Population and Family in the Low Countries 1995

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edited by

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PREFACE

EDITORS
Hans VAN DEN BREKEL* and Fred DEVEN**

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The series "Population and Family in the Low Countries" (POPFAM), established in 1976, aims to introduce selected issues of demographic research in Flanders/Belgium and the Netherlands to an international audience. The publication series results from cooperation between the Netherlands Interdisciplinary Demographic Institute (NIDI, The Hague) and the Flemish Population and Family Study Centre (CBGS, Brussels). This 1995 edition is the 11th in the series.

In 1995, the NIDI celebrates its 25th anniversary as the Dutch national demographic institute, making it a special year for Dutch demography. The contents of this publication obviously highlights this event as most articles selected for this edition are written by Dutch or NIDI related scholars.

The article "Ageing and the demand for care: scenario studies for Europe" by *Hanna van Solinge and Jenny de Jong Gierveld* concerns a comparative study with respect to the consequences of ageing populations for the infrastructure of care for the elderly. It presents results of a scenario study on future developments in demand and supply of elderly care services for a selected number of European countries, summarizing an extensive study on the impact of ageing populations on the socio-medical system conducted by the authors on behalf of the European Population Committee of the Council of Europe.

In 1994, the (third) intergovernmental United Nations International Conference on Population and Development took place, resulting in an important policy oriented "Programme of Action". The contribution "The Cairo Conference: A demographer's view" by the well-known Dutch demographer *Dirk J. van de Kaa* provides a rather critical review of the genesis of this action programme and on the role of demographers. He also discusses the knowledge base of the relationship between population and sustainable development and presents observations on subjects that occupied prominent places during the conference.

The article "Perceived obstacles to fertility: Opinions on family policies in Flanders and in The Netherlands" is a combined Dutch/Belgian contribution. It is written by *Christine van Peer and Hein Moors*. It presents a comparative analysis of the results of recent public opinion surveys, conducted in Flanders and the Netherlands on family and parenthood values and their relation with opinions on family policies. Both surveys were carried out as part of the European Comparative Survey on Population Policy Acceptance (PPA) that took place under the auspices of the United Nations Economic Commission for Europe.

Under the auspices of the Social Science Council of the Royal Netherlands Academy of Sciences, the NIDI has established an International Research Fellowship in Population Studies. It has been named the "E.W. Hofstee fellowship" to commemorate the outstanding contribution of professor Hofstee to the development of population research in the Netherlands. *Alice T. Day and Lincoln H. Day*, respectively an American sociologist and a demographer but working for almost twenty years in Canberra, Australia, were the 1994 NIDI Hofstee fellows. Based on their Hofstee Lecture they present the article "'The lay of its land', ageing, environment and social change in Australia and the Netherlands". The article discusses, within the context of ageing and the persistence of low fertility, similarities and differences between the Netherlands and Australia. According to the authors, current demographic conditions in the two countries offer both opportunities and incentives to achieve more optimal demographic conditions and a more ecologically sustainable environment.

Since 1983, there exists an official "Working Party for Periodic Reporting on Population Issues" (WPRB) in the Netherlands. It was established by the Minister of Education and Sciences as a cooperative body of the governmental Planning Agencies, Statistics Netherlands (SN), departments of several Ministries, and the NIDI. Since the early 1990s the NIDI, on

behalf of the Ministry of Education, Culture, and Siences, bears responsibility for organizing the periodic reporting (each three to four years). The fourth edition in this report series was published in 1994. As editors of that report, *Nico van Nimwegen and Gijs Beets* provided us with the article "Population issues in the Netherlands: Demographic trends, societal background, and consequences", being an extensive summary of that report.

The contribution "Bourdieu's 'theory of practices': a challenge for demographic research" by *Saskia Keuzenkamp and Gerard Frinking* is of a theoretical nature. The article aims to stimulate discussions on the way in which new and appropriate theoretical dimensions can be introduced in the design of explanatory research of demographic behaviour. It examines the relevance of several models and theories as a basis for demographic research with respect to family formation and the formation and dissolution of relationships. They introduce the "Theory of Practices" of Pierre Bourdieu and argue that his concepts of 'habitus', 'field', and 'capital' offer a better insight in the backgrounds of differences in demographic behaviour compared to other theoretical approaches. However, a number of useful models, such as Easterlin's relative deprivation theory or Bagozzi's purposeful behaviour theory, are not discussed. The authors also introduce Bourdieu's theory without referring to possible critical observations already made within the scientific community. We hope, however, that this contribution will further theoretical discussions among social scientists interested in population studies.

Directly related to the celebration of the NIDI's 25th anniversary, the institute has developed the computer programme POPTRAIN to be used as an instrument for computer-assisted population education in secondary schools. In developing this programme, the NIDI underlines the importance to improve population education activities in the school system. In the communication "POPTRAIN: computer assisted population education in secondary schools" to this book, *Evert van Imhoff* introduces the programme to be used in Dutch schools, making use of statistical data for the Netherlands. Meanwhile, an English version has also been developed, in order to make the programme accessible to an international audience. For use in other countries, however, country-specific statistical data should, of course, be introduced. In principle, it is possible to adapt the program for this purpose.

Our thanks as editors obviously go to all contributors to this 1995-reader. We also like to express our esteem and appreciation to the various reviewers of the articles. Finally, we acknowledge the contributions from the NIDI-

and the CBGS-secretariat to the production of the book, in particular Angie Pleit-Kuiper for linguistic editing, Joan Vrind for technical editing, and Jacqueline van der Helm for the final handling of the manuscripts.

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AGEING AND THE DEMAND FOR CARE: Scenario studies for Europe

Hanna VAN SOLINGE and Jenny DE JONG GIERVELD

NIDI, P.O. Box 11650, 2502 AR The Hague, The Netherlands

Abstract. In the near future, all European countries will be confronted with a rise in the number and proportion of elderly. Estimates of the future size of this group vary, mainly depending upon assumptions on the further development of mortality.

Population ageing is in the centre of public debate. Many scientific studies deal with the impact of ageing on the various spheres of social life. However, most studies concentrate on the financial-economic consequences. The consequences of an ageing population for the infrastructure of care for the elderly receive less attention. In order to fill this gap, the European Population Committee (CDPO) of the Council of Europe has formulated a study project on 'Ageing and the consequences for the socio-medical system'. The main objective of this study was to examine the consequences of an ageing population for the socio-medical system, more specifically the infrastructure of elderly care. Insight into these issues is important with a view to planning future capacity, detecting problems, and setting priorities.

The article presents a selection of results of scenario-calculations on future developments in demand and supply of elderly care services.

Keywords: Ageing; socio-medical infrastructure; scenario's; care; Europe.

H. van den Brekel and F. Deven (eds.), Population and Family in the Low Countries 1995, 1–19.

1 | Approach

The article presented here is based on a study in the framework of the Council of Europe's Population Committee (De Jong Gierveld and Van Solinge, forthcoming), which was subdivided in two parts. The first stage aimed to analyse the different situations with respect to the provision of services to support the aged population in the various member states of the Council of Europe. For this purpose, a structured questionnaire was designed dealing with the following topics: background information on the elderly population, information on existing services for the elderly, information on characteristics of users of services for the elderly, information on care providers, and information on macro and policy aspects of care for the elderly.

Within the scope of this study, it was not feasible to make an inventory of the care systems of all member states. Therefore, we decided to focus on those member states that were represented in the Expert Committee established for the project. The experts from Austria, Belgium, Cyprus, Germany, Finland, France, Greece, Poland, and Sweden were requested to coordinate the data collection for their country. Since East and South European countries were underrepresented in the Expert Committee, additional questionnaires were sent to contact persons in Italy and Hungary.

Even with a limited set of countries, it appeared extremely difficult to develop an operational framework for a cross-national comparison of the systems of elderly care. The care sector is a complex field, reflecting the cultural, social, economic, demographic, and political diversity in Europe. As has been shown in other cross-national comparative studies on care services for the elderly (e.g. Nijkamp *et al.*, 1991; Henrard *et al.*, 1992) one of the main problems is the lack of uniformity and standardization of the concepts used. Moreover, care services (for example nursing homes) may have different meanings in different countries, or they may have completely different organizational or financial characteristics. A final complicating factor is that the available statistical data usually are based on country-specific classifications and typologies.

The second stage of the study was aimed at tracing the implications of ageing for the care system. In this section, it was examined how the future demand for care services will develop under various assumptions. These assumptions, associated with developments in life expectancy and state of health of the

elderly and with developments in the supply of care services, have been elaborated in a number of scenarios.

The data requirement for the model, used in this study to estimate the future demand for care, included data on consumption profiles for the most prevailing services. However, it turned out to be very difficult to collect consistent information for all selected member states on this point. For many countries information on the use of (all sorts of) services was not available, or only available in different formats. Although the level of detail in the data differed greatly per country, we decided to use the available data as much as possible. This, of course, had an effect on the results of the estimations regarding the future demand for care. For example, estimations of the future demand for services, based on data available for the total group of persons aged 65 years and over instead of data further differentiated by age-group, fluctuate greatly and are likely to give the least 'reliable' data. This must certainly be taken into account when interpreting the results of the model calculations for those countries that have only few detailed data available. Within the limitations sketched above, an attempt has been made to provide an insight into possible short and medium term developments in the use of services by the elderly. In this article, we concentrate on the latter part of the study.

2 | The scenarios

The scenario study examines how the future demand for care services will develop under various assumptions. These assumptions, associated with developments in life expectancy and state of health of the elderly and with developments in the supply of care services, have been elaborated in a number of scenarios (*Table 1*).

The Reference Scenario or basic scenario assumes that the population will develop as predicted according to the medium variant of the 1992 UN Population Projections (UN, 1993a, 1993b), and that there will be no change in the age-specific pattern of the use of care services by the elderly. For instance, the proportion of elderly, per age group, using home care, or district nursing in 2020 will not differ from 1990.

If life expectancy in the coming period rises more rapidly than assumed in the 1992 UN Population Projections, this will result in even more elderly, particularly the very old. The consequences of this type of development for

Table 1. The various scenarios, an overview

Scenario	User profile	Population projection
Reference Scenario	1990 user profiles	Medium variant of the 1992 UN Population Projection
Trend Scenarios		
1 Increasing life expectancy		
1A Expansion of morbidity	1990 user profiles	CDPO reference scenario
1B Compression of morbidity	'postponed' 1990 profiles	CDPO reference scenario
2 Changing capacity		
2A Reduction and substitution (West European and Nordic countries)	modified 1990 user profiles (as a result of the calculations)	Medium variant of the 1992 UN Population Projection
2B Expansion (East and South European countries)	French 1990 user profiles as a benchmark	Medium variant of the 1992 UN Population Projection

the demand for care services are set out in Trend Scenario 1. This Trend Scenario utilizes the results of the CDPO scenario project 'The Future of Europe's Population' (Cliquet, 1993), whereby the so-called Zero Scenario assumes a rise in life expectancy of two years per decade until a maximum of 83.5 (males) and 89 (females) years of age is reached. The moment that this will occur will be different for the various countries.

An increase in life expectancy can indeed have a great effect on the demand for care services, but the pattern of morbidity of the elderly seems to be much more important. Especially the well-documented shift from acute, infectious diseases to chronic diseases may have an enormous impact on the demand for (long-term) care. Two possible developments have been set out

with respect to that. Trend Scenario 1A assumes that the rise in life expectancy is not associated with a substantial improvement in state of health of the elderly, in the sense that the proportion of elderly, per age group, that will use certain care services in 2020 will not differ from 1990. Trend Scenario 1B, however, assumes that there will be an improvement in state of health of the elderly, and that (in the longer term) the use of care services can be postponed to a later age. Trend Scenario 1B examines what the consequences would be for the demand for services if the age-specific user profiles shift to older ages by an average of five years.

Considering that in most countries the central, regional, or local government plays a key role in policy-making for the care sector, long-term and medium-term policy plans and proposals in this area are extremely important for the extent to which the available capacity can meet the demand for future services. Current service levels differ greatly per country and, within countries, per region, in both size and extent. This also applies to the extent to which the service level corresponds with current demand. There are currently fewer (financial) options for expanding the capacity of existing services. This means that priorities must be set and choices made.

In most North and West European countries, current policy is aiming to controll capacity in the care sector. In line with this policy, Trend Scenario 2A examines what the effects could be of a freeze, at the level of 1990, in capacity in the residential sector on the user profiles and the demand for ambulatory care up to the year 2020.

As far as formal care is concerned, the situation in North and West European countries cannot be compared with Southern and Eastern Europe, where the emphasis still predominantly lies on informal care provision by family and neighbours and volunteer organizations, often with a religious affiliation. The formal care services in Southern Europe and in some East European countries are still rather low (Nijkamp *et al.*, 1991; Fratczak, 1993). The care infrastructure in these latter countries is not very extensive yet, although recently there is increasing attention for the elderly as a target group for government policy. Often the necessity is recognized of extending the supply of services. The key issue in these countries is how to meet the demands for care of the future elderly generation. Trend Scenario 2B examines the extent to which current capacity in Southern and Eastern Europe could be adjusted if the level of services in the residential sector gradually rises to the level of West European countries (France) in 1990.

3 | Developments in the demand for services

The results of the Reference Scenario show that a considerable increase in demand can be expected in virtually all countries and for virtually all services. *Table 2* presents the *relative* growth with respect to the level of services in 1990. The most rapid growth in demand emerges in those services that are particularly or entirely aimed at the oldest elderly, such as homes for the aged and nursing homes. Obviously, the expected growth in *absolute* amounts and the consequences, for example in the area of planning, are strongely connected with the current capacity. The latter differ greatly per country and per service.

Table 2. Estimated relative increase to 2020 in the demand for services according to the Reference Scenario

Country	Service	1990	2000	2010	2020
Austria	Homes for the aged	100	103	117	133
	Nursing homes	100	105	118	134
	Relative growth pop. 65+	*100*	*106*	*119*	*133*
Belgium	Homes for the aged	100	103	121	132
	Nursing homes	100	101	122	133
	District nursing	100	105	114	122
	Home help	100	105	111	119
	Relative growth pop. 65+	*100*	*111*	*113*	*132*
Cyprus	Homes for the aged	100	120	142	185
	Relative growth pop. 65+	*100*	*113*	*138*	*182*
Finland	Homes for the aged	100	113	131	156
	Nursing homes	100	113	131	157
	Day care centres	100	112	135	151
	District nursing	100	111	125	148
	Home help	100	109	119	135
	Relative growth pop. 65+	*100*	*112*	*123*	*162*
France	Homes for the aged	100	108	128	143
	Nursing homes	100	109	128	143
	District nursing	100	107	128	143
	Relative growth pop. 65+	*100*	*116*	*121*	*149*

former FRG	Homes for the aged	100	98	119	144
	District nursing	100	101	118	135
	Home help	100	102	118	133
	Relative growth pop. 65+	*100*	*110*	*134*	*139*
Greece[a]	Residential care	100	129	142	153
	Relative growth pop. 65+	*100*	*129*	*142*	*153*
Hungary[b]	Homes for the aged	100	103	114	125
	Day care centres	100	107	113	126
	Home help	100	109	116	124
	Relative growth pop. 60+	*100*	*102*	*107*	*123*
Italy[a]	Residential care	100	122	135	147
	Relative growth pop. 65+	*100*	*122*	*135*	*147*
Netherlands	Homes for the aged	100	117	140	183
	Nursing homes	100	117	137	181
	Day care centres	100	116	134	176
	District nursing	100	110	121	138
	Home help	100	113	126	153
	Relative growth pop. 65+	*100*	*113*	*135*	*172*
Poland[b]	Homes for the aged	100	108	129	144
	Nursing homes	100	110	127	148
	District nursing	100	112	121	152
	Home help	100	113	122	157
	Relative growth pop. 60+	*100*	*113*	*123*	*160*
Sweden[a]	Residential care	100	98	105	125
	Ambulatory care	100	98	105	125
	Relative growth pop. 65+	*100*	*98*	*105*	*125*

[a] Only aggregate data available.
[b] 60 years and over.

The resulting rise in the demand for care services of Trend Scenario 1A to the year 2020 is about 30 per cent higher than the estimate in the Reference Scenario (*Table 3*). This is mainly due to the strong increase in the size and proportion of oldest age groups (above 80 years), the age group in which the use of services is relatively high. The consequences of these developments in absolute amounts are quite considerable. It appears from the data that in most countries much will have to be done to adapt the supply of services in the year 2020 to the expected demand for these services.

