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LIVING CONDITIONS IN THE ARCTIC

ABSTRACT. This paper introduces a model for conducting research on living conditions among peoples that have experienced rapid social, cultural and economic change in countries where a non-parallel development has occurred. This model was developed by the researchers of SLICA, *A Survey of Living Conditions in the Artic; Inuit, Saami and the Indigenous Peoples of Chukotka*, which was initiated by Statistics Greenland in 1997. The point of departure for this model is a critique of contemporary living conditions surveys carried out by national statistical bureaus in economically, technologically and culturally segmented areas. The point of view is that these studies erroneously assume that the populations they investigate are homogeneous, and that consensus concerning individual social and economic objectives exists. This usually leads to research designs and indicators of individual well-being that reflect the dominant culture, or the prevalent way of living and thinking in these countries. The focus of this paper is on the research design of SLICA. The implementation of two important methodological challenges is discussed. Namely, (1) how to secure a context-specific concept of well-being which also mirrors the life forms and the priorities of the respondents and (2) how to measure impacts of structural change on individual well-being.

1. INTRODUCTION

Towards the end of the 1960s and in the 1970s the first living conditions studies were carried out in the Nordic countries. The Swedish Institute of Social Studies published the "Levnadsnivåundersøkning", which was the first study of living conditions, in 1968 (Johanson, 1970) and it was followed by Allardt's pan-Nordic study in 1972 (Allardt, 1975), Norway in 1973/74 (NOU, 1976), Denmark in 1976 (Hansen, 1978) and Finland in 1978. Such studies now form part of the plan of work in the national statistical bureaus in Sweden, Norway, Finland and Denmark.

In Greenland studies of living conditions have never been institutionalised in the way they are in the Nordic countries. The Danish

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National Institute of Social Research did carry out the first real study of the Greenlanders' living conditions in 1970–73, but more than twenty years passed before Statistics Greenland carried out the next living conditions study in 1994. The need for such a study arose partly from a desire to measure the distributive effects of 15 years of Home Rule politics on different population groups and partly because of a lack of register statistics in different areas. Due to the small number of studies in Greenland, research on living conditions was thus at a beginner's level in 1994.

The 1994 study temporarily closed a number of "black holes" in register statistics, but several invalid results prompted Statistics Greenland to evaluate the research design for future living conditions studies in Greenland. In this paper we introduce the result of these considerations; Namely SLICA: "A Survey of Living Conditions in the Arctic; Inuit, Saami and the Indigenous Peoples of Chukotka". In section 2 we briefly describe the parameters of the Greenland survey from 1994. In section 3 we introduce the specific Arctic context, while in section 4 we present a general list of ground rules for living conditions studies among indigenous peoples in the Arctic based on our experiences from the 1994 survey. In section 5 we introduce SLICA which is a circumpolar study of living conditions among Inuit and Saami peoples, and in section 6 we discuss how to secure (a) context-specific and valid concepts of well-being and (b) focus on the relation between structural change and individual well-being within SLICA. Furthermore, we define our use of concepts like well-being and living conditions in this section. Finally, in section 7, the relationship between living conditions research and political planning in the Arctic in general and sustainable development more specifically is discussed.

2. THE GREENLAND LIVING CONDITIONS STUDY 1994

The research design of the 1994 study was to a large extent a copy of the Scandinavian model which had been developed in connection with the earlier Nordic living conditions studies in the 1960s and 1970s (Eriksen and Uusitalo, 1987; Hansen, 1990).

The selection of living condition dimensions and indicators was characterised by a "garbage-can" process in which those director-

ates, which were interested and had the time had most questions included in the final study. When operationaling the questions, the living conditions study carried out in 1992 by the Danish National Institute of Social Research and Statistics Denmark (Danmarks Statistik and Socialforskningsinstituttet, 1992) had a considerable influence. This meant, although it was not so intended, that large parts of the Greenland questionnaire were characterised by the *social indicator approach* on which the Scandinavian statistical bureau's base their living conditions studies (ibid; Vogel, 1996; Statistiska Centralbyrån, 1995) as well as by the factor which Eriksen and Uusitala in 1987 described as *The Scandinavian Model.*

During the analytic work on the data of the Greenland survey a number of problems arose which should lead to a discussion of the application of the Scandinavian model to future Greenland living conditions studies. In part it was a question of specific problems connected with transferring a concept of well-being between different types of society, and in part general problems connected with the application of the social indicator approach and The Scandinavian model on the Greenlandic reality. Thus the conclusion was that it is problematic to transfer a research design which presupposes a basic value consensus in society, and hence also implies the presence of universally necessary needs, from a relatively homogeneous late industrial society (such as Denmark) to a country which first of all is characterised by a non-parallel internal development, and secondly can hardly be described as industrialised, and which in addition has a completely different cultural and historic profile from the Nordic countries. (For a detailed critique of these approaches, see Andersen, 1998, 2001.)

