

### Assessing the Benefits of Employment: Summary

Some socio-economic implications of the employment components of an investment project can be uncovered with the aid of the methods developed above. The following table tries to give the information grid which can be helpful for the analysis of the employment effects on the workers and employees of the project on the one hand, and on the affected non-project employed population on the other.

In addition to the data required in the information grid for the assessment of employment effects, data must be collected for the above mentioned investment cost per worker criterion. Even though the outlined methods only disclose some socio-economic implications of the employment effects of an investment project, they seem to provide more valid conclusions than the mere reference to the investment cost per worker criterion.

Table 30- Information Grid for the Analysis of the Employment Effects of an Investment Project					
Item of Appraisal	Project		Sectoral Comparison	Regional Comparison	
	$t_1$	$t_2$	$t_1$	$t_1$	$t_2$
Employment	x	x	x	o	o
Distribution	x	x	x	o	o
Income	x	x	x	o	o
Working Conditions	x	x	x		
Food and Nutrition		+		o	o
Health		+		o	o
Housing		+		o	o
Consumption		+		o	o
Social Security	x	x	x	o	o

N.B.: x = in each case information must be collected for each item of appraisal  
 o = information must be collected if the project has a large number of jobs; a tentative rule of thumb may be: more than 1000 jobs  
 + = information must be collected if there is an unfavourable relation for the working class between the development of the working class consumer price index and the development of wages  
 $t_1$  = time of assessment (present)  
 $t_2$  = time of comparison (past, future)

Nevertheless, this criterion will continue to be important for the appraisal of projects and proposed investments. However, it must be supported by the following criteria: firstly, the difference between the living conditions of the mass of the population and that of the project employees, and secondly, the socio-economic project performance which studies the unintentional consequences of an investment project for the population in the proximity.

Some of the analytical steps shown here for the assessment of the internal socio-economic aspects of a project and for the external project performance provide data of a socio-technical nature. They relate to areas which are necessary for the appraisal of a project, but are not sufficient for a socio-economic decision to be taken on the project.

### **8.3. Production and Need Satisfaction<sup>8</sup>**

Based on some considerations outlined above, the socio-economic significance of employment was shown to be relative. Employment can be a tool to secure and improve the living conditions of each and all, but it is not necessarily so. The International Labour Office (ILO) has also a more differentiated view of the employment problem. Emmerij emphasizes that the primary aim of employment policy is not just to create more jobs but to achieve "a reasonable standard of living" for the masses<sup>9</sup>. Smith very clearly localizes the problems of unemployment and the under-utilization of labour in the context of eradication of poverty<sup>10</sup>. Hunter argues that full employment in developing countries is neither a feasible nor a meaningful objective, whereas a "marked improvement in the general level of livelihood is possible"<sup>11</sup>. Bell and Jolly summarize the ILO employment studies and speak of a shift in objectives from eradication of unemployment to eradication of poverty<sup>12</sup>.

These theoretical statements about the relative significance of employment as an instrument for improving living conditions or for securing a minimum standard of living consistent with human dignity for the mass of the population - and not only for a few can also be supported by empirical findings. It was shown above in the example of a hypothetical project-performance analysis that a drastic rise in the consumer goods price index to a score of 205 as against a province average of 178 seemed to be an employment effect of the project. Though this effect could indeed be typical for large projects where it is more clearly identifiable, it is also valid, structurally, for small projects; only, the empirical tools are too insensitive here to provide accurate documentary evidence. This effect shows that at times an effective and continuing inelasticity of supply of goods and services has to be expected. If the income of the non-project-employed population remains relatively constant, if there is increasing unemployment in the project environment, and if there is a shift in the vocational structure

towards dependent work - as was shown in the example of the project-performance analysis - this effect means nothing other than impoverishment and misery for the mass of the population as a consequence of an increase in purchasing power of some employees which is not accompanied by a corresponding increase in the supply of goods and services. With an inelastic supply of goods and services and with an increasing demand for goods to meet daily basic needs arising from the increase in purchasing power of a few employees, there must necessarily be, *ceteris paribus*, a supply deficit for the rest of the population. As long as the supply of material goods and services is not increased or not made available in proportion to the increasing demand arising from the purchasing power, a rise in the employment rate will not lead to an improvement of living conditions.

As the fundamental objective of social economics is to improve the living conditions of the masses, the crucial point is therefore: What is produced and/or made available, and whose demand or need is covered by the physical output of an investment project - that of the majority of the population or that of the upper classes? The application of formalized indices or employment statistics, which do not make any valid statements about the socio-economic quality and composition of the goods and services in question, does not suffice. Rather, the benefit or the value-in-use of the various goods and services has to be measured. Benefit here means the relationship between project output and the basic needs of the majority of the population. From the angle of this aspect it becomes increasingly important to know which products are manufactured, how far they correspond to the demand and needs of the population, and which section of the population they benefit. This is obvious. Irrigation projects are not carried out to create employment but to supply water. Health projects are not welfare institutions for unwilling health personnel - even if it sometimes appears so - but service institutions for the population. The same holds true for agricultural, industrial and other projects<sup>13</sup>.

Apart from the question of the socio-economic significance of employment, the socio-economic significance of the products and their distribution also has to be studied. This problem can be subdivided into the following components:

1. Which section of the population is the end user of the goods or services?
2. To what extent does this end use correspond to an objective basic need as determined above in the needs analysis?
3. How does the importance of the need for one product (or service) compare with the need for another?

This problem is therefore a three-part problem which first differentiates end use in socio-economic terms, then - based on this examines the question of basic need, and finally, touches on the relative importance of this need. An operationalized and quantified answer to these questions can be obtained by applying a method called the product-path analysis (PPA).

A few examples will illustrate the statement of the problem and the validity of the answers obtained through the product-path analysis.

1. Let us assume the investment project produces drinking water. It is established that this drinking water is consumed only by members of the lower class whose basic need is thus met. A macro or sector analysis has established the priority of water supply. In this example of a consumption good, the answer to the three pattern components mentioned above are:
  - a. The end user is the lower class.
  - b. End use meets a basic need which has not yet been satisfied.
  - c. The need for drinking water has priority over other needs.

In terms of socio-economic evaluation, this project should certainly be given preference over a project in which the end user is the upper class whose basic needs have already been long fulfilled. There could probably be no question of promoting the latter project by using subsidized funds which are scarce.
2. Let us assume the investment project generates transport capacity. This transport capacity is used for the movement of durable consumer goods which are consumed by the upper class alone. The socio-economic identification of the end user representing demand - here the upper class - suffices for a provisional socioeconomic assessment of the project; it would be superfluous to study the need and the transsectoral significance of this need. This assessment is provisional because it should first be seen whether upper class consumption has a positive significance for the improvement of the lower class living conditions. It would not be too easy to verify this hypothesis; it is probable that macro-performance analyses would continuously lead to an empirical falsification. In this example we are not dealing with a consumption-approximated project output which is close to end use; transport capacity has a multipurpose use. The product-path analysis must trace the path of the product or service through the stages of project output and intermediate use right up to socio-economically classified end use.
3. Let us assume the investment project produces fertilizer. 50 % of the fertilizer is used to meet domestic demand and 50 % goes for export. The results of a macro-performance analysis give no reason to expect that the foreign exchange earnings from export will be used for the benefit of the lower class. 50 % of the product is used domestically in equal proportions for rice and cereal production. 75 % of cereal production and 25 % of rice production are consumed by the middle and upper classes. The needs analysis has shown that rice is no longer a need commodity according to a rational budget. It follows that, although lower class end use or demand makes up 25 % of the project output, only 6.25 % is used to meet basic needs of this class. The difference between demand and need could be illustrated even more clearly if the products in question were wheat on the one hand

and green soda pop on the other. By rational socioeconomic norms this project would not be optimal. However, if a relative yardstick is applied, which takes the average social performance of other investment projects as the standard for comparison, this project would probably be better than many others. As in the case of other appraisal methods, it is necessary to have a substantial number of project appraisals before any valid statement can be made on the relative status and the final assessment of such a project.

These three hypothetical, simplified examples illustrate some of the most important aspects of the product-path analysis:

- the differentiation between end use and intermediate use,
- the differentiation between demand and need,
- the differentiation between lower class and upper class,
- the importance of needs analysis and macro-performance analysis.

In the following, each of the three stages of the product-path analysis will be described with the help of some examples. The most essential comments on theory and method will be given along with the empirical examples. The three analytical steps of the product-path analysis are summarized once again:

1. analysis of the end use of project output,
2. analysis of the need for this project output,
3. analysis of the priority of the need for this project output.

These three analytical steps are intended to show how far the project output contributes, directly or indirectly, towards securing a minimum standard of living and improving the living conditions of the majority of the population. For operational purposes the majority of the population is defined as the lower class which as mentioned above - is taken as the counterpart of the middle and upper classes.

### Product-Path Analysis I: Who is the End User?

The first analytical step of the product-path analysis can be described as an attempt to classify the real end users of the project output in socio-economic terms. The purpose is to show the extent to which the lower class, i.e. the majority of the population, shares in the final consumption of the project output. The simplest case of a relatively homogenous, unfunctionally usable commodity, e.g. runway lighting or a health service, need not be discussed here. But a commodity like potable water can definitely be used multifunctionally, e.g. for industrial purposes, for watering gardens, for washing cars, etc. In most cases the

physical outputs of investment projects are such multifunctional outputs; electricity, steel, storage capacity, transport capacity, grinding capacity, etc. In these cases it is more difficult to (re)construct the product path right up to socio-economically classified end use.

In the following sections two examples of the first step of the product-path analysis will be described in some detail. After that, the structure of two other examples will be outlined. Although the examples are more or less hypothetical, they do illustrate the difficulties and compromises which may be expected if a product-path analysis is applied in practice to appraise an investment project under conditions of time pressure and incomplete data.

### **Example I: Carburettor Factory**

A carburettor factory is to be set up. This factory is the exclusive supplier of the BABA automobile factory which produces passenger cars, jeeps and light commercial vehicles requiring carburettors. The product mix is given in Table 31. Table 32 lists the licensed export products of BABA and their corresponding export coefficients. The company does not have any detailed information on the actual utilization of their vehicles, except that 45 light commercial vehicles are to be converted into ambulances. Therefore, the utilization of the manufactured vehicles must be estimated according to customary use in the country. On the basis of tax data, the Motor Vehicle Section of the national Transport Ministry establishes the following use of passenger cars: 63 % for private use, 13 % for official use and 24 % for taxis (cf. Table 33). According to the same sources, 61 % of the jeeps are used as private cars and the rest as office cars, the latter mostly by public administration, as shown in Table 34.

These categories of intermediate use have to be assigned as far as possible to categories of end use; the UN level of living components mentioned above can serve as these categories. They are even more differentiated in the categories or product groups used in the rational budget established by the needs analysis described above. These categories of goods and services are taken as end use categories here. In this context the purpose of the first step of the product-path analysis is to quantify the functionality of the project output (here, carburettors) for the different spheres of living conditions. Therefore, the intermediate use category "passenger cars for private use" can be assigned to the end use category "durable consumer goods" and the intermediate category "jeeps for use of Health Ministry" can be assigned to the end use category "health", etc. Table 35 graphically presents the product path of carburettors through the categories of intermediate use right up to the categories of end use.

Table 31 - Product Mix of BABA Company in 1973		
Passenger Cars.....	2741	= 78.1 %
Jeeps.....	490	= 14.0 %
Light Commercial Vehicles.....	278	= 7.9 %
Source: Data given by BABA Company.		

Table 32 - Exports of BABA Company in 1973			
	Export	Production	Export Coefficient
Passenger Cars.....	230	2741	8.39
Jeeps.....	7	490	1.43
Light Commercial Vehicles.....	192	278	69.06
Source: Data given by BABA Company.			

Table 33 - Use of Passenger Cars	
Private Use.....	63 %
Official Use (including Business).....	13 %
Taxis.....	24 %
Source: Motor Vehicle Section of the Ministry of Transport.	

Table 34 - Use of Jeeps	
Private Use.....	61 %
Official Use (including Business).....	39 %
- Ministry of Health.....	6 %
- Ministry of Education.....	4 %
- Ministry of Housing.....	3 %
- Other Ministries and Offices.....	11 %
- Private Industry and Private Agencies.....	15 %
Source: Motor Vehicle Section of the Ministry of Transport.	

For operational purposes, the determination of end use categories depends partially on the availability of statistical data on the socio-economically classified consumption of goods and services. The category "passenger cars for private use" would be assigned to the end use category "other private consumption goods" if no data on the participation of the lower class in the "durable consumer goods" market or in the passenger car market were to be found. Socio-economically classified expenditure budgets, or even better - consumption budgets, are indispensable sources of information for the product-path analysis, just as they are for the

needs analysis. In the present example, the figures in the expenditure budget - which was also used for the needs analysis - showed that the participation of the lower class amounted to 0.02 % in the cases of durable consumer goods, 7.1 % of the market for housing articles, 50 % for education and health - assuming equal distribution of collective consumption - and 4.5 % in transport.

74 % of the project output can be assigned to end use categories. Because of the actual structure of distribution and demand, end use by the lower class only amounts to 2 % of production. The participation of the middle and upper class in the project output is over 30 times that of the lower class. As long as the macro-performance analysis does not give a positive result, it is very doubtful whether the consumption of the middle and upper classes, exports or public intermediate consumption will lead to an improvement of the living conditions of the mass of the population.

### **Example II: Dam**

The second example for the first analytical step of the product-path analysis, i.e. the determination of the socio-economically classified consumption of the project output, is that of a dam. The functions of this dam are: irrigation, power generation through a hydro power station, water supply, flood control and fishery. Flood control and fishery can be treated here as additional benefits as they do not require any special investment such as larger storage volume, etc. The main functions of the dam are, therefore, irrigation, power generation and water supply. 57 % of the investment is for irrigation, 32 % for power generation and 11 % for water supply.