Table 3. *Estimated relative increase to 2020 in the demand for services according to Trend Scenario 1A: extended life expectancy, no health improvement*

Country	Service	1990	2000	2010	2020
Austria	Homes for the aged	100	112	138	165
	Nursing homes	100	112	133	157
	Relative growth pop. 65+	*100*	*109*	*127*	*145*
Belgium	Homes for the aged	100	101	144	168
	Nursing homes	100	110	147	172
	District nursing	100	109	117	129
	Home help	100	110	127	143
	Relative growth pop. 65+	*100*	*114*	*122*	*147*
Cyprus	Homes for the aged	n.a.			
		n.a.			
Finland	Homes for the aged	100	125	158	198
	Nursing homes	100	124	154	195
	Day care centres	100	118	141	175
	District nursing	100	117	139	172
	Home help	100	113	127	150
	Relative growth pop. 65+	*100*	*115*	*133*	*178*
France	Homes for the aged	100	112	146	174
	Nursing homes	100	110	147	176
	District nursing	100	110	147	175
	Relative growth pop. 65+	*100*	*118*	*130*	*166*
former FRG	Homes for the aged	100	106	138	181
	District nursing	100	106	132	162
	Home help	100	107	130	156
	Relative growth pop. 65+	*100*	*113*	*139*	*153*
Greece[a]	Homes for the aged	100	130	149	168
	Relative growth pop. 65+	*100*	*130*	*149*	*168*
Hungary[b]	Homes for the aged	100	103	120	138
	Day care centres	100	106	117	135
	Home help	100	109	122	138
	Relative growth pop. 60+	*100*	*100*	*109*	*125*
Italy[a]	Residential care	100	121	138	157
	Relative growth pop. 65+	*100*	*121*	*138*	*157*

Netherlands	Homes for the aged	100	125	162	208
	Nursing homes	100	124	157	204
	Day care centres	100	121	149	195
	District nursing	100	112	129	151
	Home help	100	117	139	173
	Relative growth pop. 65+	*100*	*116*	*139*	*186*
Poland[b]	Homes for the aged	100	110	139	165
	Nursing homes	100	111	136	166
	District nursing	100	112	125	159
	Home help	100	113	128	167
	Relative growth pop. 60+	*100*	*113*	*129*	*170*
Sweden[a]	Residential care	100	100	114	137
	Ambulatory care	100	100	114	137
	Relative growth pop. 65+	*100*	*100*	*114*	*137*

[a] Only aggregate data available.
[b] 60 years and over.

It should not be precluded that, just like in the past, extended life expectancy is accompanied, in the longer run, by an improvement in the state of health of the elderly. This would be expressed in changes in the pattern of using services, i.e. that the use of services will 'shift' to older ages. In Trend Scenario 1B, it was assumed that the use pattern would shift five years. In other words, user rates of service X in 1990 for the age group 65-69 correspond with those for the age group 70-74 in 2020, etc. However, this method places quite a burden on the data. Ideally, we require profiles that are as detailed as possible. As mentioned above, however, such data are not available for all countries in the project. Therefore the estimates were not made for all these countries. But even for some countries for which there are detailed user profiles, we lack information on use, mainly in the oldest age groups. Therefore, for these latter countries (indicated in *Table 4* with an asterisk), a curve has been estimated with the available data that gives an approximation of use by the missing age group(s).

The results of the model calculation in Trend Scenario 1B (improvement in health status) can be found in Table 4. They are compared with the results of Trend Scenario 1A (no improvement in health status). The conclusion that can be drawn from the table is that if there is a substantial improvement in

Table 4. Estimated relative increase to 2020 in the demand for services according to Trend Scenario 1A (extended life expectancy, no health improvement) and Trend Scenario 1B (extended life expectancy, substantial health improvement)

Country	Service	1990	2020	
			Trend Scenario 1A	Trend Scenario 1B
Belgium	Homes for the ages	100	168	95
	Nursing homes	100	172	86
	District Nursing	100	129	103
Finland*	Homes for the ages	100	198	107
	Nursing homes	100	195	111
	District Nursing	100	175	103
France*	Homes for the ages	100	174	104
	Nursing homes	100	176	100
	District Nursing	100	175	101
Netherlands	Homes for the aged	100	208	103
	Nursing homes	100	204	113
	District Nursing	100	195	133

* The missing data in the user profiles for these countries are estimated.

the health status of the elderly, and this is reflected in a changing pattern of use, capacity in elderly care services does not have to be increased very much with respect to the current situation. However, if the time horizon is further, namely 2050, then the demand for care services will increase in this scenario as well.

The question is, however, how realistic the assumptions are in the various scenarios. Experts (Meslé, 1993; Duchêne and Wunsch, 1990) agree that breakthroughs in the area of increased life expectancy, for example due to developments in genetic engineering, must not be precluded. In the CDPO scenario project an increase in life expectancy is assumed to 83.5 years for males and 89 for females. Such a development should certainly not be considered unrealistic for a number of European countries. For other countries, however, such considerable increases are not to be expected in the near future.

Additionally, it must be noted that there are reverse developments in some countries. For instance, in a number of East European countries, a stabilization or even a drop in life expectancy has been observed. There are also indications that the rise in female life expectancy has stagnated in a number of West European countries (Council of Europe, 1993).

If an extra rise in life expectancy is not unrealistic, the question arises whether the growing group of elderly will also use (care) facilities to the same extent. That depends on many factors. From the demand side, the state of health of the elderly population appears to be one of the main determinants. Experts have widely divergent opinions on this, in particular with respect to the health at high ages (see Dooghe, 1992, for an overview of empirical studies on this topic).

Two contrasting opinions prevail. In a first point of view, a rise in life expectancy is associated with an improvement in state of health and a postponement of health problems to older age groups; in other words, the time at which one's health declines shifts to a higher age. The second view, however, assumes that even if there is a rise in life expectancy, the time at which health problems start will not change much and, as a consequence, more years will be spent in poor health. The debate on the issue is still continuing. The results of cohort studies and longitudinal research could possibly provide more clarity in the future, as well as improved tools for measuring the concept of 'healthy life expectancy'.

We will not judge here which scenario should be considered the most realistic one. The three scenarios indicate the range in which future demand can develop, taking into account that using scenarios results in rather artificially constructed future situations. The indicators of these futures are based on assumptions and hypotheses about future demographic and epidemiological developments, projecting the situation of today to the future. If real life developments do not 'obey' these hypotheses, the scenario-results will be immediately biased.

Future developments in demand, however, do not only depend upon demography and epidemiology. Changes in health care policies can also play a major role, for both slowing down and stimulating the demand for care. These aspects are considered next.

4 | Developments in the supply of services

In most North and West European countries, current policy aims to controlling capacity in the care sector. The following options may be used:

- aiming at a more efficient organization of services, for instance, decentralization and improved coordination;
- stimulating the involvement of other parties (private initiatives) in the realization of care services;
- changing the financial basis of the care system by raising the private contribution for the use of services or introducing long-term care insurance systems;
- substituting expensive services for cheaper types. In many cases, this will mean a capacity freeze in the residential sector and extra support for the ambulatory sector;
- (renewed) attention for the informal sector (community aid and self-care) by stimulating volunteer organizations, creating opportunities for care leave, and increasing the facilities for adapting housing for the elderly and the handicapped;
- reducing the demand for services by promoting self-care and a stricter admission policy for residential care facilities.

In line with some of these policy options, Trend Scenario 2A examines what the effects could be of a freeze (at the level of 1990) of capacity in the residential sector on the user profiles and the demand for ambulatory care up to the year 2020.

Table 6 presents a tentative estimate of the capacity shortage in the residential sector in 2020, if the number of available places is frozen at the 1990 level. For the countries in the study, it is estimated that the percentage of elderly aged 65 and over who can be offered a place in an institution for residential care will go down from about an average of five per cent in 1990 to four per cent in 2020. Assuming that this concerns a category of elderly that requires some type of care in any case, other solutions will have to be found.

Pommer and Wiebrens (1984) have estimated (for the Netherlands) the options for intramural care alternatives. They assume that with a reduction in capacity in homes for the aged of the 'victim group', 1/15 will request help from district nursing, 5/15 from home care, and 9/15 will not request assistance at all from professional care services. With a reduction in capacity in nursing homes, of the 'victim group', 1/5 will go to a home for the aged,

Table 6. Estimated effects of freezing capacity in the residential sector; shortage in capacity in 2020 and proportion of the elderly population in institutions for residential care in 1900 and 2020

Country	Estimate of shortage in 2020 (places)	Proportion of the elderly population in an institution for residential care	
		1990 (observed)	2020 Trend 2A
Austria	15,900	3.6	3.1
Belgium	27,900	6.0	4.4
Finland	21,000	5.4	3.3
France	194,300	5.8	3.8
Germany	167,600	4.3	2.6
Netherlands	143,000	9.1	5.3
Sweden	20,800	5.1	4.3

2/5 will request help from district nursing, 1/5 from home care, and 1/5 will not request assistance at all from professional care services. In conducting our own tentative calculations, we have adopted these assumptions, also cautiously assuming that half of the elderly who do not use professional care services would benefit from sheltered housing. The results of these calculations, however, are not presented here. The reason is that the indicators for the use of ambulatory care services appeared to be too divergent to make realistic comparisons. Therefore, we confine our selves to only a rough description using some examples.

In Finland, the demand for home care will rise by 35 per cent in the period 1990-2020 on the basis of the Reference Scenario (see Table 1). An extra three per cent would be added if the aforementioned freezing of capacity in the residential sector would be realized. The extent of this extra rise depends, on the one hand, on the expected increase of the number of (very) old persons and, on the other hand, on the current capacity of the various services. For example, according to our calculations, the extra rise in the demand for district nursing in France will be rather high, which is related to the fact that a relatively low proportion of the elderly (about 0.5 per cent) currently makes use of this service. In contrast, the extra demand for

sheltered housing in Sweden will be very low, which is related to the relatively low growth of the elderly population and to the fact that this service is already fairly well developed in Sweden (Dooghe and Vanden Boer, 1993).

Trend scenario 2B examines the consequences of a possible increase in capacity in the formal care sector in the South and East European countries in this study. For these calculations French user profiles for residential care services were adopted and applied to the population composition of those countries in 2020 as a kind of benchmark for evaluating their future demand.

The results of these calculations are presented in *Table 7.* The table clearly shows that countries, such as Poland, Hungary, Greece, and Italy, must effectuate considerable growth in capacity if they wish to attain the service level of France. This would have to be over and above the considerable extra efforts that most of these countries already must expend to maintain the current level of services. However, the table also shows that the user rates for residential care facilities in the East and South European countries under this Scenario then will exceed slightly the user rates as calculated for the West and North European countries in Scenario 2A (see Table 6).

Table 7. Selected South an East European countries. Estimated effects of a gradual increase in the capacity in the residential sector, to the level of France in 1990, and proportion of the elderly population in institutions for residential care in 1900 and 2020

Country	Estimated capacity in 1990 (no. of places)	Proportion of the elderly population in an institution for residential care	
		1990 (observed)	2020 Trend 2B
Cyprus	1,400	3.0	4.7
Greece	7,000	0.5	5.9
Hungary	26,900	1.3	4.7
Italy	162,000	2.0	5.7
Poland	28,300	0.6	4.9

How realistic or unrealistic the efforts are to reach the French 1990 level becomes apparent when we convert the data into the required increase in capacity per five-year period (*Table 8*). It appears from the table that enormous efforts must be expended indeed, efforts that hardly can considered to be realistic. Even an increase in the longer term to half the 1990 level of France would require very great strains. Thus, it certainly would be very sensible for these countries to pay due attention to areas other than residential care. An extension of the home care system, for instance, requires much fewer investments and could be implemented in phases.

5 | Developments in the demand for and the supply of services: A discrepancy?

The results of the various scenarios as described in sections 3 and 4 give an idea how the demand for and the supply of services may develop in the future, given the assumptions and hypotheses used in the different scenarios.

On this point, however, the reader should be warned for the fact that the results of the calculations for the various scenarios are merely based on extrapolations of current trends, often based on far from complete statistics on service use. If one also takes into account the fact that even more sofisticated forecasts and projections suffer from a high degree of uncertainty (Keilman, 1990), it should be clear that the result of this study rather sketches the limits within which the demand for services will most likely lie.

Table 8. Selected South and East European countries. Required increase in capacity in the residential sector according to Trend Scenario 2B

Country	Estimated increase per five year period (1990-2020) (no. of places)	Number of institutions (150 beds per institute)
Cyprus	780	5
Greece	19,800	132
Hungary	9,200	61
Italy	86,700	577
Poland	45,900	305

Nevertheless, the confrontation of the results of the various scenario-calculations suggest that in future years a discrepancy is to be expected between the supply of and demand for services in the residential and ambulatory sector. The supply of services in the public, subsidized sector is expected to seriously lag behind the demand.

Possibly even more important than quantitative aspects of these trends are the qualitative characteristics of developments in supply and demand. For example, the social awareness of the older generation could increase due to higher levels of education, improved income, and general standard of living in the pre-retirement phase. The future group of elderly will likely value privacy more highly, be less inclined to be dependent upon others, and demand a higher quality of life, including a higher quality of care (Van den Brekel and Moors, 1992).

Nowadays, similar to the past and as it certainly will be in the future, the ill and handicapped among the elderly need the support of their family to guarantee a sufficient quality of life. However, the care potential of the family will likely decline, due to a drop in average number of children, greater geographical mobility, and a rise in female labour force participation. These developments will have a greater impact in those countries where care for the elderly predominantly takes place within the family. Although research has shown that the working children of elderly parents feel responsible for caring for their ailing parents (De Jong Gierveld *et al*, 1992; De Jong Gierveld, 1994), it is clear that their ability to provide long-term intensive care will be limited as more children enter the labour force and/or live farther away from their parents. This implies that the elderly population will probably seek more professional support in addition to informal care provided by their children to guarantee an optimal quality of life.

It is expected that, especially in the North and West European region, there will be declining interest in residential care. The elderly will try to prevent or postpone admission into such institutions. Types of care that allow the elderly to live independently as long as possible are preferred. Thus a rising interest in ambulatory and transmural care is predicted, as well as a growing demand for supplementary services (e.g. meals-on-wheels and taxi services) on a flexible basis (e.g. evenings and nighttime as well). Popularity is also expected to grow for adapting homes and for technological aids to enhance independence. However, this does not mean that the demand for residential care will decline on the macro level. Due to the rise in the number of persons aged 80 and over, the demand for this type of care is unlikely to decrease.

A large group of elderly will have to rely on more intensive care and nursing in their final life stage, perhaps for a short period.

With respect to the supply of services, we assume that it is not likely that the capacity of public residential care services will be greatly extended, with exception possibly in those countries where specialized residential care for the elderly is currently underdeveloped. Many institutions date back to a time where entirely different views prevailed on nursing and care, so that they no longer comply with todays privacy, hygiene, and efficiency requirements. Improvements in the quality of existing facilities is a policy target in many countries. By means of reorganizations, large nursing wards are often being renovated into one or two-person rooms, causing a drop in the number of places. Consequently, those elderly for whom admission is not essential, because they could also benefit from ambulatory care, might be less eligible for these types of care.

Residential care is usually much more expensive than ambulatory care. Therefore, ambulatory care is frequently promoted as a substitute for residential care. However, recent research questions the validity of such a policy approach with respect to both quality and quantity (Thorslund, 1993). The ambulatory sector has been considerably extended in most countries, especially in Western and Northern Europe. The number of centres for providing home care services has increased greatly, usually initiated by local administrations. The same applies to outpatient clinics, short-term nursing in nursing homes, and community centres for the elderly. The supply of so-called 'tailor-made care', such as meals-on-wheels, shopping services, and alarm systems, has also greatly increased.

One of the consequences of development in 'tailor-made' services could be that help will only be given for activities that the elderly can no longer perform themselves. For home care organizations, this could result in a rise in non-productive time, causing care services to become very expensive. From the users point of view, this could mean that various jobs will be performed by many different carers or organizations. Proper coordination is therefore essential to guarantee a sufficient level of care.

Despite expansion of the ambulatory sector, in most countries the demand is greater than the supply. This means that either stricter conditions must be set for receiving assistance or that assistance per person must be limited. For the individual elderly person this could mean long waiting periods, higher personal contributions, decline in the quality of services, or even not being

eligible at all for services. It is expected that these types of problems will only increase in the future. The demand for ambulatory care is expected to rise rapidly, while supply will not be able to keep up. Private initiatives are already anticipating this by providing comparable services under more favourable conditions, however, usually for a higher price. Elderly persons who can afford it will likely use these services more often in the future. For a little more money, they receive better quality and more flexibility. In contrast, those elderly who are not so well off financially will remain dependent on (subsidized) public care. The latter, vulnerable group will likely mainly consist of single women, the group of elderly with no relatives, and those living in remote areas. A dichotomy seems inevitable.

For the care providers, both in the residential and ambulatory sector, their jobs are becoming more complex and demanding. However, it is not clear whether enough and properly trained personnel will be available in the future to actually provide this care. In some countries, the recruitment of suitable and properly trained staff is already a problem (Jamieson, 1991; Thorslund, 1993). This is not expected to change much in the future. The demand for specialized staff for the elderly with psycho-geriatric problems will particularly increase. Working conditions and requirements of these carers are often extremely harsh, while payment is low, resulting in high staff turnover. This is not expected to change much in the (near) future, although the effects of long-term unemployment among young adults on their willingness to accept a job in the field of caring and of better working conditions and salaries are unknown.

In line with the ideas presented in the ICPD-CAIRO Programme of Action (United Nations, 1994) it may be concluded, that the steady increase of old and very old people has significant implications for many countries, in particular with respect to the future viability of existing informal and formal types of care for the elderly. This constitutes both an opportunity and a challenge to societies. Many countries are currently re-examining their policies from the viewpoint that elderly people constitute a valuable and important component of society's human resources. They are seeking to identify how best to assist elderly people with long-term support needs.

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THE CAIRO CONFERENCE: A demographer's view[1]

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Abstract. Critical review of the Programme of Action of the 1994 Caïro International Conference on Population and Development. The role of demographic and population experts appears to have been only minor. This is illustrated by examples of the terminology and definitions used. Population data and demographic observations received scant attention. Observations on the relation between mortality and fertility illustrate the difficulty to formulate complex relationships concisely in a document of this nature. The article discusses the knowledge base of the new approach on the relationship between population and sustainable development. Observations are also presented on issues which occupied a prominent place during the conference, such as the question of the empowerment of women and issues of values and culture in relation to fundamental rights regarding procreation.

Keywords: Population and sustainable development; population policy; International Conference on Population and Development 1994; fundamental rights and procreation.