The main conclusion was that to obtain valid measures of well-being in the Greenlandic population it was necessary to develop a new research design including identification of new living conditions dimensions and new operationalisations of traditional dimensions adapted to the Greenland context. In section three, we describe the main features of the Greenland empirical context. As will be shown, the history of Greenland post-war development is very similar to that of other indigenous peoples in the Arctic.

3. THE ARCTIC CONTEXT

The political and economic changes in the period after the Second World War led to crucial changes in the traditional Greenland fishing/hunting culture, and hence in the traditional social structures. The changes in the industrial culture, the transition to a monetary economy, the educational mobility as well as the increased urbanisation have meant that the norm, value and prestige systems in the Greenland society today are linked less to a subsistence production in extended families in small closed communities and primarily to wage earning in a more globalised and open society. In 1945 it was estimated that 66 per cent of the labour force in a population of 21.412 individuals was involved in hunting and fishing. In 1996 this proportion had decreased to approximately 25 per cent. A figure which also includes persons working in the modern fishing industry.

Without maintaining that the mode of production is the only decisive factor for the culture of a given people, it should be stressed that in Greenland it has been possible to identify a direct connection between changes in the mode of production and cultural and social changes (Kruse, 1999; Andersen, 2001). It has been a question of a process of modernization which in some areas is reminiscent of industrialization of the modern Western societies – but also different as far as pace and point of departure and results are concerned.

The changed industrial structures and the urbanisation in the 1950s and 1960s resulted in changes in the social structures which then led to a shift in the traditional norm and value systems, especially for people in the towns. New arrivals typically became unskilled workers in the fishing industry or fishermen in the new modern fishing fleet, and they lived in modern blocks of flats.

This process of change, and the population's attempt to adjust to it, was not without problems. Not least because it was extremely rapid. The changes in the economic, political and social structures led to a break with the traditional norm and value systems. Due to the rapidity of the process these systems were not naturally replaced by new norms and values. A lack of norms, or anomie, appeared in large segments of the population. This was accompanied by a general feeling of powerlessness or alienation in large parts of the population who felt they could not influence the process of modernisation (Hansen, 1999), and the result was a number of serious

life style problems. The increase in number of suicides was thus pronounced (approx. 12 per cent of all deaths in 1997 was due to suicide), crime, social problems (including the removal of children from their home and child abuse), and the consumption of alcohol and marijuana. This has not been characteristic of Greenland only but has also been occurring in other indigenous populations in the Arctic where a similar modernisation process has taken place. Jack Kruse, who is the director of US branch of SLICA, described the transformation of living conditions among indigenous peoples in the Arctic like this:

The last quarter of a century has brought a radical transformation of living conditions among Native people across the circumpolar world. There are few remaining doubts about the social-historical forces behind this revolution. Government policies in the late fifties initiated trends of modernisation. The growth of the market economy, social welfare policies, consumerism, and mass communication accelerated these trends to their full momentum in the early seventies.

The basic processes of changing living conditions are also well understood: settlement in permanent communities; monetization of work, trade and mutual aid; technological emancipation from toil and uncertainty (housing, clothing, feeding, transportation, hygiene and heath maintenance); bureaucratization of social organization; personal mobility through schooling, vocational training, or professional experience; growing class stratification and status differentiation; increasing separation between public and private life; institutionalization of politics and the rule of law; concomitant development of civil society (voluntary associations, independent press, and private enterprises); and conversion of public discourse to conflicting ideologies of progress, mastership of destiny, formal rights and a self-conscious quest for identity.

Almost in the space of one generation, most of the practical or mental references of what it had always meant to be an Inuit, Iñupiat, or a Saami became indeterminate, fluid, less reliable. At the same time, widening opportunities opened the door to rising expectations, both personal and collective. Inasmuch as the past no longer provided a handbook for the future, people sought – if only partially – to write their own futures. But the acceleration of change also frayed social bonds and weakened the bearings of social regulation. Today Native Arctic peoples are experiencing some of the highest rates of social problems (see, for example, Kirmayer, 1994; Berman and Leask, 1994).

These global changes had deep implications for the living conditions of the Arctic's inhabitants. As Scardigli (1983) put it, there was a general shift from a cultural order to an economic order; in other words, from a closed society to a market society, and from a society governed by customs to a society governed by laws and regulations (Kruse, 1999).

Thus, the political, economic and social developments in the indigenous societies in the period after the Second World War have been characterised by rapid and regionally different structural changes which have had crucial effects on the living conditions of these peoples.

4. A NEW SET OF GROUND RULES FOR LIVING CONDITIONS RESEARCH IN THE ARCTIC

On the background of the criticism levelled at the Greenland living conditions study 1994 (Andersen, 2001), and hence at the Scandinavian model and the social indicator approach, the Scandinavian model was revised and a general list of ground rules for living conditions studies among indigenous peoples in the Arctic produced (Ibid.):

1. The identification of the dimensions and indicators for living conditions must be context-specific so that the well-being concept reflects the way of life and the priorities of the population.
2. The research design must be able to capture the effects of social, cultural, political and economic changes. Thus a correlation between structural events and changes in individual living conditions must be established.
3. The living condition dimensions and indicators must be identified, if not on the background of theories at least on that of hypotheses about and models of causal relationships between the indicators, and between the indicators and the structural variables.
4. The research design must be based on explicit definitions of living conditions and well-being so that the researchers, the respondents and the politicians will be able to evaluate the validity of the data.
5. Both evaluative and descriptive measures for well-being must be applied.
6. Both material and non-material indicators must be applied.
7. Data must be representative, reliable and valid.
8. The focus should be on resources rather than on the satisfaction of demands and preferences.