Irrigation benefits: In the dam region irrigation is used exclusively for agricultural production - rice, vegetables and tobacco being the main crops. Cultivation is mostly in large farms, particularly in the case of oilseeds which are processed to produce edible oils for export. The distribution of water among the different agricultural products, given in Table 36, was obtained from the Irrigation Department of the province. No province-specific data on the export coefficients of the agricultural products concerned was available. They have therefore been estimated on the basis of national export statistics and seem to be valid to experts of the region. These estimates show that about 40 % of the agricultural goods are exported and about 60 % are kept for domestic demand. The estimates established by some agricultural experts in the region reveal that 75 % of the maize is used as animal feed and only 25 % is kept for human consumption. The socio-economic classification of food consumption by social classes was obtained from a survey conducted by the national university; however, this survey covers

only the rural population. The socio-economic classification of the domestic consumption of tobacco was derived from a short survey in 3 villages and a town. From the data summarized above, it is possible to determine the socio-economic classification of the demand for those goods which are the final products of one part of the project output, i.e. irrigation.

**Power generation benefits:** The use of power is quite simple in the case under discussion as the power is not fed into a national grid. The users of the power are manufacturing industries: tobacco processing plants, edible oil producers and woodworking shops. There is no difficulty in assigning the products of the first two factories to the above-mentioned categories of socioeconomic end use. The woodworking shops produce wall claddings and furniture. The product path of the wall claddings could not be determined due to the shortage of time; hence, they were assigned to the residual category "business, state and others". The socio-economic classification of the use of furniture could be determined by interviewing three of the five furniture factories; it was found that 10 % of the customers at the most were from the lower class. Power is also used for public lighting and by domestic households. Public lighting was allocated in equal parts to the benefit of the lower class and upper class. The results of the last census gave information on class-specific household energy consumption.

**Water supply benefits:** In this case the water was used solely by the lower class. As the water supply for the middle and upper classes and in particular for the urban population and the medium and large landowners had already been ensured, even before the construction of the dam, the water supply from this project was channelled to public taps for the population of the suburbs and for seven villages mainly inhabited by small farmers.

These data on the benefits of irrigation, water supply and power, if viewed collectively, give a much more positive picture than the previous example of carburettor production. About 30 % of the project output turns out to be end consumption by the lower class. As 68 % of the project output is related to private consumption, one may almost say that the project is of a class-neutral nature. But it must be stressed that, even here, the middle and upper classes have a higher participation in the project output than the lower class.

Two more examples of the application of the first analytical step of the product-path analysis are given in the annexes. The third example is that of an alloy steel plant. Annex 5 gives a graphic presentation of the product path between project and industrial processing for a part of the alloy steel. Annex 6 shows the product path between intermediate use and end use in the form of an input-output table. Annex 7 identifies the class-specific end use of alloy steel. Example IV is that of an electrical power station; Annexes 8 and 9 indicate some of the findings on the class-specific end use of electricity in this example.

Table 35 - Product-Path Analysis I: Carburettor Factory

Carburettors	End Use of Project Output in %		Lower Class Participation %	Lower Class End Use %
	Totals	End Use Categories		
Passenger Cars Jeeps Light Commercial Vehicles	45.06 8.43	Durable Consumer Goods	0.02	0.01
	0.41	Housing	7.10	0.03
	0.55	Education	50.00	0.28
	0.83 1.28	Health	50.00	1.06
	17.18	Transport	4.50	0.77
State, Business Others Export	3.59 9.29 1.16	State, Business Others	14.04	2.15
	5.46 0.20 6.56	Export	12.22	

8.8. The encircled figures are percentages. E.g. the top left reads: 78.1 % of the carburettors are built into passenger cars. 57.7 % of the passenger cars are used for private transport as a privately owned durable consumer good. From these two sentences it follows that 45.06 % of the carburettors are used for "privately owned durable consumer goods". As the participation of the lower class in the durable consumer goods market (according to the statistics this category also includes the ownership of passenger cars) only amounts to 0.02 %, the participation of the lower class in the use of carburettors via the above-mentioned intermediate use categories reaches a mere 0.01 %. And so on.

**Table 36 - Product-Path Analysis I: Dam**

End Use Categories	End Use of Project Output in %			Lower Class Participation %	Lower Class End Use %
	Total	S.B.O.*	Export		
Tobacco	7.98	-	9.43	81.72	1.68
Rice	3.52	-	8.98	40.15	6.69
Vegetables	25.65	-	-	25.33	3.18
Edible Oils	3.99	-	6.55	-	-
Maize	2.56	-	-	62.46	0.18
Meat	0.29	-	0.29	-	-
Other Foodstuffs	0.85	-	0.37	12.22	0.05
Tobacco Processing Plants	5.70	-	-	42.85	2.44
Wall Claddings	3.99	3.99	-	-	-
Furniture	4.73	-	-	10.00	0.47
Other	0.56	2.48	-	-	-
Public Lighting	1.92	-	-	-	-
Private Household Consumption	1.28	-	1.28	50.00	0.64
Drinking Water	13.44	-	-	24.99	3.36
	11.00	-	-	100.00	11.00
<b>Total</b>	<b>100.00</b>	<b>6.47</b>	<b>25.33</b>	<b>68.20</b>	<b>29.70</b>

**N.B.:** S.B.O.\* = State, Business, Others (Residual Intermediate Use Categories)

### Examples III and IV: Alloy Steel and Electricity

As in the case of the previous examples, these examples too are more or less hypothetical. However, with respect to the assumptions on the availability of information, these examples have been designed in a realistic manner based on actual experience. In all cases we have multifunctional project outputs where socio-economically classified end use can only be traced with the help of a number of steps. Table 37 summarizes the results of the product-path analyses.

	Carburettors %	Dam %	Alloy Steel %	Electricity %
Lower Class End Use	2.15	29.70	4.43	11.25
Upper Class End Use	71.59	38.50	39.02	66.23
Business, State, Others	14.04	6.47	55.38	) ) 22.52
Export	12.22	25.33	1.17	)

### Discussion of the Method

The goal of the first step of the product-path analysis (PPA) is the successive allocation of the physical project output to the socio-economically classified end use. End use is defined by those factors which directly affect the living conditions of the population, e.g. food, housing, clothing, health, education, etc. The essential categories of goods and services to be used here are obtained from the needs analysis presented above. The arguments for the successive allocation of the project output to end use can only be given by means of examples. Through successive allocation it is possible to establish the functionality of the project or intermediate output for the above-mentioned need categories. For example, irrigation is functionally used for the cultivation of vegetables, millet and wheat. But, vegetables, millet and wheat do not have the same significance for the satisfaction of the basic needs of the different social classes. For instance, it is known that in India wheat is consumed more by the upper class (242 g per capita per day) than by the lower class (56 g per capita per day).

In the case of millet the opposite trend is to be found. Generally, the first step of the product-path analysis tries to indicate the functionalities of a project or intermediate output for the living conditions of the mass of the population which is defined here as the lower class for operational purposes.

The basic information required for the first analytical step of the product-path analysis is data on the consumption of specific goods and services by the different sections of the population. These data are available in consumption end expenditure budgets, which are prepared in almost all countries - in varying degrees of generalization and differentiation - for the calculation of the consumer price indices. Representative surveys could be used in countries in which the product-path analysis was tried out empirically. Detailed studies are normally available on the consumption of particular goods and services; even for goods such as passenger cars, where common sense would suffice, one has recourse to studies. The availability of such statistics will increase in the near future, as international organizations and national research centres have already given recommendations and launched activities in this direction.

In addition to these data, the direct and indirect users of the project output have to be identified: What part of the project output does a (intermediate) consumer receive? What does he use it for? Data on the direct use of the project output can usually only be collected directly in the field. Every project which has a more or less efficient marketing organization, can provide this datum immediately. At times it may be more difficult to get information about secondary users, i.e. customers of project output users. Quite often the structure of intermediate or end use has to be derived from global national statistics or from an input-output table of the country or region concerned, if it is available. Input-output tables of other countries and regions too can help - at least in the formulation of hypotheses on intermediate use. No general rule has yet been established for finding information or detecting information sources to fill in the information gaps between project output and end use. The most important factor is the imagination and the intuition of the social scientist.

The following points should be considered when (re)constructing the product path from project output to socio-economically classified end use.

1. The information on the product path and socio-economically classified end use will be of a direct or indirect nature. In the case of some investment projects, such as water supply to a limited area, it will be possible to identify the end users directly and to classify them socio-economically. In the case of other projects, general information on the customary socio-economic use of a particular commodity or service will have to be utilized. It is clear that direct data should be used as far as possible; but it is also clear that collection of direct data is more costly and time-consuming. Whether the available

data are direct or indirect also depends decisively on whether the project output is distributed directly or indirectly, i.e. through the market or not.

2. The product-path analysis is based on the assumption that the investment project is economically, financially and technically sound. Above all, an optimal use of the production factors is assumed. Otherwise, the findings of the product-path analysis will have to be modified accordingly.
3. As far as possible, the entire project output should be assigned to socio-economically classified end use via the stages of intermediate use. Capital goods, public services, etc. should be considered as intermediate use stages which have to be followed up further. If a project appraisal is conducted under time and cost constraints, the final result of the product-path analysis will generally contain a residual category, which in the above examples was called "business, state and others" and varied from 6 % to 55 %. The example in which it was 55 % showed that it was not only a residual category; 'defence' can scarcely be assigned directly to any end use category. The same is true of the category 'export'. But in this case the probable end use - the use of foreign exchange earnings is an intermediate stage of the product path - may be derived from a macro-performance analysis which, in particular, includes a socio-economic analysis of import policies.
4. A product-path analysis of the type presented here can naturally be refined much further. For example, one can find out whether tractors used for wheat cultivation release labour or not, whether they serve the production of high yielding or other wheat varieties, whether they serve large landowners or cooperatives, etc. Furthermore, a product-path analysis can certainly be made dynamic. Whether the effort is worthwhile will depend on the political priorities, the number of good project proposals and, not least, on the available resources for project appraisal. Sophistication and dynamization in the sense applied here will not retract the validity of the product-path analysis.
5. Only the product path, or the probable product path derived from the existing demand and distribution structure, should be determined in a product-path analysis. Although it would be interesting to know that electricity could be used in a manner different to the existing one, or that a hospital or water supply could theoretically be used by the most needy, or that alloy steel could be used for making ploughs for small farmers, this has nothing to do with a socio-economic justification of the project. On the contrary, such statements lead to strong socio-economic arguments against a project, particularly against the distribution of the project output. They point towards possibilities of improving distribution, which at best can be achieved by rules, recommendations or

mechanisms like two-step lending procedures, but usually can seldom be influenced at all.

6. This reasoning emphasizes that a negative result of the product-path analysis does not necessarily speak directly against a particular project output, i.e. as if electricity, steel and roads were of necessity socio-economically dubious per se. Such a statement could not generally be made even if repeated product-path analyses of multifunctional project outputs would repeatedly lead to a depressing result for the mass of the population. It is quite conceivable that the socio-economic assessment of two similar projects in the same country or even in the same region will be completely different. On the other hand, repeated product-path analyses of goods and services which have less multifunctional utility could support such arguments, e.g. in the case of runway lighting systems, telecommunication equipment, colour television - to name a few.
7. The distinction between analysis and planning is important for an understanding of the product-path analysis. An analysis shows if and why something exists or not, if and why, for example, a particular investment policy is implemented or not; whereas planning has the important function of giving a detailed account of how, under the given circumstances, a particular investment policy should be implemented in order to achieve a particular objective. The product-path analysis cannot give detailed recommendations in this sense of planning, for example, on how the living conditions of the mass of the population should and could be optimally improved step by step within the framework of a particular national investment policy. It is content to establish whether and to what extent a particular investment is need-oriented, or what the socio-economic benefits of a project will be. This has methodological consequences because the information used for analysis can be different to that required for planning. Car ownership as an indicator of wealth may suffice sometimes for an analysis of wealth distribution, however, for the planning of the distribution of social wealth a much larger number of more differentiated indicators would be needed; it would be stupid and meaningless to confine oneself to the car-ownership indicator.
8. The first analytical step of the product-path analysis should investigate whether and to what extent a project output will benefit the majority of the population under the given structure of demand and distribution. What is the meaning of "benefit" in this context? An investment for import substitution does not directly improve the living conditions of the mass of the population through its physical output, even though the employment effects could play a positive socio-economic role. An investment for import-substitution can also have positive socio-economic effects if it releases foreign exchange which can then be used to improve living conditions through the implementation of national development policy; the findings of a macro-performance

analysis could show whether this lies within the realm of probability or not. Nevertheless, it is necessary to undertake a product-path analysis even for such an import substitution project because it is certainly not unimportant to know whose living conditions are being affected by the project, those of the upper or the lower class. Forgoing a product-path analysis here would mean that it is immaterial whether imports of marginal luxury goods or of essential consumer goods are being substituted. For the country considered, a negative result of a product-path analysis could, under certain circumstances, lead to the question whether the continued import of the commodity is socio-economically meaningful at all. In the case of substitution investments it becomes clear that "benefit" does not necessarily imply an improvement of the living conditions; it does, however, clearly imply the following question: for whom is the project output useful, whose living standard is secured? In principle, an improvement of the living conditions of the mass of the population can only follow in the case of net new investment if more proteins and calories are fed into empty stomachs, more practical knowledge and skills are put into heads and muscles, and if healthier life and less parasitic worms are allowed to enter into bodies.