[1] This contribution is based on a speech for the Annual Meeting of the 'Deutsche Gesellschaft für Bevölkerungswissenschaft', Halle, 15 February, 1995.

H. van den Brekel and F. Deven (eds.), Population and Family in the Low Countries 1995, 21–39.

1 | Introduction: on terminology and definitions

After the 1974 Bucharest Conference I felt elated. The population issue had been placed squarely on the international political agenda and a solid basis for international co-operation in the field had been established. After the 1984 Mexico Conference I was both pleased and irritated. Pleased that a sensible Action Plan had been adopted and that a Declaration to which I had devoted a lot of time, sailed through plenary without a hitch. I was irritated by the quite detrimental effect which the about-turn in the American position had on the atmosphere during the conference and, more generally, on the international appreciation of the importance of the population issue. The sense of accomplishment which I had experienced on the two earlier occasions was sadly absent after the Cairo Conference. To be frank, I was relieved the conference was over and that I could return to work that would yield greater intellectual satisfaction.

Why this difference in appreciation? Had I simply lost inspiration? Had I become a real cynic, too much of an old hand, or what?

I found the answer when the leader of the delegation of the Netherlands, the Minister for International Development Cooperation, Jan Pronk who, as fate would have it, had in that same capacity also led the Netherlands delegation to the Bucharest Conference, asked me to describe the difference between the two. I immediately said that international conferences on population had at the same time become more professional and more amateurish. More professional in that the number of diplomats and public servants well trained and experienced in the process of intergovernmental negotiations had vastly increased, and more amateurish in that the number of people with a background in demography or population studies appeared to have declined. Moreover, those population experts who were there, had —with very few exceptions— only minor roles to play. My uneasiness stemmed from the fact that the conference was ready to deal with everything as long as it did not relate directly to the mundane issues of population growth and the need to generate the financial resources necessary to enable people everywhere to plan their families responsibly.

Let me give a few examples. Upon the proposal of a Scandinavian delegate the term 'population policies' was replaced systematically by the term 'population-related policies'. This was presumably because the first term was too technocratic, demographic, or specific. 'Family planning' could only be referred to as being included in the broader concept of reproductive health,

and although a great deal can be said in favour of such a broader concept (Dixon-Mueller, 1993), there is now a strong element of 'political correctness' involved. This became particularly evident in the discussion about the financial resources needed to implement the Programme. The total amounts were not in contention, but their distribution over four components (family planning, reproductive health, sexually transmitted diseases, and research), was debated at length. Even though the Secretariat of the Conference repeatedly stressed that they did not have information on which an estimate of the costs of implementing the new concept of 'reproductive health care' could be based, several Western delegations made proposals to shift amounts from family planning to the reproductive health component. The term 'fertility regulation' which has served many generations of demographers well, was no longer acceptable since it could conceivably include abortion. The concept of a 'union' proved to be unacceptable to some because it could possibly also refer to homosexual couples, while the mere thought of heterosexuals living together without being married was anathema to others. The concern with words and the precise ordering of words, always important at such conferences, became quite obsessive. I have never seen a UN-document so full of definitions. Definitions not meant to clarify a specific measurement in an attempt to facilitate international comparisons, but definitions meant both to massage and numb the minds. WHO had a field day! It was asked to define, unsafe abortion and safe motherhood, and had a major influence on the way reproductive and sexual health were defined.

If I quote the text of paragraph 7.2., the reader will immediately understand what I mean:

> *"Reproductive health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes. Reproductive health therefore implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when, and how often to do so. Implicit in this last condition are the right of men and women to be informed and to have access to safe, effective, affordable, and acceptable methods of family planning of their choice, as well as other methods of their choice for regulation of fertility which are not against the law, and the right of access to appropriate health-care services that will enable women to go safely through pregnancy and childbirth and provide couples with the best chance of having a healthy infant. In line with the above definition of reproductive health, reproductive health care is*

defined as the constellation of methods, techniques and services that contribute to reproductive health and well-being through preventing and solving reproductive health problems. It also includes sexual health, the purpose of which is the enhancement of life and personal relations, and not merely counselling and care related to reproduction and sexually transmitted diseases."

The definition is so long and sounds so authoritative that one hardly dares questioning its soundness. But to me it seems to imply that a (dictatorial) government may, if it so desires, prevent people from using sterilization as a means of fertility regulation. The same applies to the morning-after pill and similar products, independent whether these pose a hazard to the health of the user or not. And, what does it imply with regard to the reproductive health of the many millions of men and women who become widowed when they are not so young any more, or experience the loss of their partner in societies where remarrying is frowned upon?

2 | On the interest in population per se

In contrast to the issues of definitions and terminology, actual population figures and demographic observations received scant attention. The Preamble was shortened substantially during the Conference by cutting away the demographic paragraphs. This was done ostensibly to prevent the Programme from becoming too long. But since this Cairo Action Plan is, with more than 400 paragraphs and 114 single spaced pages, four or even five times as long as the Bucharest Plan (109 paragraphs on 21 pages) such an argument really cuts no ice. Demographic information was felt to be superfluous and unnecessary; uncomfortable perhaps.

The scant interest in population data is also apparent in other ways. In paragraph 1.3 of the Preamble, for example, it is noted that absolute population increments are:

"...presently exceeding 86 million persons per year. Annual population increments are likely to remain above 86 million until the year 2015."

In paragraph 6.1 of the same document the following is observed:

"The growth of the world population is at an all-time high in absolute numbers, with current increments exceeding 90 million persons annually.

According to United Nations projections, annual population increments are likely to remain above 90 million until the year 2015."

Perhaps such sloppiness will be picked up at the editing stage, but even so the inconsistencies should never have crept into the document. Illustrative also is that a phrase in the preamble meant to indicate what the likely effect of the implementation of the plan on world demographic growth might be, was altered during the conference even though no new UN-figures had become available. While the draft text referred to:

"...levels close to the United Nations low variant",

the text ultimately adopted speaks of:

"...levels below the United Nations' medium projection."

This far from trivial change was accepted because a member of the Austrian delegation (Wolfgang Lutz) who happened to have worked on global projections, argued that even if the 20-year Programme of Action were implemented the low variant would remain out of reach.

The reader should not conclude from these remarks, that the document is demographically unsound. All I want to do is to show that at this third World Population Conference population issues as such were not terribly high on the agenda. I shall come back to this later, but let me first deal with the demographic material included in the Programme of Action.

The standard sequence of the different chapters and sections of the Action Programme is as follows. The first few paragraphs sketch the 'basis for action'. These are followed by a paragraph which describes the 'objectives' and the list of 'actions', usually cast in the form of recommendations to governments. Where these paragraphs refer to population changes that have taken place, or relationships between different demographic phenomena, I find very little wrong with them. They reflect current understanding well. The difficulty remains, of course, how to formulate in a few sentences the essence of a very complex relationship. Let us take as an example the relation between mortality levels (particularly amongst infants and toddlers) and fertility decisions.

At the time of the Bucharest Conference it was generally understood that a decline in mortality was not only a sensible goal in itself but would also

contribute to a decline in fertility. Indeed, a reduction in mortality amongst infants and children was frequently considered to be a prerequisite for fertility decline. For if parents desire to have a certain number of surviving children rather than a certain number of births, they will only reduce their fertility once they have the assurance that their children will survive. The World Population Plan of Action adopted in Bucharest reflected these thoughts in all their complexity. As follows:

> *"Sustained reductions in fertility have generally been preceded by reductions in mortality. Although this relationship is complex, mortality reduction may be a prerequisite to a decline in fertility"* (page 10).

Elsewhere it is argued that:

> *"The reduction of infant and child mortality, particularly by means of improved nutrition, sanitation, maternal and child health care, and maternal education",*

is among the development goals that will generally

> *"...have an effect on the socio-economic context of reproductive decisions that tends to moderate fertility levels"* (page 12).

As one will easily recognize, here demographers were at work. The uncertainties were not hidden and the phrases give one to understand that quite a bit more is needed to be known before one could be quite certain about the nature of the relationships postulated. As the reader will know, research carried out in the years thereafter and aimed at testing the 'replacement'-hypothesis in various forms failed to establish that replacement strategies are operative in pre-transitional populations. In populations further on the transitional scale, it might take place, but as Preston summarized in 1978 (p. 12):

> *"...in no population are as many as 50% child deaths replaced by additional births."*

Let us now see how this very complicated subject is dealt with in the Cairo document. Before turning to the actual texts I should, however, like to demonstrate the complexity of the issues concerned by argueing that one should really distinguish four different hypotheses. As follows:

Child replacement hypothesis. As long as mortality is high many families will experience the death of one or more children. They will try to 'replace' those children through further births. As mortality declines, replacement will no longer be necessary. Hence fertility will decline.

Child survival hypothesis. If it is the number of surviving children what interests people, an overproduction of surviving children could alert them to the fact that fewer births are needed to ensure the desired number of survivors. In this approach it is the oversupply of living children which triggers fertility decline.

Reduction in uncertainty hypothesis. Under high mortality conditions, families have to anticipate the death of one or more children before they are adult. Couples guard against having no adult children to care for them in their old age, by having a larger number of births than they desire as surviving children. They insure themselves against future losses through 'hoarding'. As mortality declines, the uncertainties involved are reduced. Hence fertility can decline.

Insurance against widowhood hypothesis. Where high mortality prevails, men and women run a high risk of becoming a widower or widow at a relatively young age. Particularly for a woman this may lead to great economic hardship and can endanger her survival if there are no children to help her in maintaining a reasonable level of living. Women are, therefore, interested in having children soon after marriage and in quick succession as insurance against becoming a destitute widow. Once mortality declines, the risk and uncertainties diminish. Hence fertility can decline.

Now the wording of the Programme. In the chapter on population growth, action paragraph 6.5 reads as follows:

> *"In attempting to address population growth concerns, countries should recognize the interrelationships between fertility and mortality levels and aim to reduce high levels of infant, child, and maternal mortality so as to lessen the need for high fertility and reduce the occurrence of high-risk births."*

In the section dealing with child survival, reference is made to the detrimental effect early, late, numerous, and closely spaced pregnancies may have on child survival. The paragraph (8.14) is then concluded as follows:

"Where infant mortality is high, couples often have more children than they otherwise would to ensure that a desired number survive."

I know full well that an Action Programme is not a demographic treatise and that details and nuances may cloud the central point. But let us contrast these two sentences with a single sentence from the paragraph dealing with breast-feeding (para. 8.18).

"By means of legal, economic, practical, and emotional support, mothers should be enabled to breast-feed their infants exclusively for four to six months, without food or drink supplementation and to continue breast-feeding infants with appropriate and adequate complementary food up to the age of two years or beyond."

It reads like an instruction of the famous baby doctor Spock! Please note that the fertility effect of such a practice is not mentioned. Neither is it in the section on family planning, where para. 7.14f simply lists the following objective:

"To promote breast-feeding to enhance birth spacing."

So far with regard to the demographic dimensions of the Programme which, let me repeat, are on the whole of a quite acceptable standard.

3 | On population and development

I should now like to turn to the interrelationship between population and other variables. The Cairo Conference was charged to deal with population and development. In a way this conference therefore had a wider mandate than the Bucharest Conference. Not that development issues did not play a central role in Bucharest, but in Cairo the perspective on development was much broader. While in Bucharest the main bone of contention was whether rapid population growth really hindered socio-economic development or simply reflected 'under-development' and a poor distribution of assets and opportunities in the world or within national borders, in Cairo environmental concerns had also to be taken into account. Moreover, economic development is now no longer measured simply in terms of income per capita, but refers to the alleviation of poverty, the possibilities to invest in people through health and education, and so on. Development has to be sustainable and should lead to *"a higher quality of life for all people"*.

This broadening of the concept of development is one of the most important achievements of the Cairo Conference. It is well reflected in the principles of the Programme of Action and in Chapter II, Principle 6, for example, includes the sentence:

> *"..., States should reduce and eliminate unsustainable patterns of production and consumption and provide appropriate policies, including population-related policies, in order to meet the needs of current generations without compromising the ability of future generations to meet their own needs."*

Paragraph 3.3 begins as follows:

> *"Sustainable development implies,* ***inter alia****, long term sustainability in production and consumption relating to all economic activities including industry, energy, agriculture, forestry, fisheries, transport, tourism, and infrastructure in order to optimize ecologically sound resource use and minimize waste."*

But, much though one may applaud this new approach to the interrelation between population, resources, development, and the environment, one should not be blind to its very weak knowledge base[2] and the extremely heavy demands it places on international solidarity. For these reasons I have on an earlier occasion called the term 'sustainable development' the magic formula of the nineties. One pronounces it solemnly, the problems disappear and a solution is at hand. It is particularly the combination of 'sustained economic growth and sustainable development' which I find less than illuminating. It offers, certainly at first sight, a perplexing **contradiction in terms**, rather than an operational solution to a daunting global problem. I

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[2] It is salutary to note in this regard that even with regard to a much simpler relationship the Independent Inquiry commissioned by the Australian Government has a certain nuance in its summary of findings. While the conclusion is that *"...slower population growth would be beneficial to per capita economic growth,..."* the following is also stated:

> *"1. Population growth is likely to produce both negative and positive impacts.*
> *2. While the direction of the impact is known, the precise size of the net impact cannot be determined from existing evidence.*
> *3. The net impact varies from country to country - in most cases it is negative, in some it is positive, and in others it has little effect."* (Ahlburg, *et al.*, 1994, p. 3).

am not alone in my scepsis. The economists Kelly and Schmidt, for example, find the concept of a 'sustainable' resource base:

> *"...lamentably nebulous and to date unmeasurable"* (see Ahlburg *et al.*, 1994, p. 14).

The footnote from which I take this quotation appears in the report of a special international Independent Inquiry on Population and Development which the Australian Government had the wisdom and imagination to commission in 1993 so as to allow it to design and implement aid policies which would take the links between population growth and development into account properly. The report was published in April 1994 —well before the Cairo Conference— and provides a careful and stimulating assessment of the literature and, in many cases, the 'accepted wisdom' (Ahlburg *et al.*, 1994).

The Programme of Action adopted in Cairo does, as one would expect, contain various phrases on the interrelation between population and sustainable development on which scholarly opinions are still divided. They are likely to be context dependent and, what I find more serious, they leave the reader in great uncertainty about the mechanisms which would yield the effects stipulated. Let me give two examples. In paragraph 1.8 of the Preamble the following sentence can be found:

> *"In this regard, sustained economic growth in the context of sustainable development will enhance the ability of countries to meet the pressures of expected population growth; will facilitate the demographic transition in countries where there is an imbalance between demographic rates and social, economic, and environmental goals; and will permit the balance and integration of the population dimension into other development-related policies."*

That economic growth will stimulate the process of demographic transition is highly likely: all evidence points in that direction. But, does it make a difference whether it takes place in the context of sustainable development or not? And, will it only contribute to the demographic transition process, if there is the type of imbalance indicated?

In paragraph 3.15 the relation to the eradication of poverty is discussed. As follows:

"Sustained economic growth within the context of sustainable development is essential to eradicate poverty. Eradication of poverty will contribute to slowing population growth and to achieving early population stabilisation."

I do not think that the available literature supports such statements. Poverty is a major problem in many developing countries. The relations between population growth and poverty are, however, poorly understood. Governments seeking to improve the economic position of the poor should use direct policy instruments, Ahlburg *et al.* argue. These include increased access of the poor to land, credit, public infrastructure and services, particularly education and health. As regards the relation to fertility behaviour, the executive summary of the Inquiry notes:

"While family planning programmes may also help to reduce poverty, their effects may be smaller, but cumulative, and take a longer time to be felt than direct policies. They are, however, likely to be easier to institute and relatively inexpensive, making them a potentially useful part of an anti-poverty policy package" (page 8).

Indeed, as we all know, incipient fertility decline does not originate in the poorest layers of society; the motivation for it is strongest amongst the better educated, the gainfully employed and so on. It is, in fact, not impossible to argue that the initial effect of changing the resource constraints of the poor, could be to increase their fertility rather than to reduce it. The eradiction of poverty is important and necessary. That it will contribute to achieving early population stabilization is unlikely unless such efforts go much, much further than simply preventing early death from starvation and misery, and unless such broader efforts include the provision of reproductive health care.

"Sustained economic growth, in the context of sustainable development, and social progress require that growth be broadly based, offering equal opportunities to all people. All countries should recognize their common but differentiated responsibilities",

so the first two sentences of Principle 15 read. I agree that international solidarity is of the greatest importance in reducing the world's population problems. There are encouraging signs. We all sympathize with people in Kobe, in Ruanda, and in Somalia, and assist financially if asked to do so. But, what if the future of the world is one in which competing blocs are formed and anarchy prevails? Let us hope that it will not be precisely *"the*

differen-tiated responsibilities" referred to, which will help to lead them into conflict and that common interests will remain sufficiently strong to enable countries to continue to work together.

4 | On empowerment, values, and culture

There are two other important issues I should like to touch upon. Both are sensitive issues and by commenting upon them I run a further risk of placing myself outside the international discourse. But intellectual honesty has its price, so there we go.

The Cairo Conference has been widely recognized as the international conference where, finally, the empowerment of women and issues of fundamental rights regarding procreation and other demographic matters received the attention they deserve. And indeed, during the conference, in the press, and in the Programme of Action finally adopted, they have been given a very prominent place.

Chapter IV on *Gender Equality, Equity, and Empowerment of Women* contains a great many observations and calls for action which, if acted upon, will not only greatly improve the status of women in many societies but will, from a more general perspective, be very beneficial to society as a whole. At the same time, one cannot fail to note that the chapter is strangely isolated in the Programme as far as its population dimensions are concerned. The general approach is that improving the status of women and enhancing their decision-making capacity at all levels and in all spheres of life, especially in the area of sexuality and reproduction, will contribute to the long-term success of population programmes.