9. The selected dimensions and indicators of living conditions must be coherent and exhaustive.
10. It is assumed that it is feasible to talk of universal or generally necessary resources within that period of time to which a given living conditions study refers.
11. The study must be quantitative.
12. The analytical focus must be the allocation of resources between various segments of the population.
13. Data must be statistically comparable. This means that the same theoretical variables are operationalised, as far as it is possible, in the same manner.

The above critique may be extended to include living conditions studies among indigenous peoples in the Arctic. As mentioned in the introduction our preparatory work for the new Greenland living conditions study showed that especially the problems connected with the use of non-adequate concepts of well-being did not apply to the Greenland living conditions research only – but was a general problem connected with the study of living conditions among indigenous peoples in the Arctic. As these populations – in contrast to the Greenlanders – are relatively small, ethnic minorities, the national statistical bureaux have only used few resources for developing specific assessment instruments in connection with living conditions studies among these peoples.

SLICA – A SURVEY OF LIVING CONDITIONS IN THE ARCTIC; INUIT, SAAMI AND THE INDIGENOUS PEOPLES OF CHUKOTKA

The Arctic Living Conditions Study among Inuit and Saami (SLICA) came into being as a reaction to the problems we had experienced in connection with the analysis of data from the Greenland living conditions study 1994. Thus at the beginning of 1997, Statistics Greenland initiated preparations for carrying out a new Greenland living conditions study. However, as described above we very soon discovered that our own problems with the living conditions study were similar to those encountered by other living conditions studies among indigenous peoples in the Arctic. We also encountered an increasing need among these populations – including Greenland – for opportunities for comparing ones own

living conditions with those of other populations with the same developmental characteristics – instead of comparisons with the majority populations in the various countries, or, as in the case of Greenland, with Denmark. With this in mind Statistics Greenland initiated the comparative Arctic living conditions project instead of carrying out an exclusive Greenland study at the beginning of 1997.

At present approx. 40 international senior researchers and 15 research institutions in and outside the Arctic participate in the project. Furthermore a number of organisations representing the indigenous peoples are also acting as active participants in SLICA.

The main purposes of SLICA are:

1. To develop a new research design for comparative studies of the living conditions among the Inuit and Saami population in the Arctic region. This includes drawing up a selection of nominal and operational living conditions indicators based on earlier theoretical literature, the experiences from the Greenlandic living conditions study and consultations with the indigenous peoples' organisations.
2. To carry out a comparative, dynamic social analysis of the cause and effect relationship between the various political, economic, cultural and technological structures and individual living conditions, and between individual resources and individual conduct.
3. To map the living conditions among Inuit and Saami in Greenland, Inuvialuit, Nunavut, Nunavik, Labrador, Alaska, Sweden, Norway, Finland and Chukotka and the Kola Peninsula.
4. To create a better basis for local as well as national decision-makers for political planning and implementation
5. To establish an interdisciplinary network of researchers and research institutions interested in living conditions research in the Arctic region.
6. To increase knowledge among the indigenous peoples concerning their own and other indigenous peoples' history of development and living conditions.
7. To train and include local students and researchers in the project (Andersen, 1999b).

The project is a quantitative cross section study which will carry out 23,000 personal interviews (14,000 of these will be carried out in

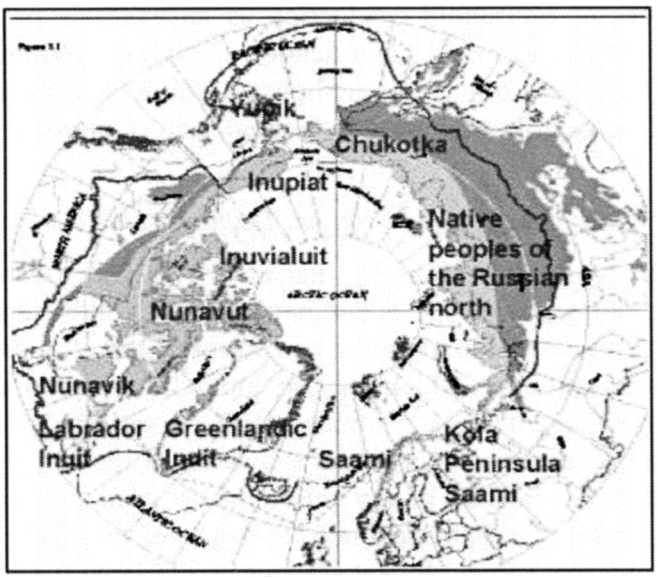

Figure 1. The regions in SLICA.