9. Economic reasoning sometimes emphasizes the benefits of production detours. Evidence of indirect effects can show greater benefits from a project than evidence of direct effects, and vice versa. The product-path analysis enables the determination of a stream of indirect effects and also identifies the effects of products for intermediate use. In a similar way the direct and indirect effects of unemployment resulting from (labour-intensive vs. capital-intensive) further processing of a project output on its product path, could also be identified. It is evident that as many indirect effects can be determined as the resources of time and staff for project appraisal allow. Under the usual conditions of project appraisal a compromise is necessary, as is clearly shown in the product paths described above; primary surveys and investigations are seldom possible, usually official secondary material has to suffice. However, this cannot be a convincing argument against the results of a product-path analysis, as there is no reason why those effects which cannot be established through quick documentary evidence should be more positive than those which can be established through official statistics. Those acquainted with the practice of statistical technology would tend to take the opposite view.
10. The product-path analysis does not make a rigid differentiation between consumption and investment, for this differentiation implies nothing more than a distinction between present and future consumption. It is irrelevant for the product-path analysis whether the project output results in consumption by the lower class within one year, three years or after a generation. In this sense, there is a relatively clear difference in

the period of maturity between an irrigation project and a steel mill as far as their functionality for wheat consumption is concerned. Steel has to follow a much longer detour via forging, railway industry, provision of transport capacity, wheat transport, tractors, etc. Such varying periods of maturity have not yet been taken into account and discounted within the context of the product-path analysis. It is basically possible to attach to each product-path analysis a network which would show the different periods of maturity of different intermediate goods in relation to end use. The length of the maturity period is the only meaningful and conclusive criterion of differentiation between consumption and investment. The product-path analysis is therefore neither oriented exclusively towards consumption nor does it neglect the aspect of investment and capital accumulation which is so important for developing countries. The basic problem of the product-path analysis is the question of socio-economic quality, particularly of investments, the question of their aim, their purpose and their benefits for the mass of the population.

11. A final point should help to clarify the situation. The argument that a project output should be need-oriented seems to forget the reality of the shifts in budget allocations which naturally can also undermine need-oriented projects. This line of argument is opposed to a product-path analysis just as it is opposed to a cost-benefit analysis or a cash-flow analysis. It supports the concentration of investments in areas where no product-path analysis is actually required according to the positive results of a macro-performance analysis. If, however, the - not at all so generalized - system of budgetary shifts does not lead to this conclusion, i.e. if the promotion of identifiable and concrete projects and programmes is still preferred to a general, unscrutinized, uncontrolled transfer of financial resources, then the product-path analysis turns out to be just as necessary as a cost-benefit analysis or a cash-flow analysis.

Obviously, these eleven comments on the product-path analysis can only outline some basic problems and not treat them exhaustively. They show that the aim of the first step of the product-path analysis is to identify the actual (not potential) end use of the physical project output. The first step of the product-path analysis is concerned with the question whether the particular product or service is used more by the majority or by a minority of the population. A negative result of the scrutiny of this (indirect) product path can - as explained above - certainly not lead to the conclusion that one or the other sector or subsector or product is socio-economically questionable, because even alloy steel and the export of gold-embroidered dog collars can be used to improve the living conditions of the mass of the population, just as a rural hospital can be usurped by a provincial power elite. This means that a product-path analysis must be undertaken for every investment project, even if many projects in the same sector have already been examined socio-economically; the same probably applies to a cost-

benefit analysis. The product-path analysis developed here is still a rough tool. However, in view of the conditions prevailing in project appraisal, a further refinement hardly seems to be meaningful; time and staff constraints would make it irrelevant. Perhaps it is more sensible to have a rough solution to a problem of importance in terms of social economics and development policy, rather than to have a precisely defined answer to politically irrelevant textbook questions.

### Product-Path Analysis II: Does End Use Meet Basic Needs?

The aim of the first analytical step of the product-path analysis was to see whether - under the given conditions of distribution and demand - a project output benefitted the lower class or the middle and upper classes. In the case of some projects or types of projects the threshold value for a socio-economically positive assessment will already have been exceeded after doing the first step. But even if this does not occur, is a project for the manufacture of lemonade, hat boxes or religious pictures socio-economically justifiable for the sole reason that the lower class can be expected to consume these goods? Is every single demand of the lower class socio-economically justified? Demand is certainly a necessary criterion but it does not seem to be a wholly sufficient one. Therefore, in the second analytical step of the product-path analysis, the task is to find out how far the consumption of the project output by the lower class corresponds to a socio-economically justified need. The underlying concept of need here differentiates between demand and need. The definition of need has already been discussed above. To summarize: The term "need" corresponds, in the first place, to a rational or normative need which can be derived from a comparison of the real and the rational budget. For some areas and level-of-living components it is difficult or quite impossible to establish normative needs. In these cases a rational norm based on the socio-economic and development goal criterion of the reduction of sectoral and regional disparities can be used. This type of comparative need can be used when it is not possible to scientifically establish normative needs.

Here again, a grossly simplified example can illustrate the line of reasoning. Let us assume that a water supply project is utilized completely by the lower class. 50 % of the water supplied by this project is in excess of the daily water requirement of 30 litres per capita in this region, while the basic requirement in other regions of the country is not met. The result is that 50 % of the project output is not used according to need.

The example can be transferred without conceptual difficulties to more complicated examples, for instance, to the example of a fertilizer factory whose clients produce rice,

tobacco, cotton, etc., i.e. a product mix which is export-oriented, partly upper class-oriented and simultaneously lower class-oriented. With a rational budget for food consumption it is easy to determine how far - on the basis of the given demand, distribution and sales structure the fertilizer production corresponds to the requirements of the lower class. This conception of a rational budget is an important and decisive conception. A rational budget for food signalizes, for instance, how many potatoes, cucumbers and bananas a family should consume so that this a) is nutritionally acceptable, b) corresponds to the food habits of the family and c) is compatible with the status of productive forces in the country or region. In this sense rational budgets compare and weigh goods and services with regard to their utility for an improvement of the living conditions of the mass of the population; this was dealt with in detail above.

The following example of a Latin American agricultural project may clarify the connection between product-path analysis and rational food budget. The starting point of the following Table 38 is the distribution of the project output on end-use goods as determined by product-path analysis. This distribution is socio-economically differentiated according to the logic of product-path analysis; there is a differentiation between the lower class (50 % of the population with lowest income), middle class (40 % of the population with high income) and upper class (10 % of the population with highest income). On the basis of consumption surveys the corresponding participation of these social classes in the consumption market and the resulting participation in the consumption of the identified end-use goods is shown. Lower class participation amounts to 28.21 %, middle class participation to 30.17 % and upper class participation to 33.07 %, and 8.55 % of the project output falls into a residual category which is not further differentiated and essentially contains intermediate consumption for export and industry. In keeping with the logic of the second step of product-path analysis, the class-specific participation in consumption of end-use goods must now be qualified by the question whether this demand corresponds to a requirement based on an operationalization of basic needs.

The rational food budget which was shown in an earlier chapter can - if compared with the class-specifically differentiated actual food consumption - provide the important information required here. It is seen that only 3.22 % of the project output cover the requirement of the lower class; the product mix of the project only contains the deficit products, sugar and legumes, for the lower class; the main part of the product mix is not need- or requirement-oriented.

The results of this second step of the product-path analysis are as valid as the rational norms for normative or comparative needs are. The essential problem is the determination and justification of these norms. This was pointed out in connection with the needs analysis and will not be repeated here.

End-use Goods	Original Product	Water Distribution According to End-use Goods	Export and Industrial Intermediate Consumption	Lower Class			Middle Class			Upper Class		
				Participation in Consumption Market	Participation in End Use	Reduction of Food Deficits	Participation in Consumption Market	Participation in End Use	Reduction of Food Deficits	Participation in Consumption Market	Participation in End Use	Reduction of Food Deficits
Rice (normal)	Rice	72.27	-	32.5	23.49	-	35.0	25.29	-	32.5	23.49	-
Rice (extra)	Rice	2.62	-	0	0	-	30.5	0.79	-	69.5	1.83	-
Beer	Rice	0.77	-	29.6	0.23	-	35.8	0.28	-	34.6	0.26	-
Rice dust	Rice	0.31	0.31	-	-	-	-	-	-	-	-	-
Domestic animals Poultry	Rice	0.30	-	12.5	0.13	-	33.7	0.33	-	53.8	0.54	-
Poultry	Rice	0.50										
Poultry	Rice	0.20										
Export sugar	Sugar	4.46	4.46	-	-	-	-	-	-	-	-	-
Sugar (white)	Sugar	2.57	-	4.7	0.12	0.12	19.6	0.50	0.50	75.7	1.95	1.95
Sugar (brown)	Sugar	2.83	-	33.3	0.94	0.94	39.0	1.10	1.10	27.7	0.79	0.79
Alcohol (consumption)	Sugar	0.81	-	71.9	0.58	-	14.1	0.12	-	14.0	0.11	-
Alcohol (industry)	Sugar	0.44	0.44	-	-	-	-	-	-	-	-	-
Beef	Sugar	0.21	-	15.4	0.03	-	32.8	0.07	-	51.8	0.11	-
Molasses	Sugar	1.72	1.72	-	-	-	-	-	-	-	-	-
Oils	Cotton	0.55	-	26.4	0.15	-	33.8	0.19	-	39.8	0.21	-
Beef	Cotton	2.21	-	15.4	0.34	-	32.8	0.72	-	51.8	1.15	-
Industry input	Cotton	0.13	0.13	-	-	-	-	-	-	-	-	-
Cotton fibres	Cotton	1.49	1.49	-	-	-	-	-	-	-	-	-
Chickpeas	Legumes	0.02	-	31.2	0	-	40.1	0.01	0.01	28.7	0.01	0.01
Legumes (others)	Legumes	5.33	-	40.4	2.16	2.16	12.8	0.68	0.68	46.8	2.49	2.49
Beef	Sorghum	0.26	-	15.4	0.04	-	32.8	0.09	-	51.8	0.13	-
Totals		100.00	8.55		28.21	3.22		30.17	2.29		33.07	5.24

In this second step of the product-path analysis no major data problems arise, provided a rational norm has been set. In most cases this is only a qualitative judgement whether, in terms of the rational norm, a need exists or not. Only in few cases, as in the examples of water supply and a hospital, does the supply of the project output partly cover and simultaneously exceed the need; only in such cases is it necessary to collect additional information. The collection of information here is analogous the collection of information during the first step of the product-path analysis; after all, need-oriented end use is only a further specification of lower class end use.

### Product-Path Analysis III: Which Needs Have Priority?

The use of a need criterion completes the identification of the socio-economically classified end use of a physical project output and leads it to the socio-economic goal function mentioned above. The problems in the application of even valid rational norms or need criteria could be emphasized by means of the need criterion "comparative need", taking the terminology of Bradshaw. What is problematic is the existence of individual and atomized requirement standards and rational norms on the one hand, and the acute lack of scientifically derived rational norms on the other. This problem could be solved quantitatively, but only if it were possible, for example, to make the rational norms for food and health compatible, perhaps by a functional analysis and quantification of their reciprocal relations. What does one do, for instance, with a standard of 30 litres of drinking water and a standard of 2300 calories per day per person? It is definite that the need for food has a higher priority than that for clean drinking water, but this has not been quantified yet. The relation between rational norms for health and food is similar; in this case we have the further difficulty that a rational norm for health cannot be substantiated in the same way as for food, even if a rational food budget is derived from considerations of health. These comments demonstrate that it is problematic to undertake a broad-based quantification of the transsectoral relevance of a particular need criterion or rational norm.

At present a second-best alternative will have to be found in the form of a pragmatic solution. This pragmatic solution can start from a differentiation between private and collective consumption. The methods described in the needs-analysis above can be used to weigh the components of private consumption. In view of the actual situation in most of the countries of the world, collective consumption normally includes education and health in particular, housing and water supply in part, but food only more rarely and to a lesser degree. A quantification of the priority of these individual areas of collective consumption can, at

present, hardly be generally established. The weighting of the individual need criteria or rational norms for water, hospitals or schools must rather be undertaken on the basis of a qualitative sector analysis for a particular country during a particular period of time. Such a sector analysis would, for example, prove that a sector programme in the curative health sector would not be optimal, because it can be established with almost excessive clarity that only a combined social and economic policy can remove the causes of the susceptibility of the population to diseases. The morbidity and mortality structure reflects only too clearly the lacks and failures of social and economic policy. Infectious and parasitic diseases combined with direct and indirect nutrition deficiencies make up the major part of ailments. When a sector analysis discloses all this, then water supply, sewage treatment and, in particular, an agricultural policy geared to the nutritional requirements of the mass of the population seem to be more crucial for improving the living conditions of the people than the construction of hospitals. But even if such a sector analysis stresses the relative nature of the need for curative health services, the qualitative and analytical result can finally be to invest precisely in this subsector of hospital construction, because every other projected action would affect the living conditions of the mass of the population even less under the existing social structure.

This example reveals the present difficulties of a technocratic weighting of the individual rational norms for collective consumption. At present, only a qualitative sector analysis can take us further, but this sector analysis should be one which does not ignore the living conditions of the mass of the population.

#### Assessing the Benefits of Production: Summary

The product-path analysis attempts to show empirically and statistically how far a physical project output can benefit the majority of the population. It first examines how far a project output, i.e. a particular good or service, is consumed by the lower class as the operational representative of the majority of the population. In the second step it tries to establish whether this actual end use of a certain good or service by the lower class corresponds to a scientifically or politically justified need. Finally, it qualifies this need in the context of other needs. These three analytical steps for the socio-economic appraisal of an investment project can be applied cumulatively. In many cases the first analytical step itself will show that the project is not optimal in terms of social economics. Experience will show in how many cases it is necessary to undertake the second and third analytical step.