Intuitively one feels that this must be correct, but it is not so easy to pinpoint the mechanisms that would be at work. Chapter IV is silent on these and it is also remarkable that the Australian Inquiry referred to earlier does not contain a separate section on development and the status of women. It seems as if research and knowledge in the field have not kept pace with rapidly changing opinions. Since empowering women is widely accepted as a valuable goal in itself and should be pursued fully independently of its demographic effects, this may not be serious. But that empirical data or modelling have not, as yet, established which processes will be at work and under what conditions, should be a point of concern to demographers and other social scientists. I am fairly well read on theories about the

determinants of fertility decline and the demographic transition in general and, therefore, find it not too difficult to formulate a series of hypotheses about likely linkages. But, I would be fully unable to quantify them or place them in relation to one another. Let me illustrate this. Economic 'demand' theories of fertility, such as those advanced by Becker (1991), tend to focus strongly on the role of education and the allocation of time. If women are better educated, this is likely to influence the way in which they will allocate their time. They will have opportunities to be gainfully employed, will want to devote less time to their family and when they seek to maximize the utility of a certain combination of children and goods, a small number of high quality children will have greater appeal than a large number in which very little time and money can be invested. In their 1985 book on the fertility revolution, Easterlin and Crimmins propose a model of fertility whereby three sets of variables are seen to operate between the basic determinants (modernization variables) and the so-called 'proximate' determinants. These three sets of variables relate to the demand for children, the supply of children and the costs of fertility regulation, respectively. It is easy to see that empowering women to take decisions may affect quite a few of the variables involved. But, how and in what context? If one looks at other theories, for example the wealth-flow-theory, the theory of innovation and diffusion, or the theory of institutional dependency, similar observations may be made. The final conclusion must be that, so far, the effects of improving the status of women upon population dynamics have not been sufficiently specified and quantified. And, what is more serious, in the calculations of costs mentioned in the Programme, the provision of education and other services so vital in empowering women are not included at all. Consequently, Chapter IV could, with very slight amendments, serve almost any other international conference equally well.

Let me, finally, turn to what one might in short call the 'human rights' dimension of the Programme. As almost every television viewer will have become aware, the most divisive issues during the Cairo-Conference related to the specification of 'rights'. Mainly individual rights, but also rights of groups, for example the right to development. Most, though not all, of the issues concerned came to the Cairo Conference in bracketed form, indicating that they were points which were impossible to resolve during the PrepCom III. The following provides a list of the main terms and issues in play:

- sexual and reproductive rights
- sexual and reproductive health
- fertility regulation

- abortion
- pregnancy termination
- unsafe abortion
- safe motherhood
- union, concepts of the family
- confidentiality of assistance to adolescents
- right to development
- right to family reunification
- right to decide freely and responsibly for all couples and individuals
- women's rights to inheritance.

I have no intention to review each of these points and to show how they were resolved. Instead, I want to draw the reader's attention to the fact that almost all have strong religious or ethical overtones and that the way an individual looks at them depends a lot on his cultural background. As a demographer well-integrated in the segment of Dutch society which tends to defend the rights of individuals versus collective interests and which values individual human rights and liberties greatly, I was very happy to act, as a member of the Netherlands' delegation, in support of the draft texts as they came to Cairo. But I admit to having nagging doubts about the question of whether the international community is on the right track in this regard.

I would argue that much depends on how one sees civilisations develop. If one firmly believes that the whole world will become a global village, sharing the same norms and values and that these norms and values will essentially be those which evolved in the most progressive parts of Western Europe and similar societies in the last few decades, there is no great objection against trying to get them adopted internationally. It might reflect a bit of 'cultural imperialism' at first, but with time that element would become unimportant. If, on the other hand, cultural convergence is neither what one expects nor what one wants, this approach will have to be modified.

Imposing, or trying to impose certain norms and values on other countries or groups of citizens in countries, then becomes an exercise of disputable value. It may lead to 'unholy' alliances, such as between the Vatican and certain Islamic countries during Cairo, or to compromises which negate the realities of this world. For example, while quite a few countries in the world

find abortion an acceptable means of family planning (China), or *de facto* have to rely on it (Georgia), paragraph 8.25 now begins with the statement[3]:

> *"In no case should abortion be promoted as a method of family planning."*

Similarly, the first sentence of paragraph 5.5 which originally read:

> *"Governments should take effective action to eliminate all forms of coercion and discrimination in policies and practices related to marriage, other unions and the family",*

now ends abruptly after 'practices' and consequently has lost its meaning, because in the Muslim world the concept of a 'union', so common elsewhere, was felt to transgress the boundaries of propriety.

There was a real danger during the Cairo conference that notwithstanding the plea by the Secretary General of the United Nations for tolerance and understanding, the common concern about global population growth would be completely forgotten in view of the differences in moral stance of the participants. Several speakers from Western countries, most notably Prime Minister Brundtland, gave strident speeches singularly lacking in appreciation of the way things are done elsewhere in the world. As against this, some Islamic countries were quick to interpret a well known phrase which calls upon governments to provide adolescents with 'alternatives to early marriage', (para. 4.21 of the draft) as a call for licentious behaviour and thus equally showed a large measure of cultural bias. Through the quite exceptional skills of the chairmen and the rational approach advocated by others, this danger of collapse could be averted. However, one may not have the same outcome on a future occasion[4]. I see very little evidence that we are moving in the direction of global village in the moral sense. On the contrary, there are clear signs that, both in Asia and south of the

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[3] Although an abortion always prevents less than one birth, the total figure of abortions frequently quoted at the Conference was 50 million which is not significant in relation to a natural growth of about 90 million!

[4] If one was really bent on misinterpretation in documents of this nature then opportunities to do so abound. Think of a sentence such as this one: *"Relevant programmes to reach boys before they become sexually active are urgently needed"* in paragraph 4.29; or the recommendation contained in paragraph 8.17 to provide parents with information and education about child care *"...including the use of mental and physical stimulation"*.

Mediterranean, people are starting to re-examine the religious and philosophical ideas which shaped their culture and traditions, and finding them preferable to those adhered to in the West. A more likely scenario, therefore, is a development whereby various parts of the world will develop, and continue to develop, in a culturally unique way. If one does not then come to grips with the thought that common goals may be reached by culturally specific routes, then a very heavy mortgage is placed on international co-operation.

In fact, the only common road to sustainable development, assuming there is one, may well be the road which carefully follows the contours of a newly emerging geo-political landscape and accepts that people and peoples will have different goals in life. In her speech Prime Minister Bhutto stated:

> *"The followers of Islam have no conceptual difficulty in addressing questions of regulating population in the light of available resources",*

but just as were other speakers from the region, she was quick to stress that this did not imply the adoption of Western attitudes towards the family, marriage, and so on. And President Mubarak declared in the Egyptian Gazette of 7 September 1994, that

> *"Egypt is defending its Islamic values through its presence at the conference"* (Cliquet *et al.*, 1994, p. 178).

Clearly, both of them were under pressure. Not for their attitude towards population growth, control, or policies, but because a sizeable fraction of the populations they represent felt their cultural identity to be threatened.

In my view a way out may be to make a clear distinction between individual human rights, which are unalienable, fundamental and can, and should, be universally accepted, and 'rights' which are politically persuasive but are not legally binding. Rights of the first type should be, and are, included in the Universal Declaration of Human Rights. They deal with the right to life, liberty, freedom of expression, integrity of the body, and so on. These rights should be strictly adhered to independently of the cultural or legal tradition of a country. UN instruments frequently also refer to 'rights' which governments accept and see as social obligations on their part and social entitlements from the point of view of their population. In such cases, the traditions, beliefs, cultural background, and economic possibilities of the

country are extremely important in judging whether a government adheres to the spirit of that obligation.

I must confess to being somewhat baffled by the position taken by the European Union in this context. On the one hand the Union fought hard to reduce the significance of references to beliefs, culture, and traditions in the so-called 'chapeau' of the Principles and in the Preamble. And with some measure of success. The 'chapeau' now simply states that the implementation of the recommendations of the Programme of Action should take place:

> *"...with full respect for the various religious and ethical values and cultural backgrounds..."*

of the people of sovereign states: a form of words which is not terribly prescriptive and which does away with 'tradition' as such. On the other hand the European Union pushed hard for the inclusion of a completely new concept *"philosophical convictions"* in both places. Again with some measure of success, for paragraph 1.11 of the Preamble now contains the passage:

> *"...with full respect for the various religious and ethical values, cultural backgrounds, and philosophical convictions of its people,..."*

I take the new term to refer to atheistic or humanistic positions taken by many people in the West and in that sense to comprise, for example, a plea for the separation of Church and State. But how one can simultaneously try to advance a universalistic and a particularistic view of the world, remains something of a mystery to me. Moreover, the term *"philosophical conviction"* is exceedingly vague. Does an ideology (Marxism, national-socialism, conservatism) count as such provided it has a proper philosophical underpinning? And what about existentialism, post-modernism, and similar ...ism's?

The reader may have heard that during the Cairo Conference the famous phrase from the Bucharest Conference:

> *"All couples and individuals have the basic right to decide freely and responsibly the number and spacing of their children and to have the information, education, and means to do so;..."*

also came under attack. It was staunchly defended. But if one analyses this phrase from the point of view of making a distinction between 'social

obligations' and unalienable individual human rights, as I did on an earlier occasion (Van de Kaa, 1987), it is easy to conclude that a translation into unalienable, individual human rights, yields only two of such rights. The first I would like to call:

the basic human right to use the means and methods of fertility regulation;

the second:

the basic human right not to procreate against one's will.

These are both 'negative' rights in the sense that they recognize that an individual cannot take the 'positive' decision to have a child. One always needs another person, whether that is a partner, spouse, or donor.

The remainder of the famous Bucharest phrase refers either to social obligations on the part of the state or to the way couples may jointly exercise individual rights. In other words, those who, in Cairo, objected against the current text, did, in my view, have a point. It is not reasonable to refer to couples and individuals in one sentence.

5 | Peroration

I was invited to review the Cairo Programme of Action from the point of view of a scholar and for a demographic audience. The reader may well ask whether it is fair to review a political consensus document from that stand point. The answer obviously is: No! Nevertheless, it is desirable that it should be done. Implementation still has to follow. Moreover, population is too important an issue to leave to politicians, diplomats and pressure groups.

Acknowledgement

In the preparation of this speech I have made use of various conference documents, standard demographic literature, papers I wrote on earlier occasions, and materials friends were kind enough to send me. Adrian C. Hayes sent me a copy of a presentation on the antecedents to the Cairo Conference which he gave to the Seventh National Conference of the Australian Population Association, Canberra, 21-23 September 1994.

Wolfgang Lutz sent me a note on the way he 'killed' the growth prediction of the effects of implementing the Programme, while Robert Cliquet offered me a complementary copy of the book he and Kris Thienpont wrote after the Conference. I am grateful to all of them; a brief set of references follows.

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PERCEIVED OBSTACLES TO FERTILITY: Opinions on family policies in Flanders and in the Netherlands

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Abstract. The article reports on the results of a comparative analysis of public opinion surveys held in Flanders and the Netherlands at the beginning of the nineties. The analysis focuses on family and parenthood values and their relationship with opinions on family policies. The results show that different value patterns and different opinions with respect to the combination of work with family responsibility are linked to differences in the evaluation of current policies on child allowances, maternity leave, child care facilities, etcetera. Consequently, also policy priorities as perceived by people are different in the two countries.

Keywords: Public opinion on population issues; combination of work with family life; obstacles to fertility; Flanders; The Netherlands.

H. van den Brekel and F. Deven (eds.), Population and Family in the Low Countries 1995, 41–66.

1 | Introduction and research design

At the beginning of the nineties, surveys on the attitudes of the population towards demographic trends and social policy were carried out in Flanders and the Netherlands. Both surveys were carried out within the framework of the European Comparative Survey on Population Policy Acceptance (PPA), involving nine European countries and using opinion surveys based on common questionnaires with the intention of a comparative data elaboration (Moors and Palomba, 1995).

The general design of the questionnaire was based on an analytic framework, representing the hypothetical relations between the various concepts of social climate, personal characteristics, value patterns, lifestyles, family formation, and social policies, and was developed by the working group of PPA participants (Moors and Palomba, 1995). A major part of the PPA questionnaire is implicitly based on elements of the rational choice theory. It assumes that behaviour is mainly the outcome of explicit decision-making, in which a choice is made between alternative behaviours by a subjective evaluation of benefits and costs, guided by a pursuit of an optimal result.

In view of the objectives of the survey, a relatively simple model of reproductive behaviour was adopted. In this model, fertility intentions are assumed to be dependent on the following components:

1. Subjective norms in society on family and parenthood;
2. General values in life and their perceived relationship with having children;
3. The social context and political climate in general, and the perception of the adequacy of social policies in particular.

These three main components were incorporated in the questionnaires of all nine countries, although variations and restrictions did occur. Some additional concepts were introduced either to clarify or to specify the other components, or to facilitate the study of interrelations. Most important in this respect are the values of children, and the reasons for not wanting children or another child. Our conceptual model includes the concepts of 'values', 'attitudes', and 'opinions'. Values are the general values in life that one adheres to; opinions and attitudes refer to the perception that people have of demographic trends, of policies in general, and of specific policy measures. Many

questionnaires went beyond the recommended core questions.[1] In Flanders, the survey on attitudes towards policies was conducted together with NEGO-V, a large-scale family and fertility survey which was carried out within the framework of the European Comparative Family and Fertility Survey (FFS). The PPA-questionnaire was handed to the FFS respondents with the request to complete it after the interview. In the Netherlands, special attention was given to opinions on and the use of child care facilities.

The Flemish survey took place from April to December 1991. Separate samples for males and females of Belgian nationality were drawn from the national population register in a selection of Flemish municipalities. One-stage random sampling was applied to the cities of Ghent and Antwerp. Additional municipalities were selected on the basis of stratified cluster sampling according to economic strata. The effective sample size was 3629 males and females in the 20-39 age group. This is 76 per cent of the original NEGO-V sample size (4776), which showed a slight underrepresentation of unmarried males. The non-response in the PPA survey was responsible for an additional underrepresentation of males. Consequently, the results were weighted according to gender.

The Dutch survey took place from September to November 1990. The sampling frame covered all Dutch-speaking inhabitants, aged 20 years and older, including eligible foreigners. In the two-stage sample design, households were first randomly selected from the telephone directories of the whole country. These registers are assumed to cover about 90 per cent of all households. The eligible person within the household was identified as the one whose birthday was the first after 1 January, to account for a random distribution by age and gender. The total sample size was 1541. The response rate was 56 per cent. The non-response was responsible for an underrepresentation of young married males and older unmarried females. For this reason, results were reweighted simultaneously, according to the national distribution, by sex, age, marital status, and region.

For the purpose of this analysis, in the presentation we only included respondents between the ages of 20 and 39 for comparative reasons, and

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[1] As the core questionnaire mainly dealt with social policies on family and children, two optional modules on other relevant areas of population-related policies were developed for application in connection with the core, one on attitudes towards foreigners and opinions on migration policy, and one on attitudes towards the aged and on policies related to ageing. However, these were not included in the Flemish survey.

because we wanted to focus on fertility intentions. In particular, we analyzed the values, attitudes, and opinions of respondents who are parents, intentional parents, and intentionally childless individuals.

Fertility levels in Flanders and the Netherlands are roughly comparable (*Table 1*). One important difference relates to the timing of births. Women in Flanders have their first baby significantly earlier than Dutch women. In Flanders the mean age of mothers at first birth was 26.1 in 1991, in the Netherlands 27.7. Of course, this affects both the current number of children and the proportion of women intending to have a/another child. The survey data show that women in Flanders are slightly further in the family formation process than women in the Netherlands.

The proportion of respondents living with a partner is about the same in both countries: 73 per cent in Flanders, 71 per cent in the Netherlands. However, in the Netherlands, a smaller percentage is in fact married: 53 against 67 per cent in Flanders. The proportion of women currently working is also lower in the Netherlands: 63 against 74 per cent in Flanders.

Table 1. Some fertility indicators in Flanders and the Netherlands: national population statistics and survey results

	Flanders	Netherlands
National Population Statistics:		
Period TFR 1989-91	1.54[a]	1.61
Cohort Fertility 1990-91 at age 40	1.82[a]	1.90
PPA Results: Age Group 20-39:		
Total number of living children	1.09	.86
Percentage intending to have another child[b]	38	57
Total number of children intended	1.95	1.88

[a] Source: Willems, P., *Transities in de levenscyclus. Een demografische analyse.* (To be published).

[b] Including currently pregnant.

The following analysis will concentrate on inter-country differences in attitudes and opinions regarding fertility trends, values on family and parenthood, views on the role of the government in general and on concrete family policies in particular. Finally, we will attempt to assess the potential impact of new family policy measures on fertility decision-making.

2 | Obstacles to fertility

General opinions on the importance given to certain social factors as having an impact on the general decline in fertility over the past twenty years may reflect perceived personal barriers regarding having children. Respondents were asked to indicate, for each social factor in a list, whether, in their opinion, it had played a very important, fairly important, or an unimportant role in the declining number of children that women have.