Canada by Statistics Canada) and which is expected to be completed at the end of 2002. The group of respondents is made up of Inuit and Saami in the Arctic who are at least 15 years old at the time when the collection of data takes place. The participating regions are shown in Figure 1.

In September 2001 SLICA's phase 1, which include the development of a new research design and carrying out pilot studies, will be concluded. The actual data collection will take place during October 2001 to February 2002 while analyses and publishing are scheduled to 2002–3.

5. FOCUS ON CONTEXT, SOCIAL CHANGE AND THE CONCEPTS OF WELL-BEING WITHIN SLICA

In this section we focus on how we implement three crucial items of the list of ground rules presented in section 4 within SLICA. Firstly, we specify SLICA's concepts of well-being and living conditions. Secondly, we demonstrate how SLICA through the process of identifying living conditions indicators ensure that these are context-specific and thereby valid. In this connection we introduce

the concept of household production as an example of context-specific and model based identification of living conditions indicators. Finally, we briefly discus how to include and measure the effects of structural changes on individual living conditions.

5.1. *The Concepts of Well-being and Living Conditions in SLICA*

We define living conditions by means of two components. First of all we define, as in the Scandinavian model, individual living conditions based on the individual's control of material as well as non-material resources which may be applied in order to influence one's own living conditions (Titmuss, 1958). Focusing on resources rather than on demand satisfaction is a result of the recognition of the fact that the priorities of any individual between the satisfaction of social, cultural and physical needs are not universally given, but the level and the demand for satisfaction of the same types of need will vary with the historical, cultural and material context. This is true both inter- and intranationally. It is not the same as saying that it is impossible to establish a universal hierarchy of demands in a given society at a given time. It simply emphasises that apart from a few basic needs, no universal hierarchy of demands separated from time and space exists. By focusing on resources it is emphasised that the individual is not simply a victim of a mechanical need for satisfaction but is equipped with a free will which will lead to a situation where the application and appropriation of resources at a conscious as well as at an unconscious level will change with time and place, and that different individuals may choose to apply the same resources in different ways.

Secondly, the definition of living conditions should include an assumption of the fact that the application of resources to a certain extent is influenced by structural conditions. In this connection it is relevant to include the arena approach which has developed as an extension of Coleman's social theory (Coleman, 1971) and which was used in the first Norwegian study of living conditions at the beginning of the 1970s (Ringen, 1975, 1995).

The core of this point of view is the fact that well-being cannot be defined only as the individual possession of a number of resources – but as the individual possession of resources which may be applied in various arenas (= social structures as for example the labour

market, the private sphere, the political/public life etc.). It is especially relevant for this project as the process of development in the regions may be of a very heterogeneous nature so that the arenas, and hence the opportunity for applying specific resources may differ considerably from the one region to the next. Thus the recognition of structural limits is important in the process of identifying the composite parts of individual well-being and for the analysis following. Thus living conditions are defined as:

individual possession of resources in the form of money, goods, services, mental and physical energy, social relations, physical security etc. by means of which the individual person may control and consciously direct his/her living conditions in so far as the necessary arenas are available (Andersen, 1999a).

Well-being

The purpose of measuring living conditions is ultimately to obtain a picture of individual well-being (Allardt, 1975). The concept of well-being is a broader concept than that of living conditions because it also includes the person's subjective evaluation of his/her objective resources.

Only using objective measuring had some unfortunate consequences for the Greenland study of living conditions 1994 (Andersen, 2001). We found, like Erik Allardt (Allardt, 1975), that to measure individual well-being adequately, it is necessary to combine the objective resources of the individual with the person's evaluation of these resources. Below is the outline of Allardt's conceptual apparatus for measuring well-being in the Nordic countries.

Allardt's argument was that well-being should be measured subjectively (well-being) and objectively (happiness), and that the measuring should include material (level of living conditions) as well as non-material (quality of life) variables. Although well-being in this connection only signifies the objective measure, he actually includes all four dimensions in his concept of well-being (ibid.).

As the concept of well-being in SLICA, as argued above, should be based on resources and not on needs, we have adapted Allardt's model to fit this.

In summing up, the following may be said about measuring well-being and living conditions in SLICA:

TABLE I

Allardt's Conceptual Apparatus for Measuring Well-being

	Well-being	Happiness
Living standard	Satisfaction of needs defined in terms of material resources conditions	Subjective evaluations and experiences of material living
Quality of life	Satisfaction of needs defined in terms of other people, society and nature	Subjective evaluations and experiences of relations to other people, nature and society

Source: Allardt, 1975, pp. 23.

TABLE II

The Concepts of Living Conditions and Well-being (SLICA)

	Descriptive well-being	Evaluative well-being
Material well-being	Descriptive measurement of material resources	Evaluative measurement of material resources
Non-material well-being	Descriptive measurement of non-material resources	Evaluative measurement of non-material resources

Source: Andersen, 2001.

(1) We are interested in all aspects of living as experienced by individuals in the context of social groups;
(2) individual experiences with living conditions have objective and subjective components, the latter including satisfaction, expectations, and aspirations;
(3) we are interested in the resources individuals can apply, the ways in which they choose to apply these resources, and the barriers and incentives to the application of resources;
(4) we want to organise our dimensions of living conditions in terms that are both meaningful to Arctic indigenous peoples and that can be associated with hypotheses about regional, community, household, and individual differences in living conditions.