The objective of the application of the product-path analysis is to gradually eliminate those projects and proposed investments which - for any reason whatsoever - do not satisfy the

fundamental principle of social economics, namely, improvement of the living conditions of the mass of the population. This is surely a task for Sisyphus - a figure of legend rather than one of reality.

### Some Theoretical Implications

One of the fundamental assumptions of the product-path analysis is based on a - perhaps too simple - conditional approach: If all investment projects were appraised according to the criteria of socio-economically classified end use and need, and if all decisions on investments were taken on this basis, then the living conditions of the mass of the population must necessarily improve.

Economic theory's answer to this assumption is that the needs of the mass of the population can be satisfied only if purchasing power is generated, i.e. when the majority of the population can actually buy the output which has been established as the socio-economically desirable output by the product-path analysis. Is it ultimately, therefore, not more important to furnish the poorer sections of the population with income, i.e. purchasing power? This objection seems too simple to the social economist as it implies increase of purchasing power through increase in income via employment, but overlooks the fact that this increase only remains nominal unless there is a rise in supply corresponding in volume and structure to the additional monetary income and the resulting increase in demand. Therefore, in order to establish a certain level of living, there should at least be a proportionality or compatibility between the rise in purchasing power through employment and the demand- or need-oriented increase in the supply of goods and services. Such a compatibility needs not be present at project level; a macro-economic proportionality would suffice. Theoretically, it is immaterial whether this occurs spontaneously or is induced; analytically however, it is crucial to check whether it has been achieved or not. If there is no compatibility, or if there is a major delay in achieving it, then the living conditions of the population will deteriorate. In other words, all this means is that the real income can only increase with the supply, i.e. with the availability of goods and services - a seemingly obvious statement. This is so openly evident that up to now it was forgotten to examine whether a rise in purchasing power was really an incentive for a corresponding increase in production.

The social economist would suspect that this question has not been studied further because of the obvious - in his opinion quite unjustified - confidence in the controlling mechanism of the price system. Reality, however, is opposed to this argument: There is hardly a country, particularly in the Third World, which has an economic system and market structures

corresponding to the pure market economy of the textbooks. Almost all countries have mixed economies. Even World Bank experts recommend - not without economic reason - collective consumption, public distribution of consumer goods, and market manipulations such as price regulations and taxes. This does not only apply to the traditional sectors of state welfare, in which even unemployed persons get health services and their children receive education, i.e. in which goods and services are allocated without an increase in the purchasing power of individuals. Even in other sectors there is no pure market economy one has only to think of the necessity of smoothing out cyclical price fluctuations, particularly in the agricultural markets.

The reality of collective consumption and of administered allocation of goods and services demonstrates an allocation of goods outside the usual allocation mechanism of income (which might be acquired individually through employment) in a market economy. It points towards the other side of socio-economic reality which has seldom been acknowledged and rarely been examined as yet, namely, which goods and services are distributed or made available to the mass of the population. It is not enough to simply assume that increasing income and a rising rate of employment will improve the living conditions of the masses. The possible anti-social implications of employment have been empirically shown above. Methodologically, the employment indicator may, in certain situations, be a meaningful indicator for living conditions; in the actual situation of most countries, however, it is seldom sufficient. Theoretically, employment is quite secondary. Employment can be instrumental in improving the living conditions of the masses, but there are also other instruments such as collective consumption, redistribution and rationing to allocate goods and services produced.

The above-mentioned compatibility between rise in purchasing power and increase in supply of goods and services is necessary, at least in order to see that the real income does not sink as long as employment is the main mechanism of distribution for the living conditions of the majority of the population. In reality, a rapid improvement of the living conditions of the masses hardly results from a generalization of employment and the incentive to increase production which allegedly follows a rise in purchasing power; it can only come about through increased supply or availability of goods and services for the lower class which, if necessary, can be supported by an income policy. Employment and production increases are tools amongst others to improve the living conditions of the lower classes - amongst other hypothetically conceivable tools which, like the redistribution of existing but not additional income, can hardly be considered a part of the repertoire of pure market economies. This does not predestinate either the employment or the income indicator or any other socio-economically undifferentiated production or productivity indicator to become a general socio-economic criterion.

Irrespective of the way in which the basic needs of the mass of the population are met - whether through mechanisms of market economy such as employment and individual income, or through other ways such as redistribution or public allocation through protein enrichment programmes, public canteens or taxation of product benefits - a crucial socio-economic question, parallel to or even before the question of the socio-economic significance of employment, is the question of the quantity, the quality and the distribution of goods and services, i.e. the question of their actual value-in-use.

## **8. Conclusion**

The outlined approaches to a need-oriented planning and evaluation seem to ignore the basic contradiction between value-in-exchange reality and value-in-use planning; they seem to be normatively based on a philosophy which categorically and apodictically gives consumption a higher priority than investment, and which discredits production in favour of distribution; thus, this philosophy puts itself and the demands arising out of it on a historical siding.

Apart from the fact that this would be a fundamental misunderstanding, it is true that historic development in the industrialized countries tended to be reflected in an opposite philosophy, a philosophy which usually was called economic theory. For a long time economic theory actually attributed the decisive role for economic and social development to capital accumulation. It seemed evident that the increase in production and the related economic and social development was to be ascribed to technological innovations which needed large amounts and new forms of capital goods. Capital became the centre of scientific and particularly of economic interest. The planning models of most of the developing countries and where they exist - of most of the industrialized states are mostly based, even today, on the concept of capital/output ratio, even though the privileged position of capital in the social development process has long been empirically relativized. In the present historical/social constellation of the industrialized countries as well as the developing countries not even 50 % of the economic growth can be explained by the production factor 'capital'.

But, production factors other than capital were considered only gradually in the economic sciences. Particularly the production factor 'labour' was increasingly used in the repertoire of terms of economic theory. But often labour is taken as a production factor only if it can be expressed in monetary terms - as seems easily possible in the case of capital. Apart from the initial difficulties of a monetarization of labour, there is a further difficulty which hinders the economic consideration of labour as a production factor: In the case of labour it is difficult to differentiate between the resource and the possession of the resource; in the case of the

production factor 'labour' the resource itself can profit from the expenditure which was incurred to raise its effectiveness. A third difficulty is directly connected with this: The production factor 'labour' plays a double role "as input and as final consumer". While expenses, which increase the value of this input, are mostly classified as elements of consumption, maintenance and repairs of machines for example are taken as investment. This difference between investment and consumption - apparently a pure and simple problem of classification - became the central starting point for economists who deal with food, education and health as factors which again influence the production factor labour. The main aim is to show whether, when and how far expenditure for food, education and health can be taken as investments.

In spite of a number of well-meaning attempts to justify investments in these areas by traditional economic theory - for example, by the calculation of the monetary value of human life - such efforts must be viewed as failures. Particularly the relationship between health and nutrition programmes on the one hand and population growth on the other has caused a number of authors to characterize such attempts at justification as an "exercise in sophism"<sup>1</sup>.

The obvious and tacitly practised conclusion for 'realists' is as follows: As, under the existing social conditions in the countries of the poor world, fertility proved to be relatively less variable, as for many countries, emigration is not a feasible policy, and as morbidity-reducing health programmes have effects on population growth, there is only one method which has proved to be effective: reduction of the morbidity reduction. Consistently formulated this means: avoidable disease and early death are a means of population policy. A 'realistic' population policy which is consistently directed towards economic growth would be: increase of the per-capita income through decimation of the population, particularly of housewives, children, old people and unemployed. Myrdal calls this situation a moral dilemma; he confronts it with a moral imperative: "All that can be reasonably done to combat disease and prevent premature death must be done, regardless of the effect on population growth"<sup>2</sup>.

Is it really just a moral dilemma that remains? Is it only an arbitrary decision which directs the scientist's interest to value-in-exchange or value-in-use, to economic planning or social planning, to production or consumption?

It is the basic contention of this study that these questions have been formulated wrongly - in the form of apparent alternatives; that only in those places where "thinking has been distorted by conventional economic theory"<sup>3</sup> the integrated cycle of production and consumption was at times misunderstood and not taken into proper account. It is true that the historical development of most societies has fostered such a misunderstanding by factually dividing something that was only analytically separable with severe social consequences and allocating the utility of consumption to "those at the top" and the burden of production to "those at the

bottom"; nevertheless, it is the social function of the scientist to state this and to reject attempts at rationalization.

This viewpoint is based on an axiom which signalizes the beginning and the end of all science: the axiom of the equal rank and value of human life. If historical development rejects this axiom as Utopian, then it is the responsibility of science to revive it as an orientation point for a constructive criticism - for a constructive criticism of the factual situation from the consideration: Whose needs does it fulfil? Who benefits?

ANNEX

Annex 1

World Bank Estimates of Population Below Poverty Line in 1969		
	Percent of Total Population Below \$ 50 During 1969	Percent of Total Population Below \$ 75 During 1969
1. Lebanon.....	1.0	5.0
2. Zambia.....	6.3	7.5
3. Panama.....	3.5	11.0
4. Korea.....	5.5	17.0
5. Mexico.....	7.8	17.8
6. Brazil.....	14.0	20.0
7. Peru.....	18.9	25.5
8. Colombia.....	15.4	27.0
9. Philippines.....	13.0	30.0
10. Thailand.....	26.8	44.3
11. Pakistan.....	32.5	57.9
12. Sierra Leone.....	43.5	61.5
13. India.....	44.5	66.9
14. Tanzania.....	57.9	72.9
15. Dahomey.....	41.6	90.1

Source: Ahluwalia, Montek: Income Inequality: Some Dimensions of the Problem, in: Chenery, Hollis et al. (eds.): Redistribution with Growth, Oxford 1974, p. 12.

## Annex 2

Class-Specific Private Consumption in Rural India									
Consumer Goods	Lower Class (56 %)			Middle Class (34 %)			Upper Class (10 %)		
	Paisas	%	P	Paisas	%	P	Paisas	%	P
1 Rice	506	30.6	44.9	772	25.1	41.8	842	13.4	13.3
2 Wheat	101	6.1	31.0	229	7.4	42.4	494	7.9	26.6
3 Jowar	119	7.2	59.3	108	3.5	32.7	87	1.4	8.0
4 Bajra	43	2.6	38.1	77	2.5	41.3	131	2.1	20.6
5 Maize	54	3.3	57.7	47	1.5	30.8	62	1.0	11.5
6 Barley	31	1.9	50.0	39	1.3	38.2	36	0.6	11.8
7 Ragi	30	1.8	48.6	43	1.4	42.9	33	0.5	8.5
8 Small Millets	15	0.9	66.7	10	0.3	25.0	6	0.1	8.3
9 Gram	23	1.4	41.9	37	1.2	41.9	49	0.8	16.2
10 Cereal Substitutes	17	1.0	55.6	18	0.6	33.3	15	0.2	11.1
11 Pulses and Products	79	4.8	34.6	162	5.3	43.3	280	4.5	22.1
12 Salt	5	0.3	50.0	7	0.2	33.3	7	0.1	16.7
13 Vegetables	56	3.4	37.3	99	3.2	41.0	178	2.8	21.7
14 Fruits and Nuts	10	0.6	27.2	23	0.7	36.4	76	1.2	36.4
15 Sugar, Gur, etc.	37	2.2	26.9	96	3.1	42.3	242	3.8	30.8
16 Milk and Products	100	6.1	24.1	303	9.8	44.4	728	11.6	31.5
17 Edible Oils	52	3.1	39.7	81	2.6	38.4	160	2.6	21.9
18 Meat, Eggs, Fish	40	2.4	35.5	88	2.9	48.4	100	1.6	16.1
19 Tobacco and Products	34	2.1	39.6	55	1.8	39.6	98	1.6	20.8
20 Cotton Clothing	50	3.0	16.6	222	7.2	44.4	659	10.5	39.0
21 Other Clothing	0	0.0	00.0	5	0.2	25.0	59	0.9	75.0
22 Education	4	0.2	21.1	17	0.6	31.6	87	1.4	47.3
23 Health	10	0.6	12.8	49	1.6	36.1	244	3.9	51.1
24 Services	17	1.0	19.2	52	1.7	34.6	236	3.8	46.2
25 Transport	7	0.4	16.0	26	0.9	36.0	123	2.0	48.0
26 Fuel and Light	114	6.9	44.8	164	5.3	39.2	227	3.6	16.0
27 House Rent	1	0.1	33.3	2	0.1	33.4	11	0.2	33.3
28 Rest	97	6.0	22.8	245	8.0	35.0	1000	15.9	42.2
29 Total	1652	100.0	35.6	3076	100.0	40.3	6270	100.0	24.1

N.B. 1. P = weighted share of the class in total consumption in %;  
100 paisas = 1 rupee.

2. For categories 16-18 and 26 the corresponding figures were taken from the 16th round of the NSS.

3. As representatives for the three social classes there were taken the expenditure groups 15-18, 28-34 and 55-75 Rs.

Sources: The Cabinet Secretariat, Government of India: The National Sample Survey, Nineteenth Round, July 1964 - June 1965, Tables with Notes on Consumer Expenditure, New Delhi, 1972 pp. 25ff (Author's summaries); The Cabinet Secretariat, Government of India: The National Sample Survey, Sixteenth Round, July 1960 - August 1961, Tables with Notes on Consumer Expenditure, New Delhi, 1969, pp. 19ff (Author's summaries).