Although the Dutch more often mentioned specific factors as important causes for the birth decline in the past twenty years, the relative importance attributed to these factors did not differ so much between respondents in Flanders and in the Netherlands (*Table 2*). In both countries, increasing female labour force participation and the desire to have a comfortable life are mentioned as the major causes of declining fertility. The most pronounced difference in opinion is that Flemish respondents attach much greater importance to the impact of the economic and employment situation than the Dutch. This factor has the lowest relative importance for the Dutch.

Opinions on the causes of the birth decline do not show significant differences according to age or gender. The only exception is that Dutch men attach much more importance to 'the desire to live more comfortably' than Dutch women, while, on the other hand, Dutch women stress insufficient child care facilities as a reason.

Opinions do differ, in a similar way in both countries, according to marital status and to the educational level of respondents. Both the economic crisis and unemployment and the high financial costs of children are more often mentioned as important causes of the birth decline by divorced and widowed men and women than by married or never-married respondents. This applies in particular to women in both countries: 38 per cent of divorced and widowed women in both countries are convinced of the importance of the economic crisis, against 23 per cent of married and never-married

Table 2. Opinions on the importance of different social factors to the decline in fertility (% 'very important')

	Flanders			Netherlands		
	%	rel. %	rank	%	rel. %	rank
Economic crisis and unemployment	21	17	3	19	8	6
More women working outside the home	37	31	1	60	25	1
People want to live more comfortably	22	18	2	54	23	2
Insufficient child care facilities	6	5	6	23	10	5
High financial costs of children	16	13	5	30	13	4
Desire for independence	19	16	4	50	21	3

respondents. An explanation might be that women, after separation or divorce, suffer a weakened economic position, or consider themselves as being economically weakened. Thus, the economic crisis and unemployment play a more important role in their lives.

Accordingly, less educated respondents attach more importance to the economic crisis and the high financial costs of rearing children as a cause of birth decline than the highly educated: 40 per cent of the low educated respondents in Flanders mention the crisis factor, against only 11 per cent of respondents of the highest educational levels; 25 per cent of the Flemish respondents with a modest education mention the cost factor, against 11 per cent of the highest levels. In the Netherlands, the difference in opinion according to educational level is even more distinct: 51 against seven per cent with regard to the crisis factor, and 63 against 18 per cent with regard to the cost factor.

The same, but less marked differences in opinion, exist between the respondents with lower and higher income levels.

The desire to live more comfortably as a factor influencing the birth decline merits more importance among persons with a lower educational level. On the other hand, the desire for independence is mentioned more often by highly educated people, both in Flanders and in the Netherlands.

A general conclusion that can be drawn from these figures is that people of lower educational attainments attach more importance to material causes in influencing human fertility decisions than people of higher educational levels. Highly educated respondents seem to be more inclined to mention post-materialist values as being important in the fertility decision-making of people. However, these post-materialist values were only measured by one item, i.e. the desire for independence by both men and women.

Flemish and Dutch respondents maintain quite different values when parents' responsibilities towards their children are concerned (*Table 3*). Two out of three Flemings state that 'it is the parents' duty to do their best for their children, even at the expense of their own well-being'; for the Dutch, this applies only to slightly more than half of the respondents. The difference is particularly revealing if we look at those who do not have children yet: less than half of the childless Dutch respondents agreed with this statement. A major proportion of the Dutch holds an intermediate position, meaning that they don't agree with either one of the statements. Flemish childless respondents, on the other hand, maintain almost the same opinions on parental responsibilities as parents do. It is clear that the view on parental responsibilities will have consequences for other decision-making related to a person's time and energy.

Table 3. Opinions on parents' responsibilities towards their children (childless persons and parents) (%)

	Flanders			Netherlands		
	childless	parents	total	childless	parents	total
Parents have to do their best for their children, even at the expense of their own well-being	71	67	70	47	60	53
Parents have their own life and should not sacrifice their own well-being	23	17	22	12	8	10
Neither	6	17	8	41	32	37

In the Netherlands, the view on parental responsibilities also appears to be related to fertility intentions. Those who do not want children anymore more often state that parents should sacrifice their own well-being than those who do intend to have more children. This suggests that a 'traditional' view on parental responsibilities may well restrain couples from having additional children. In Flanders, this relationship could not be found.

There is another remarkable difference. Whereas in Flanders men and women seem to hold the same views on this matter, Dutch men and women differ considerably. The attitudes of Dutch men are comparable to those of the Flemish: 60 per cent agree with the statement that parents should sacrifice their own well-being for their children. However, only 43 per cent of Dutch women agree with that statement. We hypothesize that, for Dutch women, motherhood is felt to be more competitive with other goals in life than for Flemish women. Some support for this hypothesis is found in the result that fewer working women in the Netherlands agree with the statement (40 per cent) than those who have stopped working (53 per cent). In Flanders, working women and housewives have the same view on parental responsibilities. Here, parenthood seems to be a value in itself, which is not easily competed by other goals in life.

Table 4 provides information on how men and women in both countries prefer to combine work with parenthood. However, if we assume that this preference will be influenced by one's view on parental responsibilities, as reflected in Table 3, these parenthood values seem to be quite inconsistent with work/family options, both for men and women. It can be assumed that these parenthood values are expressed on a general level, while the preferred combination of work and family is expressed on a more personal level. Despite the fact that Flemish women seem to give a higher priority to their motherhood responsibilities, a substantial proportion of them (38 per cent) prefers to achieve this in combination with a full-time job. Again, it can be assumed that parenthood is seen as less competitive with other goals in life (for instance work) by Flemish women than by Dutch women. Most Dutch women prefer to combine having children with a part-time job, and one out of three Dutch women prefers to refrain from having a job at least temporarily when they have children. Men in the two countries differ in this respect as well. Whereas 95 per cent of Flemish men prefer full-time employment anyway, Dutch men seem to be more divided in their opinions on what would be preferable for fathers: one out of four Dutch males does not consider having a full-time job as being the most preferable choice in view of their role as a father of young children.

Table 4. Preferred combination of work and family, by gender (%)

	Flanders		Netherlands[a]	
	males	females	males	females
Full-time job, no children	8	4	12	5
Full-time job, one or more children	87	38	62	8
Part-time job, no children	0	1	0	4
Part-time job, one or more children	4	47	21	47
Temporarily or permanently no work if there are children	1	10	5	36

[a] Some uncertainty exists regarding the comparability of the information on this topic due to the formulation of the question in the Dutch survey of 1990. For this reason, data were taken from the Dutch survey of 1994.

Flemish men and women show considerable differences regarding their preference for a part-time job, while Dutch men and women's preferences are more alike. It is clear that a full-time job is far less popular among Dutch respondents than among Flemish respondents. This is especially the case for women: only 13 per cent of Dutch women prefer to have a full-time job; in Flanders this is still 42 per cent.

In both countries, differences between parents and those who are as yet childless are limited or non-existent. The main deviations are that, in Flanders, mothers are more in favour of a part-time job with children than childless women are. In the Netherlands, more mothers prefer not to have a job if they have children than childless women.

A general conclusion from these figures is that part-time work is much more preferred in the Netherlands than it is in Flanders. However, the data lead to the assumption that having a part-time job is a value in itself for Dutch respondents, while for Flemish respondents it is more instrumental in facilitating the combination of having children and a job. Also in the Netherlands, choosing part-time work has to do with the difficulty of combining work with having children because of indadequate family supporting facilties. However, the results seem to indicate that, in the Netherlands, choosing part-

time work is also related to general values in life and/or the 'work ethos', apart from parenthood. In view of this assumption, it is evident that the preference for a part-time job in Flanders is growing with the number of children. In the Netherlands, women prefer to quit their job when they have children. In case one prefers not to work, a positive relationship with the number of children can be found: the more children one has, the more one prefers not to work. The difference in preference for a part-time job becomes even more apparent if educational attainment is taken into account. In both countries, the preference for part-time employment is more prominent when the educational level is higher, but this applies more to the Netherlands than to Flanders. Among the highest educational level, 58 per cent of the Dutch and 28 per cent of the Flemish prefer part-time jobs and children; as for the lowest educational category, these figures are 41 and 20 per cent, respectively. In addition, it should be mentioned that, in the Netherlands, one out of every three respondents with a modest education prefers not to have a job at all when they have children; in Flanders this category is only about five per cent, irrespective of educational level.

In Flanders, as well as in the Netherlands, the current work status of women does not seem to be related to their preferences on the combination of parenthood with work: full-time and part-time employed women seem to have the same preferences. However, it appears that Dutch women who have stopped working are less interested in having a part-time job than others; they prefer not to have a job, at least temporarily, when they have children. Flemish women who have stopped working also prefer not to have a job, but at the expense of a full-time job. So, there only seems to be a clear relationship between preferences and behaviour regarding work and family options for women who stopped working.

3 | Opinions on government responsibilities

Previous research suggests a relationship between the evaluation of the urgency of specific social policy measures and the public's view on government responsibilities in general (Moors, 1990). In the Netherlands, the situation of the family with children seems to be either evaluated quite differently or is given different priority than other social issues in other countries, such as unemployment, housing, or health care. *Table 5* supports this conclusion. The great majority of the Dutch feel that care for the elderly is a government responsibility, but only one out of three respondents state

Table 5. Opinions on government responsibilities, by gender (% 'completely or fully responsible')

	Flanders		Netherlands	
	males	females	males	females
Government should				
- look after the elderly	44	52	88	88
- promote opportunities for combining a job with children	54	65	30	41

that the government has a major task in facilitating the combination of parenthood with work. This is in contrast with the Flemish who place much less emphasis on the importance of governmental activity regarding care for the elderly, but who much more than the Dutch expect their government to promote opportunities for working parents.

As regards the need of a policy for the elderly, opinions in both countries do not appear to be affected by age, gender, or other social characteristics. One exception is that Flemish women more than Flemish men express the need for the government to take care of the elderly. Viewing daily practice, it is easier to understand why women are more concerned with a well organized care for the elderly. Regarding work and family, attitudes are more divergent, although not always in the same way. Flemish parents emphasize the importance of government policy in the field of work and family more than childless persons (64 versus 53 per cent), whereas in the Netherlands these two groups do not differ in opinion. On the other hand, in the Netherlands, the level of education plays an important role in the opinion on the government's task in the field of work and family: 28 per cent of the lower education category, but 49 per cent of the higher education category feels that the government should be primarily responsible for measures facilitating the combination of work and family. In both countries, the current work status of a woman is also closely related to her opinion on the government's responsibility in the field of work and family. In the Netherlands, 47 per cent of working women stress the government's role in this field against 31 per cent of housewives. The comparable figures for Flanders are 67 and 57 per

cent, respectively. Moreover, the need for the government to promote possibilities for combining a job and children seems to be felt more by women working part-time than by women working full-time. We hypothesize that people who are already in a part-time work situation and who explicitly choose it, are more sensitive to the need for promoting combination possibilities.

4 | Evaluation of current policies

Pregnancy and Maternity Leave
Respondents who ever had pregnancy or maternity leave are those who or whose partner ever made use of the legal maternity leave arrangements that exist for employed people, immediately after the birth of a child. Other existing arrangements such as unpaid leave of absence, career interruption, or regular holidays are not concerned here. In Flanders, 20 per cent of the respondents have at least made use of the existing maternity leave arrangements once. In the Netherlands, this was 11.5 per cent.

There is a great difference in opinion on currently existing maternity leave arrangements in the two countries. Almost three out of four Dutch respondents felt that the leave was of reasonable length. In Flanders, opinions were much more negative. Three out of four Flemish respondents felt that this was too short. Men and women did not differ significantly on this issue, nor did parents and childless persons. Age seems to have some effect in the Netherlands, as older respondents were somewhat more negative on average than younger respondents. Personal experience might be related to this.[2]

Since 1990, in the Netherlands, the leave is a total of sixteen weeks of which at least four weeks should be taken before the expected date of birth; so a possible twelve weeks remain after childbirth. Here, wages are paid at 100 per cent of earnings during the whole leave. Since 1991, total maternity leave in Belgium is fifteen weeks, one week of which should be taken before the expected date of birth; so a possible fourteen weeks remain after the birth. At the earliest, the leave starts seven weeks before the expected date of birth. Wages are paid at 82 per cent of earnings during the first month, then at 75 per cent up to the maximum level during the rest of the leave. At the time

[2] The number of respondents who actually enjoyed maternity leave was too small to draw conclusions.

of the interview, most Flemish respondents probably referred to the previous system of maternity leave. This system had a total of fourteen weeks of leave, of which at least one week had to be taken before childbirth; thus, thirteen weeks remained, at most, after childbirth. It can be concluded that the Flemish are more discontented with the existing maternity leave, despite the fact that the Belgian system is very similar to the Dutch system, certainly with respect to the duration. Possibly the difference in earnings during the leave can be considered to contribute to the difference in appreciation of the leave system in the two countries. Furthermore, the Belgian system of maternity leave, being a part of a very strong social tradition, might be considered by the population to be a normal part of the necessities of life which is always susceptible to improvements.

Income does not seem to have a significant effect. Some importance of education as a socio-economic status indicator was detected in the Netherlands. Here, the upper educational category evaluated the leave less positively than the medium and lower level respondents did: 62, 74, and 81 per cent, respectively, evaluated the leave as being reasonable.

In the Netherlands, women in employment expressed a less positive opinion than women who had never worked and who, for that reason, could never have experienced the leave themselves. Women who had left their job held an intermediate position. In Flanders, women in employment and housewives seemed to hold the same opinions on the sufficiency of the existing arrangements. These findings certainly do not support the view that current maternity leave arrangements would stimulate women to continue their job after a pregnancy.

It is clear that the evaluation of current measures will influence attitudes towards an improvement of these measures. *Table 6* confirms this, although it can be concluded that the Dutch were more consistent in their answers than the Flemish were. However, no matter what the opinion on current arrangements was, a majority of the respondents feels that an improvement would be appropriate. This is even more true of the Dutch (72 against 54 per cent of the Flemish) despite the fact that they were generally more satisfied with the current situation. In both countries, women are clearly more in favour of an improvement of maternity leave arrangements than men: 60 versus 48 per cent in Flanders, 79 versus 65 per cent in the Netherlands. The opinions of parents and those of childless persons do not differ in the two countries.

Table 6. Opinions on government action to improve maternity leave arrangements in relation to the evaluation of current leave (%)

	Flanders		Netherlands	
	Evaluation of current leave:			
	reasonable	too short	reasonable	too short
In favour	40	63	66	94
Against	24	12	10	1
No opinion	36	25	24	5

Respondents with higher educational levels are more in favour of an improvement in maternity leave arrangements than respondents with lower educational attainments. This is the case in both countries.

Child Allowances

Child allowances in Belgium are organized on a professional basis. They are inherent to the social security system. Three professional systems (employees, the self-employed, civil servants) exist, based on the principle of social insurance. As a consequence, the right to child allowance and the amount are based on the work situation of the parents and on the contributions they pay. The level of allowances depends on birth order and age of the child, on the degree of handicap of the child, but also on certain situational factors such as unemployment or disability of the parents. The basic amount is lowest for the first child and highest for the third and subsequent children (*Table 7*). When the child reaches 6, 12, and 16 years, the basic amount rises. Despite the fact that child allowances in Belgium are very high compared with most European countries, there is a relatively high degree of discontent with the existing levels. Child allowances are considered to be a social privilege that has been long acquired and that has become a normal part of family income.

Arrangements regarding child allowances in the Netherlands underwent numerous changes. Since 1963, all families receive child allowances starting with the third child, whereas specific groups (including all civil servants) also received child allowances for the first and second child. Since 1980, all

Table 7. Monthly amounts (in ECU) of child allowances in Belgium and the Netherlands (May 1992)

	1st child (7 years)	2nd child (7 years)	3rd child (7 years)	4th child (7 years)
Belgium[a]	78.10	127.37	178.84	178.84
Netherlands[b]	63.01	74.82	78.13	84.99

[a] Employee system (Source: Deleeck, 1994, p. 174).
[b] Child allowances + cost of living supplement.

parents taking care of one or more children receive child allowances. In subsequent changes, the level of child allowances became dependent on birth order and age of the child. Allowances became higher with the rising number of children and/or with the rising age of the child (Esveldt and Van Nimwegen, 1992, pp. 55 ff.).

This was the situation which most couples in the reproductive age group in the Dutch survey were confronted with. The most recent change took place on 1 January 1995 when the relation to birth order was abolished and the relation to age of the child was diminished.

In Flanders, 62 per cent of the respondents were receiving child allowances at the time of the interview, compared to 40 per cent of the Dutch respondents. The Flemish and the Dutch showed wide differences of opinion regarding the level of child allowances as existing at the time of the survey, again the Dutch being much more satisfied.

There appears to be a wide consensus regarding the evaluation of child allowances at all levels of society. In both countries, opinions are independent of gender and do not show differences between women in employment and housewives. However, the age of the recipients, obviously also related to the number and ages of the children, does have some influence on opinions. Both in Flanders and in the Netherlands, parents in the 30-39 year age group are more satisfied with current levels than younger parents. Those in the higher educational category are more inclined to evaluate current levels as reasonable than respondents with a lower or medium educational attainment.

Opinions on the desirability of higher child allowances do not depend on the evaluation of existing levels, although there obviously is a correlation. Those who stated that existing levels were too low are more in favour of an increase, but also a majority of those who feel that current levels are reasonable nevertheless express the desirability of higher allowances (*Table 8*). Again, social differentials are small: in both countries, those with a lower education are slightly more in favour, and those in the higher income groups are more opposed to an increase in child allowances. It was expected that couples in which the woman is not in employment would be in favour of the extra income through child allowances, but only the data for the Netherlands support this assumption.