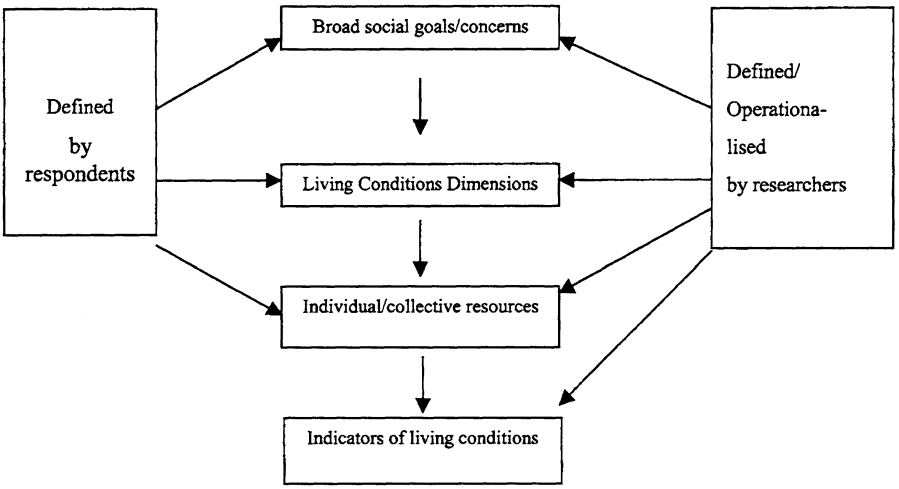

Figure 2. The process of defining indicators of living conditions (Andersen, 1999a).

5.2. *Context*

Thus the concept of living conditions is constituted by individual resources as well as by access to the relevant arenas. Not all resources are equally important, however, and not all arenas are equally relevant. The obvious question, therefore, is how to select the adequate dimensions and indicators of living conditions.

As argued in Section 4, the first requirement is that the underlying concept of well-being in a reasonable measure corresponds with the idea of well-being in the group of respondents – in other words that the concept of well-being is context-specific. Our argument is that this can only be achieved by an interactive selection process between the researchers and representatives from the group of respondents. In Figure 2 we have described this process and the elements of the process, which are used within SLICA.

Broad social goals

The starting point is to identify broad social goals that are generally accepted either by the researchers or by majorities of the respondents. These can be divided into two sub-categories (Kruse and Hannah, 1998):

1. Social concerns/goals that are dominant in all areas of the project. Physical security, health, and sufficient and healthy nutrition are types of universally accepted social goals that are included in this category. These are goals that are identified by researchers in the project and/or on the basis of previous literature in the field of living conditions research. While these goals are universal by nature, the ways of reaching or satisfying them may vary over time and place. In addition we identify social goals that are not universal – but dominant among Inuit and Saami peoples in all areas of the project. These are defined by researchers and by Inuit and Saami representatives.

2. Region-specific social goals. While the basic social goals mentioned above are legitimate in all geographical areas of this project – there exist of course region-specific social goals in each area due to variations in material and technological conditions and cultural and political differences. These social goals are identified in an interactive process between researchers and Inuit and Saami representatives.

The implication for SLICA is that we develop two questionnaires: One that contains a common core of questions which is employed in all areas of the project and 11 questionnaires containing region-specific questions.

Dimensions of living conditions

Dimensions of living conditions are operationalised social goals in terms of variable clusters that comprise important areas of the well-being of the individual. The proper "translation" of social goals into dimensions of living conditions is very context-dependent. Food security is defined differently among Inuit in Chukotka than e.g. in Western Europe. The identification of dimensions of living conditions therefore takes place as an interactive process between researchers and Inuit and Saami representatives.

Individual/collective resources

Relevant individual and collective resources must be derived and operationalised from the dimensions of living conditions. The question is: Which individual resources are needed to obtain individual well-being within the different dimensions of living conditions.

Again, this translation is very context-dependent which calls for a joint effort from researchers and the respondents. We want to underline again that the actual measurement of resources will be at the individual level while we recognise the influence of collective resources on the well-being of the individual. Collective resources are examined in socio-economic and cultural analyses of the different regions and will be related to the individually based survey data in the final analyses.

Living conditions indicators

Living conditions indicators are the actual questions to be posed as operationalisations or representations of the individual resources mentioned above. These will constitute the questionnaires. The questionnaires will be constructed by the researchers in the project and then pilot tested in all areas.

The above model for inclusion of the group of respondents in the process of selecting dimensions and indicators of living conditions ensures that the final research design will be context-specific and thus will reflect also the perceptions of well-being in the groups of respondents so that all relevant dimensions have been included, and that the theoretical variables are correctly and validly operationalised.

The household economy – an example. To illustrate the importance of this process and of the application of context-specific models for the identifications of living conditions indicators in general SLICA has introduced an alternative way of measuring among others income among indigenous peoples in the Arctic. This model is described below.