Annex 3

Class-Specific per Capita per Day Food Consumption of the Indian Rural Population, in Grams			
Consumer Goods	Lower Class	Middle Class	Upper Class
1. Rice	227	324	330
2. Wheat	56	113	242
3. Jowar	69	59	53
4. Bajra	25	42	71
5. Maize	34	27	36
6. Barley	19	21	19
7. Ragi	18	24	18
8. Small Millets	9	6	3
9. Gram	12	20	25
10. Cereal Substitutes	17	11	10
11. Pulses and Products	26	51	85
12. Salt	13	16	19
13. Vegetables	34,6		
14. Fruits, Nuts	1,4		
15. Sugar, Gur, etc.	18,1		
16. Milk and Products	9,8		
17. Edible Oils	3,3		
18. Meat, Eggs, Fish	3,6		
N.B.: Cf. Note 3 of Annex 2 and Paragraph 2.2.			
Sources: The Cabinet Secretariat, Government of India: The National Sample Survey, Nineteenth Round, July 1964 - June 1965, Tables with Notes on Consumer Expenditure, New Delhi 1972, pp. 30; Government of Mysore, Directorate of Health and Family Planning Services in Mysore: Diet Surveys, Bangalore 1969.			

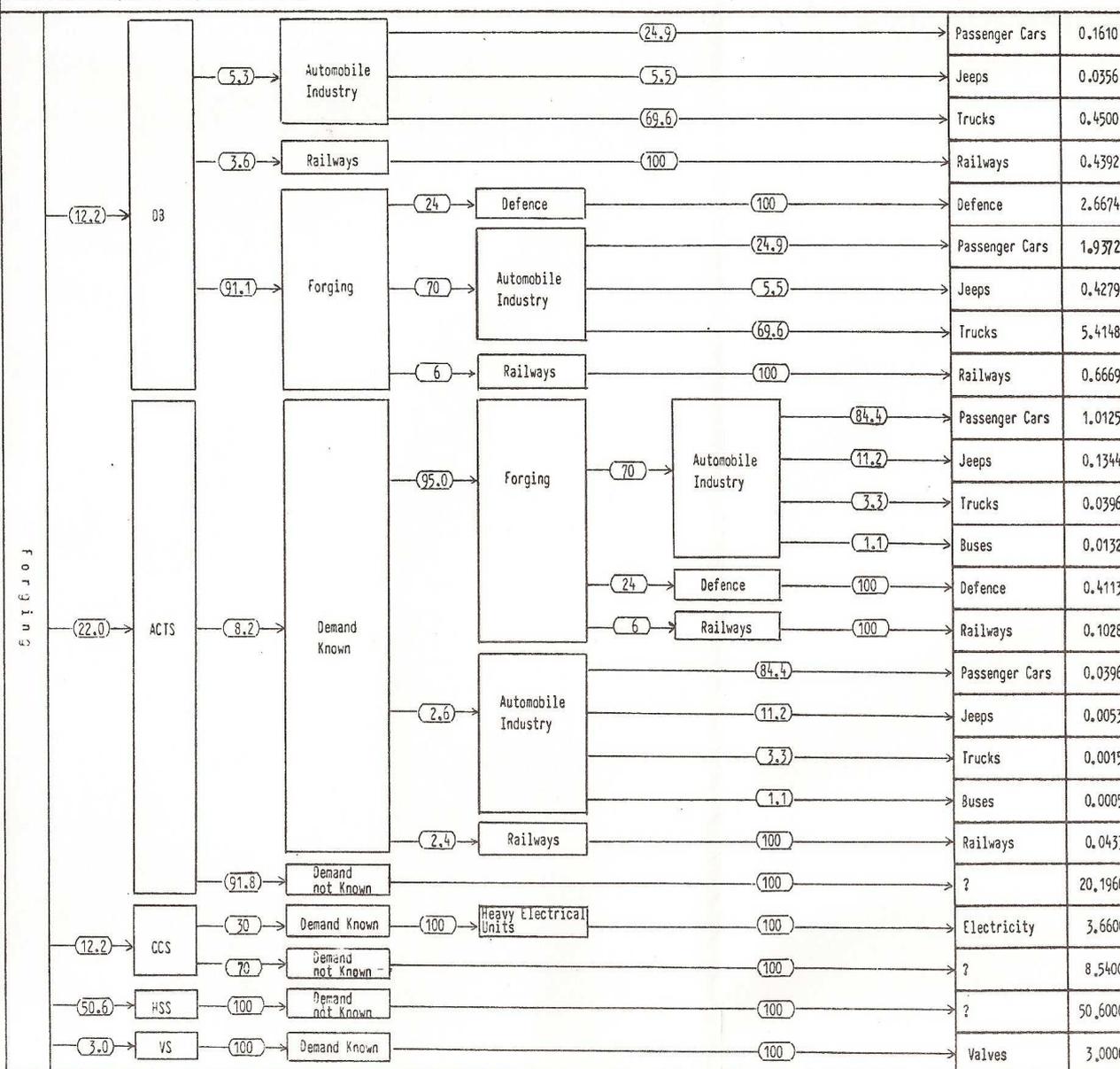
## Annex 4

Rational Budget for Food (Grams per Capita per Day for an Indian Adult Man)				
	Vegetarian Diet		Nonvegetarian Diet	
	Moderate Work	Heavy Work	Moderate Work	Heavy Work
Cereals	475	650	475	650
Pulses and Products	80	80	65	65
Milk and Products	200	200	100	100
Fats and Oils	40	50	40	50
Nuts and Oilseeds	-	50	-	50
Meat, Eggs, Fish	-	-	60	60
Vegetables	200	225	200	225
Fruits	30	30	30	30
Spices	-	-	-	-
Roots and Tubers	100	100	100	100
Sugar and Jaggery	40	55	40	55

Source: Data from the N.R.I., Hyderabad, cf.: Government of Mysore, Directorate of Health and Family Planning Services in Mysore: Diet Surveys, Bangalore 1969.

Annex 5

Product-Path-Analysis I: Alloy Steel (Section)



N.B. 03 = Die blocks; ACTS = Alloy Carbon and Tool Steel; CCS = Carbon Constructional Steel; HSS = High Speed Steel; VS = Valve Steel.

100 %

## Annex 6

End Use of Alloy Steel														
		Industrial Intermediate Use of Forged Alloy Steel												
Consumption		Pas- sen- ger Cars	Jeeps	Buses	Trucks	Defence	Rail- ways	Trac- tors	Steel	Cement	Paper	Elec- tricity	Sta- tionary Diesel Engines	Values
%	Serial No.	%	%	%	%	%	%	%	%	%	%	%	%	%
		36.7	2.1	1.1	18.3	3.1	9.9	0.8	17.6	0.9	0.1	5.0	1.4	3.0
1.05	1	Rice			0.44		0.15	0.24				0.22		
0.73	2	Wheat			0.27		0.31	0.02				0.13		
0.31	3	Jowar			0.15		0.01	0.08				0.07		
0.21	4	Bajra			0.19		0.02							
0.39	5	Maize			0.26		0.03	0.03				0.07		
0.00	6	Barley												
0.00	7	Ragi												
0.00	8	Small Millets												
0.04	9	Gram			0.04									
0.09	10	Cereal Substitutes			0.09									
0.07	11	Pulses and Products			0.04							0.03		
0.24	12	Salt			0.07		0.17							
0.64	13	Vegetables			0.64									
2.04	14	Fruits,Nuts			1.99		0.05							
0.59	15	Sugar,Gur,etc.			0.29		0.06	0.24				0.00		
0.00	16	Milk and Products												
0.22	17	Edible Oils			0.22							0.00		
0.00	18	Meat,Eggs,Fish												
0.16	19	Tobacco and Products			0.16									
0.46	20	Cotton Clothing			0.22		0.05	0.19				0.00		
0.00	21	Other Clothing												
0.00	22	Education												
0.00	23	Health												
0.00	24	Services												
7.98	25	Transport	3.80		1.06		3.07					0.05		
0.17	26	Fuel			0.17									
0.50	27	House Rent			0.50									
1.47	28	Rest			1.46		0.01					0.00		
0.07	29	Durable con- sumer Goods			0.07									
25.43	291	Passenger Cars	23.90	1.53										
0.10	292	Paper									0.10			
0.50	293	Electricity										0.50		
55.38	30	State,Business, Other	8.90	0.57	10.44	3.10	5.58		17.60	0.88		3.93	1.38	3.00
1.17	31	Export	0.10		0.04	0.58	0.41	0.00		0.02	0.00		0.02	

## Annex 7

Participation of the Mass of the Population in the End Use of Alloy Steel			
End Use Categories	End Use of Forged Alloy Steel %	Participation of the Lower Class in the Market %	Class-specific End Use of Forged Alloy Steel %
Rice	1.05	44.9	0.471
Wheat	0.73	31.0	0.226
Jowar	0.31	59.3	0.183
Bajra	0.21	38.1	0.080
Maize	0.39	57.7	0.225
Barley	0.00	50.0	0
Ragi	0.00	48.6	0
Small Millets	0.00	66.7	0
Gram	0.04	41.9	0.016
Cereal Substitutes	0.09	55.6	0.050
Pulses and Products	0.07	34.6	0.024
Salt	0.24	50.0	0.120
Spices	0.64	37.3	0.238
Fruits	2.04	27.2	0.554
Sugar	0.59	26.9	0.158
Milk	0.00	24.1	0
Oils	0.22	39.7	0.087
Meat	0.00	35.5	0
Tobacco	0.16	39.6	0.063
Cotton Clothing	0.46	16.6	0.076
Other Clothing	0.00	0.0	0
Education	0.00	21.1	0
Health	0.00	12.8	0
Services	0.00	19.2	0
Transport	7.98	16.0	1.276
Fuel	0.17	44.8	0.076
House Rent	0.50	33.0	0.165
Rest	1.47	22.8	0.335
Durable Consumer Goods	0.07	0.3	0.000
Passenger Cars	23.43	0.0	0
Paper	0.10	4.0	0.004
Electricity	0.50	0.3	0.001
Participation of the Lower Class in the End Use of Alloy Steel:			4.428

## Annex 8

Product-Path-Analysis I: Electricity									
Category of User	Distribution of Power to Users	Sales MWh	In % of Total Sales of the Plant	Share in Consumption			Export and Inputs	Total	
				Lower Class	Middle and Upper Classes	%			
State and Public Bodies	Equal Distribution to All (Key: 40:60)	40,673.3	12.58	5.03	7.55	-	12.58		
Public Lighting	Equal Distribution within the Region Supplied <sup>a</sup>	14,456.8	4.47	0.85	3.62	-	4.47		
Commerce and Other Services except "State and Public Bodies" and "Public Lighting"	60 % of the Volume "Exported" to Other Regions and Abroad; The Rest Distributed as in a)	85,463.8	26.43	2.11	8.46	15.86	26.43		
Industry	Special Survey Example	64,604.1	20.00	3.26	10.08	6.66	20.00		
Households	According to Data from Project Authorities	118,153.7	36.52	-	36.52	-	36.52		
Total		323,351.6	100.00	11.25	66.23	22.52	100.00		

<sup>a</sup> The share of the lower class amounts to 25 % in the regions supplied; these regions cover 77 % of the families in the country; share of supplied lower class is therefore 19 %.

## Annex 9

Product-Path-Analysis I for 16 Medium-Sized Users of the Power Plant					
User	Power Consumption in MWh p.a. + % of Industrial Power for Plants	Production Program	Estimated Share in Production in %		
			Share Export	Share of Inputs for Use/Pro- cessing in the Country	Con- sumption Middle and Upper Class
1	1,867.5 (2.9)	Thread, Fabrics, Sacks (Jute)	85 <sup>a</sup>	10	4
2	1,413.0 (2.2)	Tiles, Pipelines, Tanks	-	70	24
3	1,183.2 (1.8)	Coffee Processing	<sup>b</sup>	-	60
4	1,136.4 (1.8)	Ice Factory	- <sup>c</sup>	-	80
5	1,125.1 (1.7)	Biscuits, Cakes	- <sup>c</sup>	-	80
6	1,005.1 (1.6)	Coca Cola	- <sup>c</sup>	-	80
7	997.4 (1.5)	Ice Factory	- <sup>c</sup>	-	80
8	859.8 (1.3)	Matches	- <sup>c</sup>	-	80
9	798.0 (1.2)	Cigarettes	- <sup>c</sup>	-	80
10	788.4 (1.2)	Biscuits, Caramel, Noodles	- <sup>c</sup>	-	80
11	764.4 (1.1)	Ice-Cream and Milk Products	- <sup>c</sup>	-	80
12	744.5 (1.1)	Plastic Packing Materials	- <sup>c</sup>	70	24
13	713.5 (1.1)	Lemonade (Beverage)	- <sup>b</sup>	-	80
14	636.6 (1.0)	Bread and Jam	- <sup>b</sup>	-	80
15	618.0 (0.9)	Wood Processing (Saw-Mill)	20 <sup>b</sup>	60 <sup>d</sup>	16
16	610.8 (0.9)	Wood Processing (Saw-Mill)	20 <sup>b</sup>	60 <sup>d</sup>	16
Total		15,252.7 (23.3)			

N.B: a Indirect export of 80 % of output has already been entered under export.  
b Export estimated from output of the region and export statistics.  
c Breakdown of consumption according to ratio of income share which remains after deduction of food expenditure. The key - after weighting with family share - is 20 : 80.  
d Wood for construction etc.