In the Netherlands, child allowances are not related to income, and were only partially related to the rank number of children, since the allowance for each child was higher when the total number of children was higher. However, at the time of the survey, there was a strong relationship with the age of the child: if one considers the level for children in the age group of up to five years as 70 per cent, it was 100 per cent for children in the 6-11 age group, and 130 per cent for the 12-17 age group.[3] Above that age there are different regulations depending on the level of independence of the child, and whether the child is still at school. It can be concluded that the principles of the child

Table 8. Opinions on the desirability of a substantial increase in child allowances in relation to the evaluation of current levels (%)

	Flanders		Netherlands	
	Evaluation of current level of child allowances:			
	reasonable	too low	reasonable	too low
In favour	60	86	59	94
Against	13	3	15	3
No opinion	27	11	26	3

[3] As from 1 January 1995, the percentages are respectively 70, 85, and 100.

allowance scheme in the Netherlands are accepted by a definite majority of the population. However, it should be noted, as is shown in *Table 9*, that a clear majority of the population (58 per cent) would not object to some sort of an income-related child allowance (although this proportion slightly declines if compared with previous surveys: 1983, 66 per cent; 1986, 64 per cent) despite the fact that this has never been a topic of discussion in Dutch politics. In Flanders, child allowances are not income-related either. Here, about 50 per cent of the population is in favour of some sort of income-related child allowance.

The great majority of respondents in both countries is in favour of raising child allowances with increasing age of the children. Thus, attitudes on the importance of the child's age in this respect implicitly means an approval of the systems as they existed at the time of the interview.

As regards the importance of the birth order of children, the Dutch are very much in favour of a system that does not take the number of children into account (84 per cent). In Flanders, one out of four respondents would opt

Table 9. Opinions on different options regarding the scale of child allowances (%)

	Flanders	Netherlands
Related to family income:		
more if the income is low	47	47
only if the income is low	3	10
independent of income	50	43
Related to the age of the children:		
more if the children are older	68	77
more if the children are younger	3	3
independent of age of the children	29	20
Related to the number of children:		
only for the first and second child	10	15
only for the third and following children	23	1
independent of number	67	84

for child allowances only for third and subsequent children. This difference of opinion might be related to the nature of the system: in Flanders there is a considerable rise in child allowances for the benefit of third and subsequent children.

5 | Perceived consequences of current family policies

Only one out of four Flemish respondents feels that the existing family policy enables mothers to spend more time with their children. A minority of the Dutch (32 per cent) feels the same way. About half of the respondents in both countries states that the existing policies definitely do not have this effect. Parents and childless respondents do not differ in this respect.

Flemish and Dutch respondents show considerable differences of opinion with regard to the fertility-enhancing effect of existing policies. A majority of respondents in Flanders (60 per cent) firmly believe that existing policies enable couples to have the number of children they desire, against only six per cent of the Dutch. Three out of four Dutch respondents definitely do not believe that existing policies have a fertility-enhancing effect. Parents and childless respondents show no differences of opinion in this matter.

Differences of opinion between the two countries are smaller with regard to the fertility-facilitating effect of existing policies: 40 per cent of the Flemish and 32 per cent of the Dutch believe that existing family policies enable people to have their children sooner. Men and women do not differ on this subject, nor do parents and childless people.

It can be concluded that the Flemish are more convinced of the effects on fertility of existing policies than the Dutch are. Of course, it must be kept in mind that the Flemish have progressed more in their family formation process than the Dutch. Thus, they might be more inclined to account for the existing policies in making possible this formation process. In both countries, those who intend to remain childless do not differ significantly from those intending to have a/another child in their opinion on the effects of existing family policies.

6 | Evaluation of hypothetical new policies

A list of hypothetical policy options was shown to the respondents, who were asked to indicate to what extent they would be in favour or against the implementation of each option. The list of policy options was offered in a somewhat different order in the two countries. Nine out of ten respondents in both countries are in favour of one or more of the hypothetical family-policy options that were listed in the questionnaire. Opinions on population trends and on 'the declining number of births' in particular are not related to these attitudes. However, approval of the introduction of specific, hypothetical, new family policies differs widely in both countries (*Table 10*). Approval ranges from 30 to 75 per cent; so it certainly is not true that any improvement in family welfare is considered to be desirable. Obviously people are aware of the fact that all policies cost money and probably individual priorities already implicitly play a role.

The desirability of policies shows amazing and unexpected differences between the two countries. Of the three policies which met the most approval, Flanders and the Netherlands have only one in common, i.e. 'better

Table 10. Attitudes towards hypothetical new family policies (% 'in favour' and 'strongly in favour') and ranking order of approval (respondents aged 20-39)

	Flanders		Netherlands	
	%	rank	%	rank
Better maternity leave arrangements	54	6	72	2
Lower income tax if dependent children	57	5	65	5
Better child care facilities for young children	48	7	67	4
Allowance at birth of each child	31	10	35	9
Income for parents who stop working	74	1	33	10
Higher child allowances	71	2	52	6
School-age child care	67	4	49	8
Flexible working hours for parents	45	9	68	3
Better opportunities to work part-time	69	3	78	1
Better housing accommodation for families	48	8	50	7

opportunities for part-time working', coming first in the Netherlands and third in Flanders. Over two-thirds of the population are 'in favour' of such a policy. As expected, women are much more in favour of this policy option than men: 76 per cent of women in Flanders and 83 per cent of women in the Netherlands, against 63 per cent of Flemish men and 70 per cent of Dutch men. Part-time work seems to be a more favourable option for higher educated respondents in both countries: 89 per cent of highly educated Dutch respondents favour this option, against 68 per cent of respondents with the lowest educational attainments. The comparable figures for Flanders are 72 and 64 per cent.

In the Netherlands, 'better maternity leave arrangements' as well as 'flexible working hours' receive wide approval. Here, flexible working hours are especially desirable for women and for highly educated respondents. In Flanders, on the other hand, these two policies get considerably less support, whereas two policy options in the field of financial support, 'higher child allowances' and 'an income for parents who stop working to take care of their children themselves', are approved by over 70 per cent of the respondents. The latter —an 'allowance for non-working parents'— even comes first in order of approval. Working and non-working respondents in both countries do not differ in their opinion on the desirability of this income allowance. This is all the more amazing in view of the fact that this kind of allowance has never existed in Belgium (nor has it, for that matter, in the Netherlands). In Flanders, however, some (marginal) movements have been advocating the introduction of this idea zealously for several years.

We conclude that the Flemish are much more in support of financial arrangements for parents, whereas the Dutch prefer policies in the context of work arrangements, aimed at solving the actual combination problems for parents: flexible working hours, better maternity leave arrangements, and better child care facilities. Flemish parents seem to be more in need of a family policy which grants allowances to facilitate the raising of children. Policy options that are aimed at improving the daily combination of work and children are of secondary importance. One exception is the need that is expressed for better school-age child care (67 per cent in favour). Dutch parents strive much more for a combination of work and family, and prefer schemes that would facilitate this. This suggests that, relatively speaking, Flemish couples expect that family policies should make up for the loss of income, whereas the Dutch expect compensation for the loss of time. On the other hand, lower income tax for people with dependent children is favoured by a majority of respondents in both countries: 65 per cent of the Dutch and 57 per cent of

the Flemish. Respondents with higher educational attainments are slightly more in favour of reduced income tax.

Opinions on the desirability of new policy measures must be seen in relation to existing 'family-oriented' arrangements in each country. For example, we assume that differences in availability of child care facilities to a considerable extent account for differences in appreciation of these facilities. In 1991, about 18 per cent of all Dutch children aged zero to three years made use of a 'play centre'. About 3.5 per cent were in crèches and day-care centres. At the age of four and five, most children attend early primary school about five to seven hours per day. In the same year, about 12 per cent of all Flemish children aged between zero and three years were regularly cared for by child-minders; about eight per cent of them went to a day-care centre. In the age group three to five, about 95 per cent of all children attend pre-primary schools about five to six hours per day.

In both countries, women are more in favour of better child care facilities for young children and better child care before and after school hours than men: 52 per cent of Flemish women favour the first option, 72 per cent favour the second option. In the Netherlands, the comparable figures for both options are 72 and 58 per cent, respectively. The need for child care facilities for children below the age of three is felt more by younger respondents (aged 20-24) than by the older ones (35-39 years old) in both countries. The difference of opinion according to educational level is clear: the higher the educational attainment, the more child care is considered to be a desirable option. In Flanders, women in employment and housewives hold the same opinions with respect to the desirability of better child care facilities. In the Netherlands, women in employment are clearly more in favour of better day-care facilities and better school-age child care than housewives.

The Flemish and the Dutch have quite different priorities when new family policies are considered (*Table 11*). These priorities largely correspond to the policies that meet the widest acceptance: an allowance for non-working parents and higher child allowances in Flanders, and more part-time jobs, better maternity leave, and better child care facilities in the Netherlands. Income-related policy options are less popular among the Dutch. In both countries, parents have preferences which are different from those of childless couples: far more than others parents favour 'lower taxes if there are dependent children' and 'higher child allowances'. Childless couples in the 20-39 year age group, who may be considered as potential future parents,

Table 11. Family policy priorities for childless persons and parents (respondents aged 20-39)

	Flanders			Netherlands		
	childless	parents	total	childless	parents	total
Better maternity leave arrangements	12	6	8	39	29	34
Lower income tax if dependent children	12	26	21	19	38	28
Better child care facilities	10	4	6	41	21	32
Allowance at birth of each child	8	5	6	9	9	9
Allowance for non-working parents	40	39	39	12	17	14
Higher child allowances	24	41	35	17	40	27
After-school child care	17	17	17	17	15	16
Flexible working hours for parents	12	11	12	28	23	26
Better opportunities to work part-time	22	19	20	51	28	41
Better housing accommodation for families	7	7	7	8	7	8
Total number of respondents	1034	1704	2738	331	265	596

Note: A maximum of three measures from a list of ten could be selected as priorities; so multiple responses were allowed. However, percentages are based on the number of respondents.

give a relatively higher priority to better child care facilities and more part-time jobs. This applies to both countries, but much more to the Netherlands than to Flanders.

Table 12 summarizes the relative importance of different types of family policies. The table confirms our previous conclusions. In Flanders, financial support is given higher priority than support in the other fields. In the Netherlands, better work arrangements have first priority. In both countries, work arrangements and child care are relatively more important to parents-to-be, whereas those who already have children consider financial aspects as their main concern.

7 | Possible fertility impact of new policies

Both surveys provided limited opportunities to assess the impact of hypothetical new policies on individual reproductive intentions. Respondents were asked to indicate what the effect would be on their reproductive intentions of the introduction of policies to which they themselves gave a high priority.

Table 12. Generalized family policy priorities for childless persons and parents (respondents aged 20-39)

	Flanders			Netherlands		
	childless	parents	total	childless	parents	total
Work arrangements	42	34	37	76	58	68
Child care facilities	25	20	22	44	30	38
Financial arrangements	65	78	73	43	71	55
Better housing	7	7	7	8	7	8

Note: Percentages are based on respondents indicating that at least one measure in the indicated field was selected as a priority.

For those who did not intend to have a child in the future, the impact could be the willingness to reconsider their fertility intentions, with the possibility that they would change their mind and still have another child.

Table 13 shows the possible fertility impact of the new policies. If we consider only those who originally did not intend to have children in the future, the potential impact seems considerably greater in the Netherlands. However, we have to consider that there is a timing difference between the two countries which results in a smaller proportion of Dutch respondents intending not to have any more children because they were postponing their births more than Flemish couples (see also Table 1): 43 per cent of Dutch respondents did not intend to have additional children at the time of the interview; in Flanders, 62 per cent declared not to want more children. This timing effect also influences the results for various subgroups. The potential policy impact is larger for Dutch parents than for Flemish parents, and is considerably larger for respondents of over 30 years in the Netherlands than for the same age group in Flanders; this probably also relates to the fact that the Dutch had less children on average at the time of the survey. The overall effect on the total fertility would be about the same in Flanders and in the Netherlands: about 0.12 children per woman. This would mean that if fertility intentions would actually be achieved, completed fertility in Flanders could potentially rise to a level of 2.06 children per woman, and in the Netherlands to 1.99. That means fertility would be only slightly below a stationary level in both countries.

Table 13. Percentage of those not intending to have more children but willing to reconsider their intentions if preferred new family policies were to be introduced

	Flanders	Netherlands
Childless	16	15
Parents	18	32
20-29 years	30	36
30-39 years	15	26
Total	18	28

For those respondents who declared their intention to have a child in the future anyway, we have assumed that possible new favourable social policies would only make this easier, although there could also be a timing effect. Only slightly more Flemish respondents with additional fertility intentions acknowledged the favourable effect of the introduction of selected policies for new parents than the Dutch: 81 versus 77 per cent (*Table 14*). However, the proportion of Dutch respondents wanting to have another child was larger than in Flanders (see Table 1). Persons who did not have children yet acknowledged the fertility-stimulating effect to a greater extent than parents, and —especially in Flanders— young people were more positive than the older respondents.

Table 14. Percentage of those intending to have more children who recognize a fertility facilitating effect or who consider having their next child earlier if preferred new family policies would be introduced

	Flanders	Netherlands
Childless	83	79
Parents	76	73
20-29 years	84	77
30-39 years	71	73
Total	81	77

Although we have already shown that differences exist in the evaluation and appreciation of specific policies between social categories, there is no evidence that any introduction of these measures would indeed provoke different effects when social categories are compared. No differences related to educational attainment or family income could be observed. As regards female work status, a direct effect on fertility intentions was smallest among non-working women and their partners. It is also remarkable that the perception of policies as facilitating having more children was relatively lowest for couples where the woman had previously worked outside the home but did not do so any longer. We hypothesize that women in employment allow their fertility intentions to be influenced by policy measures to a larger extent, in view of the fact that having a job is one of the problems to be solved in achieving their fertility preferences. Policy measures are considered helpful in overcoming these obstacles.

The overall impact of specific policies on fertility was not different from the general evaluation, as reported in the previous section. For Flanders, monetary incentives had the greatest impact; for the Netherlands, this pertained to both work arrangements and financial measures.

8 | Conclusions

It has been shown that only a very small minority of the Dutch stated they believed in the fertility-enhancing effect of present family policies, against more than half of the Flemish. On the other hand, the percentage of people believing in the possible effect on fertility of hypothetical new policy measures is about the same in the two countries. About 12 per cent of the total population, aged between 20 and 39, state that their reproductive behaviour would be positively influenced by new policy measures. This means that completed fertility in the two countries would rise to a level near the required level for the reproduction of generations.

Financial incentives would have the greatest impact in Flanders; in the Netherlands, both work arrangements and financial arrangements would stimulate people to have additional children. The importance of work arrangements in affecting fertility in the Netherlands is also expressed through the greater preference adhered by the Dutch to part-time jobs. A majority of respondents in both countries expressed the desirablility of higher child allowances.

It can be concluded that the possibilities of stimulating fertility directly through a more family-friendly policy seem to be rather limited. However, assessing the impact of policies on individual reproductive behaviour is a very tricky enterprise. Our estimates of the impact of hypothetical new policies are based on the assumption that indeed all those who indicated that they might change their intentions actually do so. In this way, an overestimation of the effect is quite plausible. On the other hand, we did not take into account a possible extra fertility-stimulating effect among those who already intended to have more children. Nevertheless, taking into consideration the assumptions behind our estimate, as well as the statistical margins of attitudinal data, we found no evidence that the impact on fertility could be more than 0.1 to 0.3 children per woman, if we take into account that there might be an additional fertility stimulating-effect for couples who already intend to have children anyway.

There are certainly limits to the hypothetical questioning approach that we used. For this reason, we abstained from taking into consideration the fact that couples already intending to have (more) children might decide to increase that number further in a more favourable policy situation. However, it is virtually impossible to get an idea of what effect structural changes in the social climate —of which policy forms a part— might have on individual behaviour in the long run.

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'THE LAY OF ITS LAND'; AGEING, ENVIRONMENT, AND SOCIAL CHANGES IN AUSTRALIA AND THE NETHERLANDS

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Abstract. Current demographic developments in the Netherlands and Australia —in particular, the trend toward older age structures and the persistence of low fertility levels— offer these countries both the opportunity and the incentive to achieve more optimal demographic conditions and a more ecologically sustainable environment. They also offer them the opportunity and incentive to achieve more 'supportive' conditions for their populations with respect to both the natural environment and the built environment.

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1 | Introduction

'Thus a people belongs to and is shaped by the lay of its land, with water playing an important role in the process'.

We borrowed the title 'the lay of its land' for our Hofstee Lecture from this sentence written in 1939 by the Dutch geographer J. Bierens de Haan (1939, p. 191). In doing so we, of course, had in mind that the concept of 'the lay of its land' includes a lot more than water and desert. However, a major conclusion of this paper is that adjusting to older age structures will require policy makers to take the natural environment into account far more than they ordinarily do. Our concern here is with the whole milieu —both natural and social— of two urban-European societies, the Netherlands and Australia (where we have lived and worked for the past 25 years), that have both similar and contrasting demographic and social characteristics. This blend of similarities and contrasts between them underlies much of the fascination the Netherlands holds for us.

In geography and dominant cultural images, these two countries are distinguished by enormous differences. Some examples may illustrate the point.

As *Figure 1* makes abundantly clear, the area of Australia is massive in comparison to that of the Netherlands. Something the figure does not show, however, is that, while much of the Netherlands is water, most of Australia is barren desert, with the rest of the continent being subject to great variation in annual rainfall.