In living conditions studies the unit of analysis is most often the individual as the main focus of the research is the individual well-being. This is also the case for SLICA. Studies (e.g. Hertz, 1995; Nuttall, 1998; Dahl, 2000) of ways of living and living conditions in small communities in the Arctic, however, document that more traditional family and household structures still play an important role in the Arctic region. Hence the SLICA research team has developed a household production model from which it is also possible to derive information at the individual level.

The household is in this model chosen as a central unit of analyses primarily because of three circumstances:

1. Even though family patterns and ways of living together through several generations have been – and still is changing – it is still common, that a household consists of family members besides the nuclear family. It is also assumed that the share of three generation households is significantly bigger in the Arctic than in e.g. Scandinavia, Canada and the USA.
2. Despite the rapid economic, social and cultural change of the Arctic societies, a large part of the families are still dependent on subsistence hunting and fishing[1] or at least a combination of subsistence hunting/fishing, wage income and transfer payments.

In the 1994 Greenland Living Conditions Survey, one of the topics analysed was subsistence activities – measured as the respondents participation in subsistence hunting and fishing activities as well as the share of the food supply stemming from such activities.

Whereas less than 9 per cent of the Greenland part of the labour force has subsistence hunting or fishing as their main occupation (Danielsen et al., 1998), the degree to which people participate in those activities at all, is much more extensive. This is especially true for the settlement inhabitants. According to the 1994 Greenland Living Conditions Survey, 67 per cent of the population in the settlements indicating wage income as main income source were engaged in small-scale fishing and/or hunting activities (the corresponding figure for the town inhabitants was 28 per cent). 80 per cent of the households in the settlements had members participating in hunting sea or land mammals and/or fish for the consumption of the household (and/or the sledge dogs) as a necessary supplement to their wage incomes (Andersen and Statistics Greenland, 1995).

These figures show both the importance to the Greenland Inuit of having access to hunting and fishing activities and the significant difference between the more traditional living in the small settlements and the more modern ways of living in the towns. (There is no official distinction between the concepts of "towns" and 'settlements". In practice, however, the "capitals" of the 18 municipalities are classified as towns – while other inhabited places are classified as settlements. The number of persons living in different towns

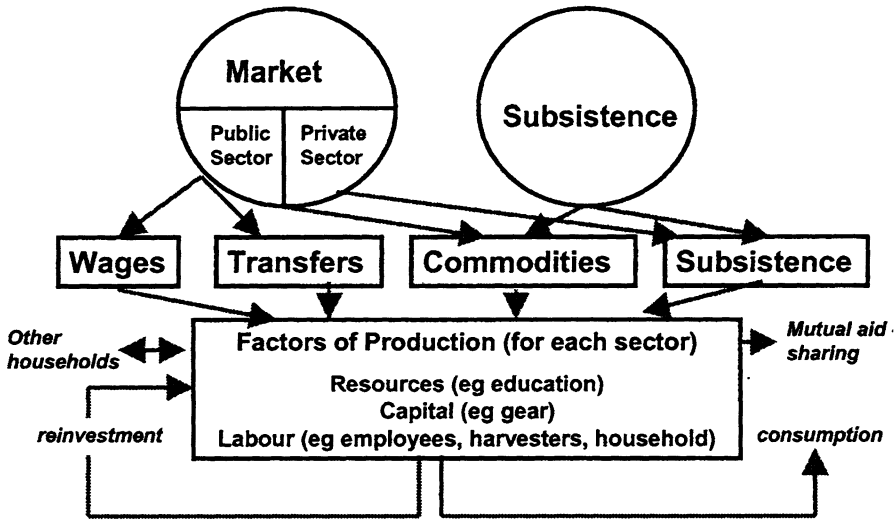

Figure 3. A household production model.

range from 550 to 14.000, whereas the population figures in the settlements vary from 25 persons to 500.)

Most of all, however, the figures underline that contributions from subsistence activities are crucial to the survival of many households. In traditional statistical studies the outcome from these activities are not part of the income measurement due to the monetary concept of income most often applied by researchers and statisticians. The ultimate consequence is that from a GDP-point of view subsistence hunting and fishing does not contribute to the wealth of a nation (Poppel et al., 2000).

To grasp the importance of subsistence and how the household in the mixed subsistence-based economy works as a micro-enterprise in organising productive activity and allocating the factors of production (land, labour, capital) to optimise income the household production model was developed (Usher, 2000a) to and through the SLICA-process.

The model (Figure 3) illustrates how an essential socio-economic unit below the regional economy level – the household – works as a micro-enterprise in the Arctic and makes it possible for living conditions researchers to capture both monetary, non-monetary production and consumption within the household.

There are three types of questions relevant to the household economy model: **characteristics** of the individual members (their western and traditional education for example); **activities** of the individual household members (wage labour and hunting for example); and **flows** of different types of cash and harvests into and out of the household (Usher, 2000b).