NOTES

## INTRODUCTION

1. Corning (1971), p. 357
2. cf. Ardant (1974), p. 4
3. VWD Europa (1975), p. 1/3
4. McNamara (1973), p. 12 f.
5. Ul Haq (1971), p , 7
6. ibidem
7. Ul Haq (1972), p. 9 f
8. UN/ECOSOC (1974), p. 4 ff.
9. ILO (1976), p. 31 f
10. Williams (1974), p , 48
11. Elsenhans (1974) p. 21
12. Hymer (1972) p. 237
13. Illich (1970), p. 568
14. Mende (1972), p. 184 f. and p. 190

### 1. THE DISCUSSION IN THE IVORY TOWER

1. Müller and Stüsser (1957), p. 977
2. Gabler (1972), p. 196
3. cf. Dahl (1968), p. 44 ff.
4. cf. Thomae (1965-1), p. 21 ff.
5. ibidem, p. 23
6. Allport cited from Thomae (1965-1), p. 25
7. See chapter 1.2
8. cf. Thomae (1965-2), pass.
9. See e.g. Albert (1965), p. 887
10. See Wiegand (1967), p. 13 ff.
11. See Habermas (1971), p , 285 ff.
12. cf. e.g. Ritsert (1971), p. 32 and p. 45 ff.
13. cf. especially Parsons (1964), p. 79 ff., Parsons (1954), p. 340 f., Parsons (1961), p. 67 ff. See also Adorno (1955), p. 13 ff.; Schluchter (1966); Kunze (1972); Bastide (1961)
14. See Adorno (1955), p. 11 ff., Adorno (1962), p. 94 ff.

15. cf. Parsons (1964-2), p. 139 ff. and Adorno (1955), p. 13 ff.
16. See Hartmann in Adorno (1955), p. 18 f.
17. cf. Popper (1962) p. 245 ff.
18. cf. Hondrich (1972), p. 232 ff.
19. See Simmel (1920), chapter 8
20. See as secondary source Alpert (1939/40), p. 64 ff.; Leuba (1913/14), p. 323 ff.; Schluchter (1966), chapter II; Wrong (1962)
21. See Freud (1940 ff.)
22. ibidem
23. cf. e.g. Ginsberg (1933), especially p. 92 ff.
24. See Wrong (1962), p. 57
25. See Zillborg (1939-40), p. 341 ff.
26. See Wertheim (1965), p. 39 f.
27. See Wrong (1962), p. 65
28. See Freud (1940 ff.)
29. See Marcuse (1965) and Riesmann (1954)
30. See Marcuse (1967)
31. cf. e.g. Adorno (1962), p. 94 ff.
32. See Freud (1940 ff.)
33. See Gehlen (1963), p. 232 ff.
34. See Homans (1967)
35. Etzioni (1968), P. 871
36. ibidem, p. 879
37. Hondrich (1975), p. 17 f.
38. Dreitzel (1968), p. 243 ff.
39. cf. Silberstein (1965), p. 31 ff.
40. Hondrich (1975), p. 29, p. 31 f., p. 39 and pass.
41. Hondrich (1975), p. 52
42. Dreitzel (1968), p. 243; cf. also Werlhof (1975) and Müller-Plantenberg (1971)
43. See Smith (1963), p. 22
44. Marx (1961), p. 40
45. Engels (1973), p. 261
46. Tinbergen (1972), p. 1
47. See e.g. Simon (1974), p. 63 f.
48. Gabler (1973), p. 1068
49. See e.g. Simon (1974), p. 65
50. ibidem
51. cf. McNamara (1973), p. 11

52. Harrod cited in Mishan (1973), p. 748
53. cf. especially Frank (1973), p. 2 f.
54. cf. e.g. Schmidt and Freiburghaus (1974), p. 346 ff.
55. cf. e.g. Bössmann (1965)
56. cf. Mishan (1973), p. 747 ff.: Bössmann (1965), p. 224 ff.
57. See Riesmann (1954) and Reich (1933)
58. See e.g. Cansier (1972), p. 423 ff. and Frank (1973), p. 2 ff.
59. See Altvater (1969), p. 11 ff. and p. 24 ff.
60. See e.g. Cansier (1972), p. 428 ff. and Böckels (1973)
61. See footnote 49: Katterle (1971), p. 15; Buschor (1970) p. 71 ff.
62. Frank (1973), p. 5
63. cf. Schmidt (1974), p. 325 ff.: Cansier (1972), p. 422 f.: Widmaier (1973), p. 13
64. See Katterle (1971), p. 16; Andel (1969), p. 209 ff.: Head (1969), p. 210 ff.
65. Musgrave cited in Katterle (1971), p. 19
66. See Frank (1973), p. 2 ff.
67. See Strohler (1965), p. 279 ff.
68. cf. Altvater (1969), p. 114 ff.
69. ibidem, p. 9 ff.
70. See Strohler (1965), p. 288
71. See Flatow (1973), p. 86 ff.
72. See Mandel (1972-1), p. 432 f.
73. cf. Altvater (1972), p. 9 ff. and Flatow (1973), p. 129 ff.
74. Mandel (1972-2), Vol. II, p. 835 f.
75. cf. Frank (1973), p. 11 f. and Buschor (1970), p. 12 and p. 24 f.
76. cf. Altvater (1972), p. 16
77. cf. Buschor (1970), p. 8
78. Timm cited in Frank (1973), p. 11 f.
79. cf. Frank (1973), p. 12 ff.
80. cf. Altvater (1972), p. 1 ff.
81. See Milliband (1971), p. 1 ff.; cf. Römer (1972)
82. See Mandel (1972-1), p. 435 ff.
83. See Flatow and Huisken (1973), p. 83 ff. and O'Connor (1973), p. 79 ff.
84. Flatow and Huisken (1973), p. 107
85. ibidem, p. 121
86. See Mandel (1972-1), p. 450 ff.
87. See Heinrich (1973), p. 145
88. e.g. Boccara (1972), p. 526 ff.
89. See Sonntag (1973), p. 172 ff.

90. See Ritsert (1971), p. 31
91. Picciotto (1973), p. 56 f. and Pompermeyer (1973), p. 25 ff.

## 2. THE REDISCOVERED BASIC LAW

This chapter deals with "discussions", i.e. words, concepts and plans, not with facts, figures and realities in the Second World.

1. cf. Schutow (1972), p. 187 ff.; Maler (1973), p. 85 ff.
2. Engels cited in Maier (1973), p. 89
3. Engels (1973), p. 261
4. ibidem
5. Lenin cited in Bernard (1974), p. 1158
6. Rößler et al., (1973), p. 201; cf. also Brus (1972), p. 54
7. Kusminow et al. (1972), p. 914
8. See e.g. Knobloch (1972), p. 1135; Manz (1973), p. 694; Kusminow (1973), p. 913
9. cf. Hoß (1973), p. 1651 ff.
10. cf. Wohlmuth (1970), p. 327
11. cf. Notkin (1967), p. 24 f.; Schilling (1973), p. 161
12. cf. Fel'd (1970), pass.; Tittel (1973), p. 1842 ff.; Notkin (1967), p. 24 f.
13. cf. Schilling (1973), p. 161; Manz (1976), p. 1165 ff.
14. Maier (1973), p. 87
15. Tittel (1973), p. 1840
16. Schilling (1973), p. 162; cf. also Tittel (1973), p. 1840 and Schutow (1972), p. 12 ff.
17. cf. Bernard (1974), p. 1160 ff.; Montag (1973), p. 35 ff.
18. cf. Schlegel et al. (1968), pass.
19. cf. Rößler (1973), p. 80
20. Bernard (1974), p. 1163; cf. also Keck (1973), p. 121 ff.
21. Rößler et al. (1973), p. 209
22. See Tsaga (1972), p. 102 ff.
23. See ibidem
24. Bernard (1974), p. 1161 f.
25. Lenin cited in Tittel (1973), p. 1840
26. See Notkin (1967), p. 62
27. cf. e.g. Lataste (1972), p. 23 ff.
28. See Mochalov (1974), p. 75
29. See Komarov (1973), p. 4 ff.; Bernard (1974), p. 55

30. cf. Rößler (1973), p. 80
31. Buchbach (1974), p. 1658
32. cf. Arrow (1963), pass.
33. cf. Komarov (1973); Azar (1974); Rutgaizer (1974)
34. cf. Schilling (1973), p. 162; Stötzer (1972), pass., Rohrberg (1974), p. 16
35. cf. Klitzsch (1967), p. 269 ff.
36. See Haustein (1972), p. 874
37. cf. Bettelheim (1970)
38. cf. Rohrberg (1974), p. 76 ff.
39. cf. Stötzer (1972), p. 20; Haustein (1972), pass.; Skarzhinskii (1973), p. 9 ff.
40. cf. Mehnert (1973), p. 44 f.
41. Tittel (1973), p. 1843
42. c f , e.g. Montag (1973), pass.; Tittel (1973), pass.
43. cf. Mehnert (1973), p. 53
44. cf. Rößler (1973), p , 36; Schutow (1972), p , 206 ff.; Pervushin (1967), p. 1
45. Kalok (1973), p , 193
46. cf. Kalok (1973), p. 182 ff .. ; Rohrberg (1974), p. 23 ff.; Stötzer (1972), pass.; Manz (1971), p. 1415 ff.; Schilling (1973), p , 167; Schutow (1972), p. 195 ff.; Mehnert (1973), p. 40 ff.; Rumjanzev (1973), pass.
47. cf. Richter (1973), p. 201 ff.
48. cf. Keck et al. (1966), p. 8 ff.
49. cf. Manz (1973), p. 702 ff.; Montag (1973), p. 978; Schilling (1973), p. 165 ff.
50. cf. Manz (1973), p. 702
51. Richter (1973), p. 202
52. Haustein (1972), p. 872; Schilling (1973), p. 165
53. Haustein (1973), p. 134 ff.
54. cf. Die Planung der individuellen Konsumtion (1964), p. 42 ff.; Keck et al. (1966), p. 13; Montag (1973), p. 41 f.
55. cf. Rohrberg (1974), p. 25
56. Maier (1973), p. 87
57. cf. also Mochalov (1973), p. 73 f.; Kalok (1973), p. 184; Mühlefeld (1972), p. 35
58. Rohrberg (1974), p. 23 f.
59. cf. Maltusch (1964), p. 79
60. Montag (1973), p. 975
61. cf. ibidem and Manz (1971), pass.
62. Knobloch (1972), p. 1138
63. cf. Knobloch in Kalok (1972), p. 1240
64. Rohrberg (1974), p. 67 ff.

65. cf. Manz (1973), p. 705; Montag (1973), p. 972
66. cf. Behr in Kalok (1972), p. 1242
67. ibidem
68. cf. Kalok (1972), p. 1243
69. cf. Rößler in Schargott (1973), p. 903
70. cf. Köppert in ibidem (1973), p. 903
71. Montag (1973), p. 52
72. cf. Waltuch (1972), pass.
73. cf. Rohrberg (1972), p. 68
74. Montag (1973), p. 972
75. Rohrberg (1974), p. 69
76. cf. Manz (1973), p. 705
77. See Skarzhinskii (1973), p. 5
78. cf. Waltuch (1972), pass.; Rohrberg (1974), p. 50 ff.
79. Montag (1973), p. 970
80. cf. Hartmann (1973), p. 211 ff.; Hoß (1973), p. 1650 ff.; Lilie (1973), p. 107 ff.
81. cf. Mochalov (1973), p. 78 ff.; Hönicke (1976), p. 723 ff.; Ehrlich (1976), p. 194 ff.
82. cf. Aganbegjan und Waltuch (1972), pass.; Klein (1976), p. 1230 ff.
83. cf. Kohlmey (1966), p. 5; Wohlmuth (1970), P. 345 ff.
84. cf. Schilling (1973), p. 175
85. cf. ibidem, p. 176
86. ibidem, p. 175
87. cf. Haustein et al. (1974), P. 10 ff.
88. Marx cited in Schutow (1972), p. 15
89. Schilling (1973), p. 177
90. cf. Die Planung der individuellen Konsumtion (1964), p. 38 ff.
91. cf. Wohlmuth (1970), p. 402 ff.
92. cf. Waltuch (1972), p. 47 ff.
93. cf. Raitsin (1969), P. 3 f ,
94. cf. Reuscher (1965), p. 1113 -f,
95. cf. Manz in Reuscher (1965), p. 1117
96. cf. Manz (1965), p. 1 299 ff.
97. cf. Raitsin (1969), p. 4 ff.; also Schmidt (1965), p. 1101 ff.
98. cf. Montag (1973), p. 55 ff.; Ehrlich (1976), p. 200 f.; Manz (1976), p. 1173 f.
99. cf. Popov (1971), p. 1 29 ff.
100. cf. Rutgaizer (1973), p. 36 ff.
101. cf. Montag (1973), p. 18; Manz (1976), p. 1164 ff.
102. See Ehrlich (1976), p. 199 ff.