In painting and literature, these countries have been described in terms of 'inside'-'outside' contrasts, a theme that continues to this day. A study of Dutch migrants to Australia in the 1950s (Walker-Birckhead, 1988) found, for example, that the women, in particular, experienced great difficulty in going from the warmth, security and smallness of the 'inside' world of house and family in Holland to the rough, expansive 'outside' world of the sparsely-peopled Australian continent.

Figure 1. The Netherlands and Australia to the same scale

Yet, despite their great differences, the Netherlands and Australia face similar challenges. In recent decades, both of them have, among other things, experienced: marked declines in legal marriage and increases in cohabitation, the postponement of childbearing (to the point where the Netherlands now has the world's highest mean age at first birth), declining fertility, increasing proportions living in single-person households (and increasing proportions of children being reared in such households), increased workforce participation of women (particularly of mothers with young children), and declines in the proportions engaged in agriculture.

All of these developments are related in one way or another to the trend in both of these countries toward older age structures; and all have implications for the family relations and social support of older people next century. We start, then, by looking at the scale and implications of changing age structures. Next we note briefly some environmental features of the Netherlands and Australia that have important implications for the long-term adjustment of these two countries to demographic trends. And, finally, we specify some desirable ways of addressing the challenges posed by older age structures, placing particular emphasis on the opportunities these structures present to develop social and environmental arrangements that are both more ecologically sustainable and, at the same time, more appropriate to the requirements of future demographic conditions.

2 | Population ageing: The Netherlands and Australia

The social consequences of older age structures are as yet little known, and thus the subject of considerable speculation and debate. We will consider some aspects of this later on. But the numerical dimensions of older age structures are widely known and generally undisputed. Their main feature is a higher proportion at the 'older' ages, however defined (see *Figure 2*).

This move to older age structures, though part of a long-term trend, has, in recent years, accelerated. It is the result of three processes: first, the sudden marked increases in the birth rate, popularly known as the 'baby boom', that took place after World War II; second, recent declines in the birth rate to historically low levels; and third, recent —and quite unanticipated— declines in mortality at the upper ages: declines that have tended to be relatively greater at successively older ages (see *Figure 3*).

Figure 2. Proportional distribution of population by sex and age, Australia and the Netherlands 1962 and 1992 (%)

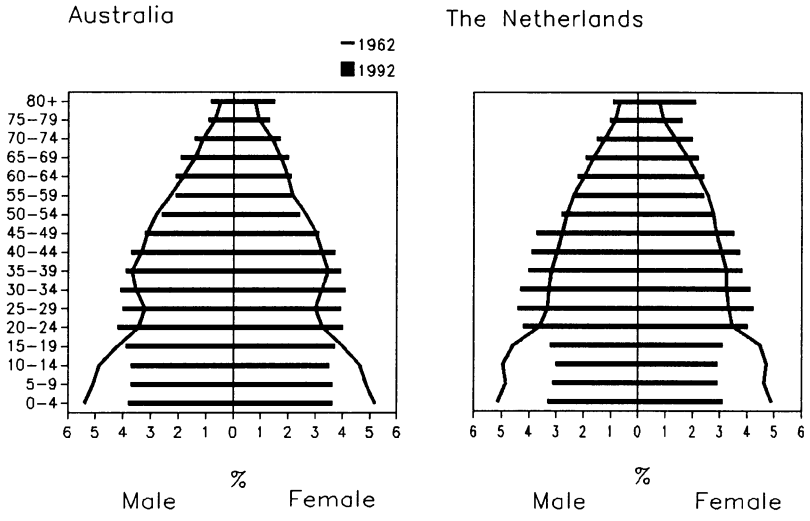
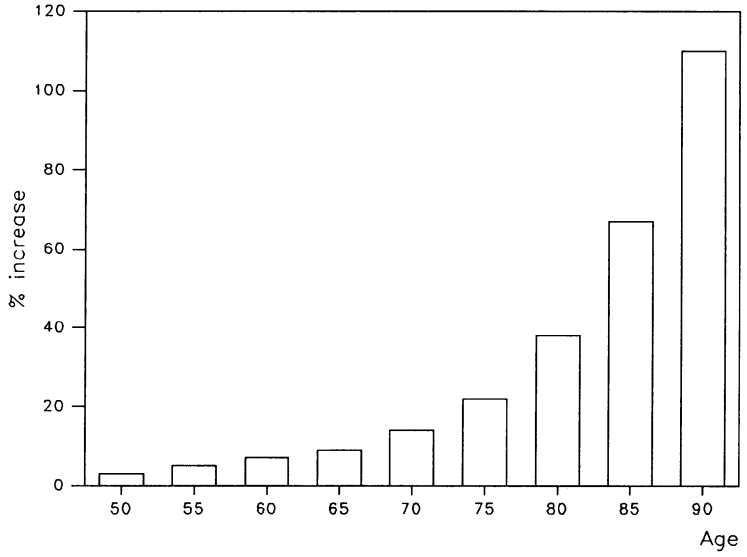


Figure 3. Per cent increase in proportions surviving to stated ages, Australia, females, 1970/72-1990



Source: Calculated by L. Day from Australian life tables for 1970/72 and 1990.

The pattern of childbearing has been a major factor in this ageing trend. Tomorrow's swollen cohorts of older people are already in the wings. The unprecedentedly large numbers of children born during the post-World War II 'baby boom' will enter their seventies in the second decade of the 21st century, their eighties in the third, and their nineties in the fourth. But once this enlarged wave of 'baby boomers' dies off, it seems reasonable to suppose —barring unforeseen fluctuations in either fertility or mortality— that the populations of industrialized countries will typically end up, two or three generations hence, with slightly more than ten per cent of their number at ages 65-74 and slightly less than ten per cent at ages 75 and over. For the Netherlands, this would entail an increase of about three percentage points in the proportion now at ages 65-74 and of about four percentage points in the proportion at ages 75 and over. In Sweden, however, which started with lower fertility, the increment in older people at these ages will be substantially smaller: about half a percentage point at age 65-74 and only slightly more than two percentage points at age 75 and over.

This trend toward older age structures results from the extension of control over childbearing and the saving of human life at both the youngest and the oldest ages. It is, thus, a great human achievement. And yet, on both individual and national levels, the typical reaction to it has been one of pessimism. The British historian, Pat Thane (1988, pp. 60-61), attributes this pessimism to three main fears: (a) that the growing proportion of retired people will impose increasing pension and service costs upon a shrinking population of working age, (b) that increasing numbers of the 'older-old' will place especially heavy burdens on medical and support services, and (c) that a higher proportion in the upper ages will alter the social fabric in undesirable ways — ranging from more conservative attitudes to shifting consumer preferences.

We have addressed these fears in some detail elsewhere (L. Day, 1992). Suffice it to note, here, that we find little necessary connection between a society's condition of life and either the number or the proportion of its elderly. Older age structures, as such, need not substantially elevate the demands on a country's resources. In some important respects (educational facilities, the construction of housing to accommodate growing families, or enlarged automotive transport systems, for example), an older population makes *fewer* demands on space and resources (L. Day, 1990). We see no insurmountable obstacles preventing urban-industrial countries from developing acceptable programmes that would simultaneously enable more people to be employed, achieve substantial savings, and create healthier

environments. Ending unemployment would, alone, go far toward lifting many of the fears commonly associated with older age structures. Whether such programmes are *actually undertaken* is another matter. It is a matter not of money or age structure but of social priorities and the power relations between different sectors of the society. Blaming older age structures for financial burdens and social ills, while convenient and trendy, simply dodges the main issues.

There is, however, one point about older age structures that deserves further comment here. That is the higher costs of medical care incurred by the elderly. These are widely publicized. What is not so widely publicized is that, in any technologically advanced medical system, dying is expensive. Because of our success in postponing death, the great majority (some 85 per cent) in low-mortality populations now die after age 65. This concentrates the costs of dying within old age and makes the young and middle-aged appear to be less of a financial drain. We could perhaps remove some of the onus placed on the elderly by spreading the incidence of death more evenly across age groups, but, given current medical practices, even a measure as extreme as this would do little to reduce a nation's total medical bills.

On balance, then, we see the change to older age structures as something to be welcomed rather than deplored. Older age structures provide incentives to assess, as a society, where we have come from and where we want to go; more important, they also signify that we are avoiding the highly undesirable alternatives. And what are these alternatives? There are only three processes through which to halt the trend toward older age structures: a) increasing fertility, (b) increasing the net immigration of young people, and (c) increasing mortality among old people.

One way to increase fertility would be to deny women (and men) access to contraception, sterilization, and abortion, thus forcing them to bear children they do not want. The objections to this on grounds of civil liberties and health are clear. But there is a practical objection, as well: among people who have learned to control their childbearing, incentives to bear more children simply do not work more than temporarily. As Dirk van de Kaa (1987, p. 52) has observed:

> "... *[I]t is difficult to imagine people having babies to please the pension funds; and economic incentives, even at the level offered in France and some Eastern European countries, appear incapable of*

overcoming individualistic desires and raising fertility to replacement level."

Another approach would be to increase the number of children people want (or, at least, are willing to have), either by persuasion or by removing the obstacles to childbearing. But most low-birthrate countries have already introduced at least modest programmes to meet parents' special needs for child care, maternity leave, medical care, and the like, and so far, it appears, without any noticeable long-term boost to fertility in consequence. The justification for such programmes is in terms of equity and family wellbeing, not pronatalism.

In the longer term, trying to halt demographic ageing by increasing the birthrate is self-defeating. Because these additional children would eventually become old themselves, there would have to be ever more of them, each year, just to stay in the same place so far as the proportion of old people was concerned.

Promoting a younger age structure through immigration would be similarly ineffective, and for the same reason. Immigrants are like the rest of us: they too grow old. There would have to be ever more young immigrants admitted, each year, just to maintain the same proportionate age distribution. Calculations we have done for Australia, for example (*Table 1*), show that the result, a generation hence, would be a more distorted age structure, a much larger population, and an only slightly lower proportion in the oldest ages (L. Day, 1994; also see Young, 1993).

What, then, of the third variable, mortality? Certainly, one could claim that there are gains to be had in increasing the availability of voluntary euthanasia. This could save money and reduce stress, anxiety, and pain, not only for the afflicted, but often for their carers and loved ones, as well. But the effect on age structure would be minimal. Such a programme would have to be restricted to the most helpless and those suffering extreme and permanent pain; and, fortunately, these are a very small proportion of the total, even of those in the oldest ages (L. Day, 1992, pp. 116-17).

Table 1. Circumventing an older age structure through immigration: Illustrative projections on the 1992 population of Australia

	% 65+			Total Population (000)		
Migration level:	0	Low	High	0	Low	High
Year						
1992 (base)		11.49			17,483	
2022	17.35	16.34	14.46	20,067	22,600	27,007
2042	20.21	18.72	16.35	20,332	25,140	34,571
2072	18.60	17.16	14.82	20,392	29,264	50,222
Projection for 2072 using 0 migration = 100	100	92	80	100	144	246
Deviation in 2072 from result using 0 migration		-1.44	-3.78		8,872	29,830

Assumptions
Migration: 0 = None
Low = 1984 rates
High = 1988 rates
Fertility: Replacement level by 2022
Mortality: 1992 levels

3 | Existence of limits

But the undesirability or unworkability of demographic alternatives is only part of the story. A more fundamental objection to 'younging' a population is the existence of limits. Increasing the birth rate, attracting young immigrants, hastening the exit of the frail or ill merely postpones facing up to the fact that no population can increase indefinitely. There are limits: to resources, to physical space, to social space. From the standpoint of both ecological sustainability and livability, the Netherlands and Australia are already overpopulated. With no more than their present numbers, they are, for example, dependent on others for much of their energy and for the disposal of their wastes, and they are borrowing on their children's futures in terms of, among other things, ground water quality, in the Netherlands, and the destruction of topsoil and forests, in Australia.

At a recent Australian Academy of Science symposium, Dr. Timothy Flannery of the Australian Museum, noted that Australians had already degraded 70 per cent of their country's cropping soils and were relying mainly on mineral exports to sustain their living levels. In biological terms, he argued, they were already well past the optimum population level. As against the nearly 18 million people there now (not including tourists), he estimated Australia's optimum population to be in the range of but 6 to 12 million — probably, he added, 'towards the low end of that range' (Cribb, 1994; also see Flannery, 1991).

A similar view was expressed by Wouter van Dieren, Chair of a 1991 symposium of Dutch ecologists.

> *"We're coming close to the point*, he told Anthony Bailey of *The New Yorker* magazine (Bailey, 1991, p. 63), *where we can't manage. The Dutch ability to organize a livable and likable society —the cleverness at arranging a lot of people in a small space with limited resources— [is] reaching its limits."*

Although these limits can be extended by changing the pattern of resource use as well as certain modes of behaviour, there will be a point —even with the most judicious use of the environment and the most conservation-oriented pattern of behaviour— beyond which increases in population will inevitably result in declines in the quality of life. And these limits are global (McMichael, 1993); they are not compartmentalized within the boundaries of any one nation.

In short, any attainment of an 'optimum' population will ultimately entail the cessation of growth. The dependence of human well-being on the interplay of many diverse factors permits us to speak only very generally about what might be a population's optimum *size*. But about its optimum *characteristics* we can speak with some precision. Taking as our goal certain basic conditions presumably sought by people everywhere, and recognizing the existence of limits, the optimum characteristics are ultimately three: (a) low mortality, (b) a stable age and sex distribution (so as to minimize the social and economic disruption resulting from marked numerical differences between successive age cohorts), and finally (c) a zero growth rate (L. Day, 1971).

These three conditions would be no guarantee of a bountiful, peaceful, or happy life. A re-ordering of social priorities along the lines we will suggest in the last part of this contribution will be necessary to ensure a supportive environment and useful social roles for the increasing numbers in the upper ages. But for any particular pool of resources, these three conditions would, at the least, provide a demographic context more conducive to the achievement of long-range social goals. It is the good fortune of Australia and the Netherlands, as of the rest of the world's industrialized countries, that their demographic trends are well advanced in this direction.

4 | Incentives and opportunities presented by older age structures

What, then, do these new demographic conditions call for, and how do Australia and the Netherlands compare in this regard?

Developing a society adapted to the demographic and environmental requirements of the 21st century entails the active pursuit of two types of goals: ultimate and intermediate. The *ultimate* goal is to create conditions supportive of the interests of people of *all* ages; the *intermediate* goals are the means through which to approach this ultimate goal. The aim is to move society in a direction in which the level of mutual support and social cohesion would be high, and the level of indifference, social isolation, and environmental degradation would be low. A society oriented in this direction would be one: (a) that encourages and enables people to take care of each other, (b) that emphasizes an active, preventive approach to health and wellbeing at *all* ages, (c) that places a high value on access to nature and preservation of the natural environment, and (d) that has a built environment

that maximizes convenience, safety, independent activity, and social interaction.

The pathways to achieving the ultimate goal are many and diverse. They encompass a broad range. Those we envisage cover lifestyle, the environment (both the natural and the built), human relationships, health promotion, and issues of equity and social power. But all share the same basic tenet, namely, that catering to the needs of the elderly requires not a qualitatively different policy but an extension into the older ages of supportive and ecologically-sound arrangements developed all along the life course. One does not suddenly turn into an 'old person' upon reaching age 60 or 65. Ageing is a lifelong process; successful ageing is actually successful living. Policies that support people in later life can contribute, as well, to the quality of life of people in young and middle age, and vice versa (L. Day, 1992; A. Day, 1993).

By way of illustration, here is a list of six pathways to building a 'supportive' environment:

- Reduce dependence on the automobile for meeting daily needs, and develop a range of alternative modes of transport, for both short and long distances, and for people with diverse lifestyles and physical capacities.
- Make cities more livable by designing urban environments that both facilitate independent activity and foster the development of mutual support between people of all ages.
- Develop community services that maximize individual choice and flexibility in delivery, and that reinforce the care families, friends, and neighbours already provide one another.
- Encourage social arrangements that strengthen the participation of people of all age groups in decisions that significantly affect their wellbeing.
- Affirm, through urban design and the built environment, the importance of access to nature for physical health and emotional well-being.
- Exercise persistent efforts to establish a more equal distribution of income and wealth.

Figure 4. Ultimate and intermediate goals

ULTIMATE GOAL: a SUPPORTIVE SOCIETY, one in which:

- PEOPLE TAKE CARE OF EACH OTHER
- There is an ACTIVE, PREVENTIVE APPROACH TO HEALTH AND WELL-BEING AT **ALL** AGES
- There is a HIGH VALUE ON ACCESS TO NATURE AND PRESERVATION OF THE NATURAL ENVIRONMENT
- The BUILT ENVIRONMENT MAXIMIZES CONVENIENCE, SAFETY, INDEPENDENT ACTIVITY, SOCIAL INTERACTION

INTERMEDIATE GOALS:

- LESS DEPENDENCE ON THE AUTOMOBILE
- MORE LIVABLE CITIES
- COMMUNITY SERVICES that MAXIMIZE INDIVIDUAL CHOICE AND FLEXIBILITY IN DELIVERY, and that REINFORCE THE CARE FAMILIES, FRIENDS AND NEIGHBOURS ALREADY PROVIDE one another
- SOCIAL ARRANGEMENTS that STRENGTHEN PEOPLE'S PARTICIPATION IN DECISIONS THAT SIGNIFICANTLY AFFECT THEM
- RECOGNITION OF the IMPORTANCE OF ACCESS TO NATURE
- MORE EQUAL DISTRIBUTION OF INCOME AND WEALTH

We did not construct these 'pathways' to a supportive environment out of thin air. They reflect ideas drawn from many different sources over our combined 60 years' experience as social scientists with a keen interest in the role of the environment in human well-being; experience that includes travel on five continents, living and working extensively on two continents, and, most recently, the research on 'successful ageing' that one of us has conducted in both the United States and Australia (A. Day, 1985, 1991, 1993).