Households have access to land – not in the conventional sense of ownership – but to the traditional land base used for harvesting. Households own items used in production: boats, outboard motors, snow mobiles, trucks. Household members work to produce money and harvests: they have paid jobs, they hunt and fish, and they process foods. We try to understand how everyone in the household fits together to do these things – this is the challenge theoretically as well as methodologically (Ibid.).

As can be seen from the short description of and comments to the model, the main purpose is to understand how the household as a production unit works: the individuals' resources, the arenas they are being used in and the output of the process. How the process is being perceived and evaluated by the household members will be addressed by questions derived from "outside the model".

5.3. *Focus on Structural and Individual Change*

As mentioned in Section 5 it is one of SLICA's main goals to carry out a dynamic social analysis of the effects of structural change on living conditions. As we are not able to measure the relationship between structural changes and individual well-being over time, we shall have to do it over place. Thus the value of a circumpolar comparison of living conditions is found in, among other things, a better understanding of how different structural conditions and changes affect individual resources in culturally comparable groups. For example, how has the exploitation of mineral resources affected the living conditions of the Inuit compared to areas where no such exploitation takes place? Or how have the G50 and G60 plans of the Danish government affected the living conditions of the Greenland population in contrast to areas where no concentration policy, for example, was initiated?

The first task is thus to identify the most important structural changes or "forces of change" which have influenced the freedom of

choice, either by (1) changing the resources people possess, or (2) affecting them so that new arenas are chosen where their resources are more or less sufficient, or (3) creating completely new arenas. Kruse and Hannah (Kruse and Hannah, 1998) have identified the following important causes of structural changes among Saami and Inuit in the Arctic:

- **Climate change**
- **Government policies**
- **Native self-government**
- **Resource development**
- **Technology**
- **Animal rights groups**
- **Contaminants**
- **Increased access to the north**
- **Religion**
- **Education**

The question is whether these structural and institutional factors affect individual living conditions and well-being. Mohatt, McDiarmid and Montoya (1988) presented an overview of the impact of social change among Alaska Natives on human health. They pointed out that forces for change are cumulative, a combination of "big" history (e.g. disasters, social change, economics); and "little" history (e.g. family and individual trauma, developmental trauma, biological/hereditary events within family history, emotional events). They emphasised the importance of understanding how these forces of change affect the coherence of individuals, families, and communities. Quoting Antonovsky (1980), they defined coherence as,

> *... a global orientation that expresses the intent to which one has a pervasive, enduring though dynamic feeling of confidence that one's external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected* (p. 123).

We raise Mohatt's point here because it would be a delusion to think that we can partition the effects of concurrent forces for change on arena outcomes and, even if we could, we would lose sight of the cumulative effects. These cumulative effects may be the most important in that they become a resource limitation in all living

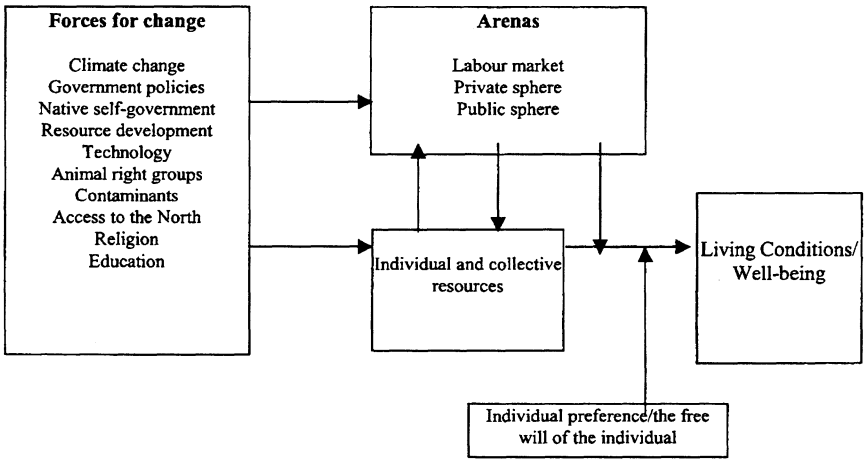

Figure 4. A model for explaining and describing living conditions among Inuit and Saami in the Arctic (Andersen, 1999a).

conditions dimensions at the same time. This means that the loss of a sense of confidence in a degree of social and cultural continuity, for example, can undermine the ability and the will to act, and hence the freedom of choice of the individual in general.

However, we assume, as mentioned above, that we are able to identify some direct effects of well-being based on the structural changes which have taken place in the Inuit and Saami societies during the period after the Second World War.

Figure 4 describes our view of the overall co-variation between structural change and a changed individual well-being. The model is an illustrative one and not an attempt at reproducing reality precisely. Thus the list of the structural and institutional forces of change is not exhaustive.

The model may look rather deterministic at first glance. To underline the individual choice or the free will of man we have added a box to indicate that acquiring and employing individual resources is not only conditioned by forces of change or access to arenas, but also by the individual choice. As a consequence of Mohatt's argument one might draw an arrow which indicates a correlation between the forces of change and the general will and ability of the individual person to manage his/her resources.