### **3. SOCIAL INDICATORS AND (E)QUALITY OF LIFE**

1. cf. Bonk (1973), p. 102 ff.
2. See Apthorpe (1970), p. 5 f.; Apthorpe (1971-72), p. 71; Baqai (1972), pass.; Donald (1973), p. 120 ff.; Drewnowski (1972), p. 80 f.; Drewnowski (1971), p. 84; Galnoor (1971), p. 8 ff.; Hansen (1971), p. 13 ff.; Hauser and Lörcher (1973), p. 81 ff., Hirsch et al. (1971), p. 511 ff.; Seers (1972), p. 21 ff., Böckels (1974), p. 85 f.; Blum (1974), p. 27 ff.; Simonis (1974), p. 49 ff.; Hamer (1974), p. 13 f.; Bombach (1973), pass.
3. See Seers (1972), p. 21
4. Donald (1973), p. , 121
5. cf. especially Widmaier (1974), p. 103 f. and Frank (1974), p. 136 ff.
6. See Baster (1972), p. 1 ff.; Brooks et al. (1971), p. 231 ff; Jongh (1967), p. 117 ff.; Delors (1971), pass.; Gainoor (1971), p. 1 ff.; Nohlen and Nuscheler (1974), pass.; Palley and Palley (1971), p. 8 ff.; Sheldon and Land (1972), p. 137 ff.; Tiryakian (1967), p. 69 ff.; McVeigh (1971), p. 4 ff.; Wilcox et al. (1972), p. 50 ff.; Zapf (1972), p. 353 ff.; Leipert (1973), p. 204 ff.
7. cf. Clark (1973), p. 10 ff.: Kaufmann (1974), p. 205; Malizia (1972), p. 421 f.; Olson (1969) I p. 338 f.
8. cf. Sheldon and Land (1972), p. 137 ff.
9. See also McGranahan (1972), p. 92
10. cf. Mayntz et al. (1969), p. 40 ff.
11. cf. ibidem; Nohlen and Nuscheler (1974), p. 325 f.
12. e.g. Nohlen and Nuscheler (1974), pass.
13. cf. Biderman (1966), p. 86 ff.
14. cf. Kaufmann (1974), p. 200 ff.
15. cf. Zapf (1974); Leipert (1973), p. 204 ff.; Zapf (1971), p. 353 ff.
16. cf. Clark (1973), p. 3 ff.; Drewnowski (1972), p. 77 ff.; Firestone (1972), p. 249; Kamrany and Christakis (1970), p. 207 ff.; Leipert (1973), p. , 220 ff.; Werner (1974), p. 192 ff.
17. See notes 36 ff.; Castle (1972), p. 723 ff.; Strümpel (1971), p. 301 ff.
18. See David (1971), p. 433 f.
19. cf. e.g. Sheldon and Freeman (1970), p. 97
20. See US-Department for Health, Education and Welfare (1969)
21. See Sheldon and Moore (1968)
22. cf. Anderson (1973), p. 285 ff.; Boyce (1970), p. 145 ff.; Higman (1971), p. 32 ff.; Krieger (1972), p. 305 ff.; Marcuse (1971), p. 193 ff.; Wachs and Kumagai (1973), p. 437 ff.

23. Adelman and Morris (1968), p. 260 ff.; Adelman and Morris (1967); Banks and Textor (1963); Baster (1972), p. 10 ff.; Cabezas (1968); Finsterbusch (1970); Russet (1965); Takamori and Yamashita (1973), p. 111 ff.; UNRISD (1967); Flora (1975); Land (1975); Zapf (1974), p. 3-82
24. E.g. Nohlen and Nuscheler (1974), pass.
25. See Banks (1974), p. 321 ff.
26. cf. Strümpel (1971), p. 302
27. cf. e.g. Kirk (1971), p. 23
28. See Eberlein (1972), p. 428 ff.; Leipert (1973), p. 238 ff.; OECD (1973), p. 36 f.; Zapf (1973), p. 61 ff., Zapf (1974 Bd. I), p. 227 ff.
29. See Development Assistance Committee (1969)
30. See Rys (1970), p. 13 f.
31. See Betz (1974), p. 9 f.; Rohde (1972), p. 17 ff.
32. See Charnes et al. (1973), p. 1172 ff.; Terleckyj (1970), p. B - 765
33. See Bartholomäi (1974), pass.
34. See UNRISD (1968); McGranahan (1971) and (1972)
35. cf. Rys (1970), p. 18; Berry (1971), p. 139 ff.
36. cf. Zapf (1974), p. 3
37. See Friedrichs (1972)
38. See Dalkey et al. (1972), p. 60
39. cf. e.g. Krieger (1969), p. 11 ff.
40. See Vetter (1973), p. 18
41. See Offe (1974), p. 4 f.
42. cf. Rein (1969), p. 233 ff.
43. Eppler (1973), p. 89 ff.; Naville (1973), p. 208 ff.; Vetter (1973), p. 18
44. Arendt (1973), p. 22
45. cf. SPD-Party programm
46. Vetter (1973), p. 207
47. Naville (1973), p. 207
48. Rockefeiler (1971); Jones and Flax (1970)
49. cf. Galtung (1973), p. 227; Krieger (1969), p. 11
50. Galtung (1973), p. 225
51. For "egalitarians like myself", Seers (1972), p. 34 would say to Nisbet (1974), p. 105
52. Offe (1974), p. 3
53. Wedgwood (1973), p. 28 and p. 50

#### 4. NATIONAL FOOD AND NUTRITION POLICIES

1. cf. Schwefel (1972-1), p. 12 ff.
2. cf. IBRD (1975), p. 2 f., and BMJFG (1976), pass.
3. cf. Valiente (1972), p. 5 and Orellana (1971), p. 129 ff.
4. This chapter is taken from Schwefel (1973), p. 52-59
5. cf. Simoes (1973), p. 214; Sonis (1973), p. 277; Ariza (1973) I p. 179; Cremer (1973), p. 217; Sarué (1973), p. 165; Scrimshaw (1968), p. 55 ff.; FAO (1962), p. 13 ff.; WHO (1963), p. 9 ff.; WHO (1965), pass.; Krop (1969), p. 151 ff.; Barnes (1970), p. 23 ff.; Monckeberg (1968), p. 5 ff.; PAHO (1970), p. 2 ff., especially Cravioto (1973), p. 3 ff.
6. cf. especially Sarué (1973), p. 169 ff.; PAHO (1970), p. 1 ff.; Ariza (1973), p. 180; Donoso (1972), p. 1 ff.; OPS (1972), Part I, p. 14
7. See Simoes (1973), p. 213
8. cf. Sarué (1973), p. 167 f.; Robson (1972), p. 457 ff.; OPS (1972), Part I, p. 14
9. See next chapter and note 43; cf. also Fuhrmann (1973), p. 221 ff.; Ariza (1973), p. 182; Sonis (1973), p. 276; Donoso (1972), p. 2
10. cf. Solimano (1973), p. 204; Aranda-Pastor (1973), p. 193 f.; Berger (1973), p. 263; Jellife (1968), p. 217; Robson (1972), p. 581 ff.; Aizenberg (1968), p. 75 ff.
11. cf. Solimano (1973), p. 205; Donoso (1972), p. 4 f.
12. cf. OPS (1972), Part II, p. 26 f.
13. Aranda-Pastor (1973), P. 288
14. Solimano (1973), p. 204
15. cf. Valiente (1972), p. 3
16. Information from Panamá
17. cf. Solimano (1973), p. 205, and Aranda-Pastor (1973), p. 193; Gallardo (1970), p. 224 ff.
18. cf. Ariza (1973), p. 183
19. cf. Kiefer (1967), pass.
20. Ticas (1973), p. 1 ff.
21. cf. Suárez (1973), p. 127 ff.; Solimano (1973), p. 4 ff.; Aranda-Pastor (1973), p. 192 and p. 194; Ariza (1973), p. 183; MinSalud (Guatemala) (w. y.), pass.
22. MinSalud (Chile) (1972), p. 7; cf. also Hakim (1975)
23. cf. e.g. Cochrane (1969), p. 141 f.
24. cf. Solimano (1973), p. 208; Aranda-Pastor (1973), p. 193. See also FAO (1966), p. 28 ff.
25. MinSalud (Chile), p. 22; SNS Chile (1971), p. 1 ff.
26. cf. Solimano (1973), p. 204; Aranda-Pastor (1973), p. 13 ff.; Cremer (1971), p. 41 ff.
27. Dutra de Oliveira (1973), p. 1; Jellife (1968), p. 266 f.

28. cf. Stangen (1973), p. 235 ff.; and Cremer (1971), p. 50 ff.
29. Cremer (1971), p. 42 f.; cf. also Blanckenburg (1970), p. 17 ff; Ariza (1973), p. 181 f.
30. cf. Stangen (1973), p. 237 f.; Dutra de Oliveira (1973), p. 2 f.; Blanckenburg (1970), p. 18
31. Stangen (1973), p. 235
32. cf. Kiefer (1967), p. 36 ff.
33. cf. Dutra de Oliveira, P. 2 f.
34. cf. Stangen (1973), p. 239; Feldheim (1972), p. 3; Cremer (1971), p. 50 and p. 54
35. cf. PAHO (1970), p. 7 ff. and p. 5 f.
36. Joy (1973), p. 1; cf. also Kracht (1974)
37. cf. Borgstrom (1973), p. 87 ff.
38. Unpublished Study of INCAP
39. Joy (1973), p. 5
40. See IBRD (1975), p. 46 ff.; cf. also Paz (1971)
41. Call and Levinson (1973), p. 166
42. See Agency for International Development (1973), Vol. I
43. ibidem
44. cf. Revelle in Vamoer (1973), p. 91
45. The following is an abbreviated version of Schwefel (1973), p. 59-63
46. Solimano (1973), p. 204
47. Aranda-Pastor (1973), p. 191 f.
48. ibidem, p. 192, cf. also Valiente (1972), p. 144 ff. and p. 32 f f ,
49. Sanis (1973), p. 3 ff.; Aranda-Pastor (1973), p. 191 f.; Sarué (1973), p. 172 f.; Berger (1973), p. 258; Jellife (1968), p. 207 ff.
50. cf. MinSalud (Colombia) (1969); Puffer (1967); Lagaretta (1968)
51. cf. Simoes (1973), p. 217; Solimano (1973), p. 203; Donoso (1972), p. 1 ff.; Aranda-Pastor (1973), p. 128 ff.; cf. also PAHO (1970), pass.; Recalde (1970), pass.
52. cf. Sonis (1973), p. 275 f. and p. 279
53. Sarué (1973), p. 271, and Rueda-Williamson (1973), p. 28
54. For example the 'Caribbean Food and Nutrition Institute' Kingston, Jamaica, and the 'Instituto de Nutrición de Centro América y Panamá (INCAP)' in Guatemala
55. See Aranda-Pastor (1973), p. 187 ff.
56. OPS (1972), Part I, p. 13
57. See Proyecto Interagencial (1973)
58. ibidem, p. 4 ff. and p. 39 ff.
59. See United Nations Economic and Social Council (1974), p. 75; cf. also FAO (1975)
60. See Contreras (1976), p. 1
61. cf. Solimano (1973), p. 203 f., and Valiente (1972), p. 7 ff.

62. cf. Simoes (1973), p. 211 ff.
63. See Departamento Nacional de Planeación (1974)
64. At the first national and intersectoral seminar on food and nutrition; cf. e.g. Bejarano (1973); Pardo (1973); Varela (1973)
65. See Departamento Nacional de Planeación (1975)
66. See Instituto Nacional de Nutrición (1975)
67. See Rodriguez (1974) and Junta Nacional de Planificación (1973)
68. See Ministerio de Alimentación (1974) and (1975)
69. Proyecto Interagencial (1973, Santiago), p. V
70. INCAP (1975), p , 10
71. cf. e.g. Schwefel (1973), p. 6 ff.
72. cf. especially Weiss (1971) and Musto (1972); Joy (1973), p. 5 ff.; Berg (1973, in: Berg (Ed.)), p. 249 ff.; Glastra (1973), p , 28 ff.; INCAP (1974), p. 21 ff. i Beaton (1975), p , 9 ff.; Francois (1968), p , 5 ff. and Perissé (1968), p. 10 ff.
68. INCAP (1974), p , 8
69. cf. Joy (1975), p. 81 ff.
70. cf. e.g. Janik (1972), p. 84 f.
71. See Cravioto (1973), p. 3 ff.; Berg (1973), p. 9 ff.; Arroyave (1970), p. 200 ff.; Sai (1974), p. 132 ff. and Robson (1972), p. 19 ff.
72. See Schwefel (1976)
73. cf. especially Robson (1972), p. 313 ff.
74. See e.g. INCAP (1969) and (1970)
75. See Proyecto Interagencial (1973, Santiago)
76. See next chapter
77. cf. e.g. Varela (1973), p. 10 ff.; Junta Nacional de Planificación (1973), p. 24 ff.; Paz (1974), pass.; INCAP (1974), p. 11 ff.; Contreras (1976), p. 7 ff.
78. INCAP (1974) I p. 11
79. cf. Johnston (1969), p. 32 ff. and especially INCAP (1974), p. 64 ff.
80. cf. A. Viau (1973) arid Centro Panamericano (1975). The following is taken partly from Schwefel (1975-2)
81. Aranda-Pastor (1973), p. 187 ff., and Ramírez (1968)
86. See Aranda-Pastor (1973), p. 189 ff.
87. cf. IBRD (1975)
88. cf. Departamento Nacional de Planeación (1974)
89. See Schwefel (1978)
90. cf. especially INCAP (1974), p. 35 f.
91. See chapter 8
92. The following is taken from Schwefel (1973), p. 66 ff.