Two consequences arise from the above model. First of all, the identification of specific causes of change should contribute to steering the selection and operationalisation of the living conditions indicators. Secondly, SLICA will produce region-specific socio-economic reports which will make it possible to correlate and compare these structural events with the living conditions of the individual so that in the analysis phase it will be possible to carry out dynamic social analyses and thus identify how the forces of change have affected the living conditions and the well-being in the various regions. In this way focus remains on change and not on static descriptions of the Inuit and Saami living conditions in the Arctic.

5.4. *An Outline of SLICA's Research Design*

The above sections of the paper have mainly been oriented towards (1) a discussion of the experiences from the Greenland Living Conditions Survey 1994, (2) the basic model for living conditions research among Inuit and Saami within SLICA, and (3) a selective discussion of how this model may be implemented in a comparative study of these populations. The drawing up of the actual questionnaire is not discussed here. However, below we have listed the living conditions dimensions included in SLICA's research design

Part A: Family
(1) Family relationships and (2) Household economy;

Part B: Background
(1) Mobility, (2) Language, and (3) Education;

Part C: Lifestyle
(1) Employment, (2) Harvest, (3) Leisure, (4) Spirituality, (5) Identity and (7) Health;

Part D: Environment
(1) Housing, (2) Income and expenses, (3) Technology, (4) Safety and justice, (5) Resource management, (6) Environmental health, (7) Political resources and (8) Community viability

This list contains not only living conditions dimensions specific to indigenous peoples in the Arctic but of course also a number of more traditional topics. The point is that the important theoretical variables or resources do not always differ between different kinds of societies – but that they have to be operationalised differently to measure well-being among indigenous peoples in the Arctic and e.g. well-being of the inhabitants of western, industrialised countries as was shown in the example regarding income measurement in section 6.2.

6. THE PERSPECTIVE: LIVING CONDITIONS RESEARCH AND POLITICAL PLANNING IN THE ARCTIC

If living conditions research is going to play a role in connection with political planning and implementation in the Arctic, it will have to become relevant again, and in order to be relevant research must again become theory-propelled and must to a greater extent focus on the interplay between events at system level and individual well-being. Furthermore, living conditions research must be based on context-specific research designs in order to obtain meaningful and realistic measurement of well-being.

If these conditions are included in the living conditions studies, living conditions research may contribute with new and essential knowledge about the indigenous peoples in the Arctic. Not least in connection with planning, implementation and evaluation of the sustainable process of development which plays such an important role in setting the political agenda in the Arctic.

In 1996, the Arctic Council, whose members represent all the 8 countries geographically linked to the Arctic region, defined sustainable development as a concept not only related to the environment but also to economic and social development and as a question of securing the cultural welfare of the Arctic inhabitants. (Arctic Council, 1996). In order to acquire a correct understanding of how living as well as non-living resources should be regulated in a sustainable way, it is necessary to focus in a greater measure on the social aspects of sustainable development. In order to understand how resources were regulated in the past, how they are

regulated today, and how they should be regulated in the future, it is important to include human activity, politico-economic systems, cultural conditions and technological aspects in the concept of sustainability.

Only by including in the mental picture the social, cultural, political, economic and technological differences in the various Arctic societies it is possible to plan and implement a sustainable development in the Arctic. A sustainable regulation of the resources is not a question only of adapting the political and economic control systems. In order to avoid "the tragedy of the commons" (Hardin, 1968) and "the tragic necessity of Leviathan" (Ophuls, 1973), it is necessary to learn more about the living conditions, informal institutions, political resources, attitudes, values and welfare priorities among the Arctic peoples who actually manage the resources.

The majority of the indigenous peoples in the Arctic have, as shown above, experienced rapid changes in a number of exogenic variables which to a great extent have affected their lives. Today many of these people mix traditional activities with wage labour, for example. They adapt the traditional lifestyle. Seen from the perspective of sustainable development it is important to study how these events at the system level affect habits of diet, consumption patterns, occupational conditions, incentive structures, and, in continuation of these factors, the ways in which the individual person relates to the living and the non-living resources. When the concept of sustainability does not exclusively relate to animals, plants and minerals but to human beings also, it becomes relevant to study how the above events have affected the living conditions of the indigenous peoples, that is their health, opportunities for work, housing, level and sources of income, educational level, family structures, social networks as well as their attitudes, values and priorities in general.

By carrying out a representative, comparative study of individual living conditions, it becomes possible to expose how various indigenous peoples with different cultural, technological, political and economic structures manage their resources. In this way it becomes possible to learn more of the causal relations between economic, political and cultural systems and the way in which the resources are managed. A comparative study of these conditions makes it

possible to identify some of the key variables that decide whether the management of resources is a success or a failure.

Thus living conditions research may contribute considerably to political planning in the Arctic – not least in connection with the implementation of the sustainable development process if it is based on adequate and meaningful research designs. We are convinced that the comparative study of living conditions among Inuit and Saami in the Arctic is a major step in the right direction.

NOTE

[1] The concept of subsistence (hunting and/or fishing) as "hunting and/or fishing for the household economy, with a distribution system which secures that the community shares the products" is based on the definition by Kapel and Petersen (1982).

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