93. cf. especially Donoso (1974), Valiente (1974) and Sarué (1973), p. 165 ff.
95. cf. Feldheim (1972), p. 2
96. cf. Hakim (1975-1), p. 8 ff., and Knutsson (1973), P. 29 ff.
97. See Sarué (1973), p. 166; cf. also Berg (1973), p. 50 ff., and Joy (1975), p. 49 ff.
98. cf. Feder (1971), p. 109 ff.
99. See Sarué (1973), p. 167 f., and PAHO (1970), p. 6 f.
100. Ariza (1973), p. 175
101. cf. CEPAL (1970), p. 25 f.; CEPAL (1968), pass.; Cordova (1973), p. 24 ff.; Caputo (1971), pass.
102. cf. Proyecto Interagencial (1973, Santiago), p. V
103. cf. Schwefel (1973), p. 20 ff.
104. Hakim (1975-1), p. 2
105. Berg (1973), p. 2
106. Hakim (1975-1), p. 18
107. See Solimano (1975)
108. Solimano (1975), p. 2
109. ibidem, p. 62
110. ibidem, p. 43
111. See Beghin (1975), p. 1 ff.
112. Joy (1975), p. 3
113. ibidem
114. ibidem, p. 9
115. ibidem, p. 62
116. Mellor (1973), p. 70
117. ibidem
118. Taylor in Vermoer (1973), p. 93, and Vermoer (1973), p. 95
119. Bohnet (1975), p. 8; cf. also Adelman and Morris (1973), and Ahluwalia (1974)
120. Correa in Berg et al. (1973), p. 96
121. Ginor in Berg et; al. (1973), p. 97 L
122. See Jellife (1973)
123. ibidem, p. 380 f.
124. ibidem, p. 381
125. Beaton (1975), p. 8
126. ibidem, p. 9 ff.
127. Del Canto (1975), p. 5 ff.
128. Beghin (1975), pass.
129. INCAP (1974)
130. República del Perú (1975), p. 5

## 5. INTERMEZZO

1. J. Locke, cited in Marx (1961), p. 40
2. Marx (1961), p , 39
3. Menger (1 23), p. 1
4. Brockhaus (1974), p. 405
5. See e.g. Pusič (1972), p. 116 ff.
6. See Valentine (1968); Pinker (1971), p. 104 ff.; Townsend (1971), pass., and Krause (1976), p. 75 ff.
7. Krause (1976), p. 85
8. Imobersteg (1967), p. 53
9. ibidem, p. 57
10. cf. e.g. Gehlen (1961), p. 55 ff., and Scherhorn (1959), p. 49 ff.
11. Glastetter (1974), p , 271
12. See Engels cited in Fromm (1963), p. 222
13. cf. Cantril (1965), p. 155 ff.
14. cf. Reichardt (1974), p. 49, and Mills (1940)
15. 'face validity' of lay persons
16. Mandel (1972), p. 837 f.
17. ibidem, p. 839
18. ibidem, p. 849
19. See Schwefel (1972-1), p. 1-49
20. cf. Mandel (1972), p. 837 ff.
21. cf. Schwefel (1972-1), p. 31
22. cf. Chombart de Lauwe (1969), pass.
23. Winterer (1973), p. 81
24. cf. Reichard (1974), p. 47
25. Winterer (1973), p. 64
26. Koch (1969), p. 53
27. Winterer (1973), p. 101
28. ibidem, p. 94 ff.
29. See chapter 4
30. cf. e.g. Kotik (1974), p. 148 and p. 156; Scherhorn (1959), p. 10 ff.; Towle (1973), p. 31 ff.
31. Scherhorn (1959), p , 46
32. ibidem, p. 47

33. Critics against classifications can be found in: Scherhorn (1959), p , 21 ff., Winterer (1973), p. 72 and p. 94 ff., and Kotik (1974), p. 158
34. Kotik (1974), p. 191 f.
35. See World Health Organization (1971), p. 21 ff.
36. Cooper (1974), p. 33
37. cf. World Health Organization (1967)
38. See Levy (1972), p. 269 ff.
39. See Bradshaw (1972), p , 71 ff.
40. cf. e.g. Mills (1940), p. 904 ff., and Blum (1971), p. 98 ff.
41. cf. Reichardt (1974), p. 48 ff. and p. 56 ff.
42. cf. e.g. Fanshel (1970), p.1021 ff.
43. Kotik (1974), p. 155 f. See also Imobersteg (1967), p. 151
44. Morse (1970), p. 7; cf. also Rein (1971), p. 46 ff.
45. See Maslow (1954), pass.
46. Dreitzel (1968), p. 249
47. Winterer (1973), p. 89
48. See Badura (1972), p. 40
49. ibidem, p. 39
50. Glastetter (1974), p. 267 f.
51. cf. also Culyer (1972), p. 108 ff.
52. Manz (1976), p. 1173
53. Scherhorn (1967), p. 66
54. cf. chapter 2
55. cf. Economic Commission for Europe (1973), p. 23 ff.; United Nations (1970), p. 71 f.; Cohen (1975), p. 73 ff.
56. See Buzliakov (1974), p. 76 ff.; V. Maier (1975), p. 25 ff., and especially Raitsin (1969), pass.
57. cf. Napoleoni (1968), p. 128
58. Keck (1967), p. 13
59. ibidem, p. 53
60. See Ul Haq (1971), p. 7 f.
61. United Nations (1969), p. 60
62. cf. also Waltuch (1972), p. 35ff.
63. See Chombart de Lauwe (1970)
64. Klaus (1965), p. 77
65. See e.g. Schutow (1972), p. 152 ff., and Townsend (1970), p. 1 ff.
66. See especially Kotik (1974), p. 171 ff.
67. See chapter 4

68. See Kotik (1974), p. 52 ff.
69. Kotik (1974), p. 62
70. See chapter 2
71. See Schwefel (1972-1)

## **6. RATIONAL BUDGETS**

1. The following is taken from Schwefel (1975-3), p. 8-12 and Annex 1-4
2. See Schwefel (1972), p. 1 ff.
3. ibidem, p. 32 ff.
4. Labour Bureau, Department Of Labour And Employment, Ministry Of Labour And Rehabilitation, Government Of India (1972); Government Of India, Planning Commission (o.J.); International Bank For Reconstruction And Development (1972); Central Statistical Organization, Department Of Statistics, Cabinet Secretariat Government Of India (1970); Statistisches Bundesamt, Wiesbaden, Allgemeine Statistik des Auslands, Länderberichte (1971); United Nations (1968); United Nations (1972); National Council Of Applied Economic Research (1963)
5. See International Labour Conference, Fifty-Fourth Session (1970)
6. Orellana (1971), p. 129 ff.; Ramírez (1968), p. 61
7. See Orellana (1971), p. 130; cf. Instituto de Nutrición de Centroamérica y Panamá (INCAP), for example Flores et al (1969)
8. cf. United Nations, Social Development Division (1969), p. 26 ff.; Raitsin (1969), p. 1 ff.; Townsend (1971)
9. The following considerations were developed during a stay as socioeconomic advisor at the Kreditanstalt für Wiederaufbau (KfW), Frankfurt
10. cf. e.g. Janik (1976), p. 166 f.
11. See chapter 5.2
12. The following is taken from Schwefel (1976), p. 18-45
13. Ministerio de Alimentación, Dirección General de Informatica y Estadística (Dolores Ruiz Caro) (w. y.)
14. cf. Joy and Payne (1975)
15. ibidem; Food Policy and Food Science Service, Nutrition Division, Food and Agriculture Organization of the United Nations (1970); Institutos Nacionales de Salud, Instituto de Nutrición (1973); Ministerio de Salud, Institutos Nacionales de Salud, Instituto de Nutrición (1974); Instituto de Nutrición de Centro América y Panamá

- (1961); República Peruana, Presidencia de la República, Instituto Nacional de Planificación (1975)
16. Calculated by Hans-Paul Schwefel
  17. See INCAP (1961); Institutos Nacionales de Salud (1973); Food Policy and Food Science Service (1970); Ministerio de Salud (1974);
  18. See Ministerio de Agricultura (1974)
  19. See Ministerio de Agricultura, Oficina Nacional de Estadística
  20. Buzliakov (1974), p. 76-97; Raitsin (1969), p. 1-69
  21. See República del Perú (1975)

## 7. HEALTH PLANNING

This chapter represents an abbreviated and revised version of Schwefel et al. (1972).

1. cf. Feldstein (1970), Ahumada (1965), Popov (1965), WHO (1969-2), p. 15
2. See Abernathy (1972), Arnold (1968), Elveback (1965), Merten (1966), Newheiser (1972) and Zemach (1970)
3. cf. A. Horwitz (1962), Cabello (1962), Cibotti (1969), Duran (1970), Novais (1964), Sonis (1964), Zschock (1970)
4. cf. especially Servicio Seccional de Salud de Antioquia ("Plansan") (1971), Programa de Investigación en Planeación Integral de Salud ("Colinplas") (1972)
5. WHO-Constitution (1967); cf. Fendall (1963); Sonis (1964), p. 271 f.
6. cf. Pan American Health Planning Centre (1972), p. 20 ff.
7. cf. Servicio Nacional de Salud (1963), p. 34 ff., WHO (1954), p. 44, WHO (1970-2), p. 10 ff., WHO (1971), p. 47 ff. and also Schwefel (1972-1), p. 5 ff.
8. cf. Michael (1968) and Navarro (1969)
9. This is only one example.
10. cf. WHO (1954), p. 46, WHO (1970-2), p. 8, Popov (1971), p. 7
11. E.g. Popov (1971)
12. cf. especially Fanshel (1970), Lindner (1966) and Malenbaum (1971)
13. cf. Correa (1967), p. 910, Fuchs (1968), p. 115 ff.; Navarro (1969), p. 184 ff., et al.
14. cf. Agualimpia (1968), p. 61 ff., and Navarro (1969), p. 184 f.
15. Cf. e.g. Rudermann (1966), p. 196 ff., and Badgley (1968), pass.
16. cf. United Nations Research Institute for Social Development (1970)
17. cf. Fanshel (1970), p. 1028 ff.
18. cf. Ahumada (1969), p. 24 ff., U.S. Department for Health, Education and Welfare (1969), p. 25 ff., and Packer (1968), p. 239 ff.

19. cf. e.g. Engler (1970), p. 11 ff., Navarro (1969), p. 185 and Rohde (1970), p. 12 ff.
20. See WHO (1968-2) and United Nations (1970)
21. Basic tabulation lists of ICD, WHO. For mental well-being see J. Horwitz (1967)
22. cf. Nowak (1963)
23. Adams (1966)
24. Hughes -(1966), p. 147 ff.
25. Surveys, content analysis, projective techniques, analysis of family expenditure, etc.
26. cf. Hassouna (1970), p. 29 f., WHO (1954), p. 35 ff.
27. cf. Hassouna (1970), Colt (1970), Galihier (1971) and Kerr (1969)
28. See Galtung (1966), p. 78 ff.
29. cf. Ahumada (1965), p , 3 fL
30. ibidem
31. cf. WHO (1967), p. 7
32. cf. Economic Commission for Asia and the Far East (1964), p. 23
33. cf. WHO (1967), p. 7
34. cf. WHO (1954), p. 40
35. cf. Economic Commission for Asia and the Far East (1964), p. 23
36. Ahumada (1965), Bressoni (1972), Pan American Health Organization (1965; 1967)
37. cf. US Department for Health, Education and Welfare (1969), p. 25 ff. and Packer (1968), p. 239 ff.
38. cf. Navarro (1969), p. 183
39. Based on available statistics
40. Even "incidence" implies a value judgement.
41. E.g. Ministerio de Salud Pública (Evidencia - 1969) and Runciman (1966)
42. cf. Baker (1971), Bloomfield (1966), Dorolle (1953), Klein (1971), Mushkin (1962), McKenzie-Pollock (1966), Myrdal (1952), Plaschka (1969), Weisbrod (1961), Wolf (1967)
43. cf. WHO (1968) and WHO (1969-2)
44. cf. Feldstein (1970), p. 140, Kane (1972), p. 283, Packer (1968), p. 245, Popov (1971), p. 18, 22 and 45, and especially Stimson (1969) pass.
45. Birauld (1964), p. 118
46. cf. Fanshel (1970) and Navarro (1969)
47. cf. Dreze (1962)
48. cf. Ahumada (1965)', Bressoni (1972)
49. cf. Ahumada (1965), p. 29 ff.
50. cf. e.g. Malenbaum (1970)
51. Aizenberg (1968), Sonis (1964), Schwefel et al. (1972), p. 66 ff. and Valdés (1971)
52. This should be seen in the context of alternative technologies.

53. See note 25
54. See e.g. the barefoot doctors; cf. Peking-Rundschau (1972)
55. WHO (1954), p. 35
56. i.e. denominators of policies
57. cf. e.g. Bryant (1971), Allende (1939), Fanon (1969), Tjulpanow (1972), Litsios (1971), p. 161 ff.
58. cf. e.g. Taylor (1968)
59. cf. Colbourne (1963), p. 37 ff., Evans (1970), p. 303, WHO (1954), p. 25, WHO (1969-1), p. 1 2
60. See Denison (1969), Packer (1968), W. Smith (1968)
61. cf. Servicio Seccional de Salud de Antioquia (1971) and V. Taylor (1969)
62. By factorial analysis for example.
63. cf. Navarro (1969), p. 185 and White (1968)
64. See Schach (1972)
65. cf. e.g. Malenbaum (1970)
66. See especially Popper (1965), p. 40 ff.
67. cf. the literature mentioned by Behm (1962)
68. cf. Deniston (1969) and Drobny (1964)
69. Note that there are different etiologies for tuberculosis in different continents for example.
70. This could be connected with foreign aid.
71. See especially Litsios (1971)
72. See Gehmacher (1970) and Stimson (1969)
73. cf. Segal (1968)
74. Representativity of situations and of experts should be distinguished.
75. cf. Rechenberg (1970) and H.-P. Schwefel (1975)

## **8. EVALUATION**

1. cf. especially Musto (1972)
2. cf. BMZ (1971), p. 7, and DAC (1975), p. 3 ff.
3. Adler (1972), p. 341 f.
4. cf. ECOSOC (1974), p. 24; DAC (1975), p. 4 ff.; Ahluwalia (1974), p. 3 ff.
5. The following is taken from Schwefel (1975-3), p. 16-19
6. The following is taken from Schwefel (1976), p. 62-72
7. The following is taken from Schwefel (1975-3), p. 20-25

8. The following is partly taken from Schwefel (1975-1), p. 35 ff.
9. Emmerij (1972), p. 413 f.
10. Smith (1971), p. 67 ff.
11. Hunter (1972), p. 35
12. Bell and Jolly (1973), p. 5 (1) ff.
13. UNECOSOC (1974), p. 4

### **CONCLUSION**

1. Mushkin et al. (1964), p. 286
2. Myrdal (1968), p. 1496
3. ibidem, p. 1539

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