The older people contacted in the course of this work came from many different backgrounds and social circumstances. But overall —whether Americans or Australians, men or women— they had one trait in common: a fierce pride in looking after themselves. 'We can manage', they said, 'We have the will, we need the way'. The more than 600 older residents, who participated in the Canberra study wanted to live independently and in conditions that supported them in doing so. They identified these conditions as, specifically: convenient and affordable public transport, proximity to shops, well-lit streets, footpaths that are safe to walk on, choice among a range of affordable housing types, rates that do not impoverish people on fixed incomes, urban design that cultivates public sociability, and access to nature in many forms — through indoor plants, private gardens, neighbourhood parks, and open spaces (A. Day, 1993).

The means to the attainment of a 'supportive' environment, whether physical or social, are closely intertwined. Achieving any one of them will make it easier to achieve the others, and changes in one direction will reinforce those in another. This is particularly marked in the case of the two goals of reducing dependence on the automobile and designing cities that encourage high levels of both independent activity and social interaction. The elderly are quite clear about this relationship, even in a city as given over to the automobile as Canberra. They see that their capacity to avoid becoming isolated, to maintain their interests and stay in close touch with family and friends, depends to an important extent on having convenient access to shops and community services, and to affordable and safe public transport. Studies in both the Netherlands and Australia (Legge and Cant, 1992; Dykstra, 1994) bear out this close link between social isolation, urban design, and transport. In cases where levels of social participation are particularly low, a major reason older people give for *not* being more involved is the lack of adequate transport.

There is, of course, much more that could be said about ways to extend people's control over their lives, for example, developing a wide range of policies to support informal care-giving and to strengthen people's financial security in later life. The point to be stressed, however, is that the focus needs to be on changing the environment, both physical and social, to make it more supportive, rather than on surrendering to the procrustean bed approach of changing people to make them more adaptable to ever-deteriorating conditions.

The idea of 'healthy environments for healthy people' was, in fact, a major theme of the World Health Organization's 1981 Global Strategy (World Health Organization, 1981), to which Australia and the Netherlands are both signatories. But the environmental perspective on health and well-being is also gaining currency well beyond professional health circles. Roger Coleman, a senior fellow of the Royal College of Design in London (Coleman, 1994), argues, for example, that people's control over their lives can be substantially enhanced by removing disabling barriers that are created (not necessarily intentionally) by poor design. The strategy for an ageing Europe, he claims, should be to design not *for* the old but so as *not to exclude* the old.

Coleman mainly works with the mundane tools and props we use every day —chairs that are easy to get in and out of, garden shears that use hydraulic power, lighting that reduces glare and improves presentation, for example. But he sees the 'human-centred' principles employed in designing such tools as applicable to the whole spectrum of settings in which people are involved— indoors and outdoors, private and public spaces, shops and buses, urban facilities and transport networks.

5 | Research implications of the environmental perspective

So what are the research implications of this broader environmental perspective? Ideally, to reveal how, and to what extent, a more human-centred environment really does make a difference, we would present detailed data for different types of small areas with respect to the ability of their older residents to enjoy an active, secure, and contented life. (This is essentially what we mean when we speak of 'successful ageing'.) We would, for example, present data comparing the situation of the Dutch residents of an area of The Hague with that of their Australian counterparts in an area of Canberra; comparing, that is, the relative opportunities afforded by:

(a) a pattern of residence characterized by high-density townhouses with small private gardens, where there is ready access to public parks, shops, and a wide range of services, and where the main means of getting to distant friends, volunteer work, the beach, medical appointments, and the occasional film is to cycle, walk, or take the bus with;

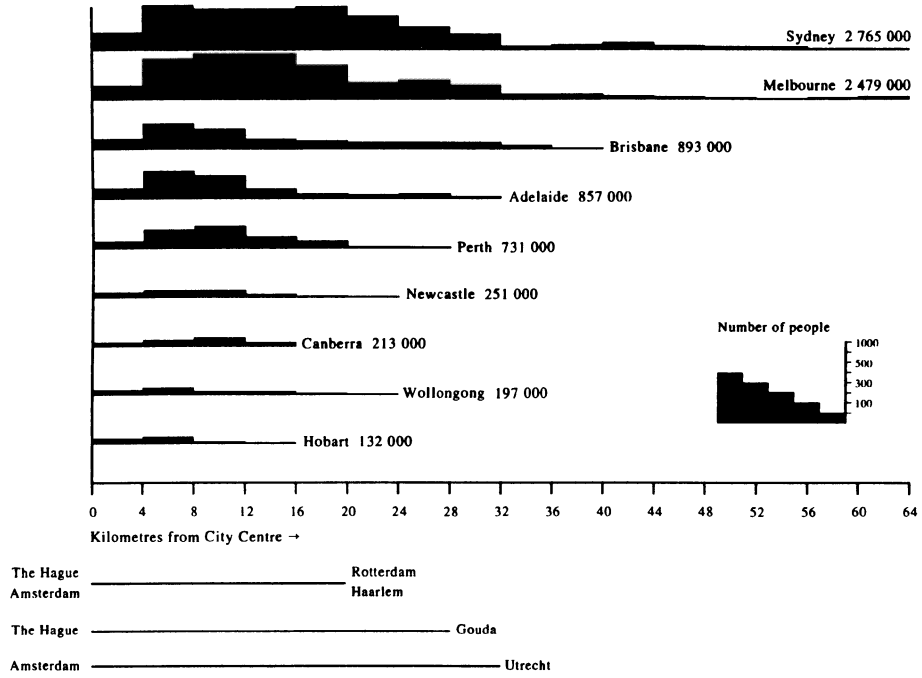
(b) a pattern of residence characterized by single-family detached houses separated from their neighbours by what, by Dutch standards, is a large plot of land; one that, for the frail or disabled, can often become quite unmanageable, where, especially in the newer suburbs, pedestrians must often walk in the street because there are no footpaths, where public parks, shops, and services tend to be some distance from one's place of residence, where neighbourhoods are separated from one another by large, heavily-trafficked roads, and where the main means of getting to places, for want of any suitable alternatives, is the private automobile.

These are real differences between The Hague and Canberra; they are not just hypothetical. Each of these settings doubtless has both desirable and undesirable features, depending on one's preferences, background, and stage in the life cycle. The high-density, compact design found in many areas of The Hague, with its premium on walking, cycling, and public transport, may be particularly well-suited to those without children, the full-time employed, and older-age couples; while the lower-density, larger yards, and automobile-dependent pattern typical of much of Canberra may give families with young children more privacy and room to grow. Leaving aside personal preferences and lifestyles, however, the Canberra design is less desirable for one important reason: it is much more wasteful of non-renewable resources, particularly land and petrol.

An idea of the dispersed nature of Australian cities and how this leads to heavy dependence on the private automobile can be obtained from *Figure 5*. Unfortunately, the data presented are for 1976. Were comparable data available for today, they would show even greater dispersion because of the population increases that have taken place in the outer reaches of all of these cities in the period since 1976. Distances between certain Dutch cities are included for the sake of perspective.

Research in gerontology has tended to downplay the role of the wider environment, especially the physical environment, on people's capacity to conduct their daily affairs (Lawton, 1982). So, detailed data of the kind we have in mind do not exist for small areas. Yet, when older people (and their

Figure 5. Population distribution within the major cities: Australia, 1976



care providers) are asked what really matters to their quality of life, the links between their social and physical environments rank high among their priorities. However difficult to measure, such subjective views about holistic settings are extremely important in determining what constitutes 'the good life' and personal well-being. As Hofstee (1957, p. v) wrote nearly four decades ago,

> *"To many, an investigation on welfare is merely a descriptive account of housing conditions, nutrition, medical care, economic conditions, labour conditions, etc.. No matter how important a knowledge of these matters may be, the most essential question is after all that of how they affect the people concerned, and what feelings they arouse in the individuals."*

Fortunately, some research employing this perspective is now underway. 'The Australian Living Standards Study', for example, is pioneering in two directions: first, by conducting comprehensive analyses in 12 local areas situated in different parts of the country, and second, by asking respondents to assess the impact upon one another of the various spheres of their lives: how, for example, access to transport affects employment, how employment

affects family relationships, how the range of community services affects personal well-being.

Conducted by the Australian Institute of Family Studies, this study goes beyond the narrow criterion of *income*, which has typically been used as the measure of living standards, to include characteristics of the local environment that are defined as *non*-income benefits for the people who live in them. These non-income benefits take the form of access to (and quality of) housing, health services, education, employment opportunities, community services, transport, and the physical environment, for example, and include support from families, friends, and neighbours. Among other things, this study is asking whether such *non*-income factors can compensate for low income. Difficult as the analysis of these data may be, it is precisely this kind of research that we need in order to extend our knowledge and understanding of the factors that determine people's quality of life. It is also the kind of research we need as a foundation for policy designed to create a more 'supportive' society.

6 | Research to challenge the stereotypes

If we are to realize the potential for social change afforded by older age structures, research of yet another kind is also urgently needed. This is research to provide information on the elderly as real people, rather than as figments of our fears. To defuse fears about older age structures, we need to counter stereotypes that reduce the older population to a homogeneous group — one seen, essentially, as a problem to the rest of us. The common stereotype of older people in Australia, for example, is of a group heavily dependent upon their families for care, upon the government for financial and medical support, and upon the goodwill —or tolerance— of the broader community for advice, sympathy, and services. The aged are regarded as a marginal group, tolerated as long as their demands and activities do not impinge too heavily upon those who are regarded as the 'productive' segment of society, namely, people of working age and school children who have their life's work ahead of them (Legge and Cant, 1992).

At best, this is a very partial picture; at worst, it distorts the reality upon which sound public policy should be based. It would be closer to the truth to picture the elderly as net contributors to society, providing extensive support to their own families and to others in their age group in terms of both finances and personal care (Kendig, 1986; Cheal, 1987). To discredit half

truths we need data documenting the great diversity among the elderly and the gains as well as the losses associated with the ageing process. We need data on improvements in health among older people, on their capacities for managing their own affairs, on their interests and enthusiasms. We need data on their consumer preferences, their sources of support, and their expectations about what to do when they can no longer manage for themselves. And we need data on the services they perform for others, many of which, though indispensable to both families and the community, are so taken for granted that the elderly do not think to mention them in social surveys.

This kind of information is needed not only to dismiss unfounded images, but also to make forecasts based on realistic estimates concerning future needs for care, and the financial responsibilities for age pensions that people of working age are likely to bear. NIDI has already been making a substantial contribution along these lines.[2]

7 | Conclusion

Two years ago, we saw a magnificent exhibit of floral still lifes ('Bouquets From the Golden Age') at the Mauritshuis. According to the catalogue, the 17th and 18th century Dutch and Flemish painters represented in this exhibit saw flowers as having meaning beyond their 'sweet beauty'. To these painters, a flower's brief blooming phase also reflected 'the transience of all earthly matters, particularly human existence' (Brenninkmeyer-de Rooij

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[2] Through, for example, the NESTOR programme, 'Living Arrangements and Social Networks of Older Adults' developed and conducted in collaboration with the Vrije Universiteit, Amsterdam, a wealth of data is being compiled with which to draw a more accurate profile of the elderly population (e.g., Knipscheer, *et al.*, 1995). As well, with the director of the NIDI, Professor Gierveld, and her associate, Hanna van Solinge, as the major consultants, a comprehensive comparative report, 'Aging and Its Consequences for the Socio-Medical System', is prepared for the European Population Committee of the Council of Europe (De Jong Gierveld and Van Solinge, 1995). Among other things this report documents the demographic characteristics of ageing and creates a number of demographic and epidemiological scenarios of possible futures of ageing populations and the consequences for various key aspects of aged care, such as the magnitude of the need for both formal and informal support, as well as the patterns of support between the generations. The report thus provides a sounder basis for understanding the consequences of older age structures, including that most important issue: the likely balance between future needs for services and the possibilities for extending the ways to meet these needs.

1992, p. 40). A common practice was to include a watch or slightly wilted leaves to remind the viewer of the passage of time.

Our consideration of older age structures in this article may again have reminded us of the transience of human existence. But it has not been our intention, here, to dwell upon endings. On the contrary, our basic theme is that the expectation of longer life and the forecasts of larger numbers of older people provides an incentive to creating a more supportive environment for people of *all* ages. Far from constituting an end, older age structures present an opportunity for new beginnings.

As we approach the new millenium, we face a cultural lag of crisis proportions. Our ideologies and practices are becoming increasingly obsolete and obstructive of the satisfaction of human needs. They were born of *demographic conditions* characterized by high fertility, high mortality, and a high proportion in the younger ages; and they were born, also, of *environmental conditions* characterized by fewer people making fewer demands on a vastly less depleted stock of natural resources. But these conditions no longer apply. In correcting this cultural lag, older age structures, which, admittedly, are, in some ways, part of the problem, can also be part of the solution. First, because they present a particular incentive to urban-industrial societies to re-assess the status quo and make the milieu more responsive to evolving human needs and, second, because they present the opportunity to undertake these new approaches in a demographic context that, in the long run, is both more predictable and more sustainable.

To transform older age structures from a problem into a solution is no easy task; we cannot expect it to be carried out either soon or in its entirety. Moreover, in terms of the magnitude of the changes required —in, for example, basic values, like shifting our priorities from youth to maturity and from growth to stability— the approaches we propose here may seem puny and irrelevant. But this is no argument against aiming to achieve the goal of a society more in tune with the real challenges of its circumstances. As the British historian R.H. Tawney argued over sixty years ago (1952 [1931], p. 47),

> *"What matters to the health of society is the objective towards which its face is set, and to suggest that it is immaterial in which direction it moves, because whatever the direction, the goal must always elude it, is not scientific, but irrational. It is like using the impossibility of absolute cleanliness as a pretext for rolling in a manure heap, or*

denying the importance of honesty because no one can be wholly honest."

As applied to our topic, the prudent course is to accept the inevitability of older age structures —and the desirability of the optimum characteristics of low mortality, a stable age and sex distribution, and a zero growth rate— and, then, to set our face towards doing what is required to realize the benefits that can flow from them.

In moving older age structures from a problem to a solution, the NIDI has an important role to play. As a national demographic research institute, it is ideally suited to monitor the numerical trends toward older age structure in the Netherlands, and to clarify the likely social consequences of these trends for a society committed to the well-being of people of all ages. It can raise questions challenging those outmoded, counterproductive stereotypes that narrowly define the elderly in terms of dependency and burden. And through its activities in education and training, and the dissemination of its results both within and outside the Netherlands, the NIDI can extend the knowledge base on which acceptance of older age structures will ultimately go forward.

We consider ourselves both fortunate and privileged to be at least a small part of such an enterprise.

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POPULATION ISSUES IN THE NETHERLANDS, 1994: Demographic trends, societal background, and consequences[1]

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Abstract. This contribution is mainly based on the summarizing first chapter in the report by Van Nimwegen and Beets (1994), which brings together information from recent population research with a broad range of perspectives. As in 1994 also the UN International Conference on Population and Development took place, it is obvious that there is some correspondence between the topics discussed in Cairo (Egypt) and in the report. Topics dealt with are population ageing, healthy life expectancy, the caring society, the (in)compatibility of payed work, and unpaid care

[1] Summary article of the 1994 report of the so-called Working Party for Periodic Reporting on Population Issues (Van Nimwegen and Beets, Eds.). This Working Party consists of representatives from the Netherlands Central Planning Agency, the Social and Cultural Planning Agency, the Physical Planning Agency, the Netherlands Statistics, the Netherlands Interdisciplinary Demographic Institute (chair), and from several Ministries. The periodic reports aim at informing and advising the Government on population issues by providing a broad overview of current population issues in the Netherlands and the surrounding world, in order to stress that population issues are changing continuously in nature and scope and to promote that policy makers take account of such changing issues. The Working Party was established in 1983 by the Minister of Education and Science. The 1994 report is the fourth edition.

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tasks, one-person households, migrants and minority groups, environmental issues, and 'overpopulation'.

Keywords: Population issues; Netherlands.

1 | Introduction

The Netherlands has been one of the most densely populated countries in the world for years: in 1994, population density amounted to about 450 persons per square kilometre. The Dutch population numbered 15.3 million on the first of January 1994, quite a rise from the 12.9 million in 1970. In the seventies population rose by 1.1 million, in the eighties by 0.8 million. Thus, the rate of annual growth has dropped, mainly due to declining fertility which has been below so-called replacement level since the beginning of the seventies. In addition, average life expectancy has risen almost constantly, but the numbers of deaths have risen as well due to ageing. In the meantime, the number of births and deaths has become more similar, but total population growth remains relatively high because (net) migration has increased: currently, about 40 per cent of population growth is due to international migration. In 1970, this had only been about 20 per cent.

Although population growth is slowing down, the Netherlands has a relatively high growth rate compared to other European countries. One of the reasons is that the country currently has many women in the fertile age groups, due to the relatively large and lengthy postwar baby boom. Thus the Netherlands will continue to grow for the time being due to low mortality and ongoing immigration. According to the most recent population projection of Statistics Netherlands (SN), a population of 17.7 million will be reached around the year 2035. Population density will then have risen to about 520 persons per square kilometre, 70 more than to date.

Dutch growth rates are fairly high in a European context, but are negligible when compared to developments on a global scale. On the threshold of the third millennium, the world's population is growing faster than ever before. Considering that the current world population is already causing almost insurmountable problems with respect to the fight against poverty, amount of food, shelter, health care, employment opportunities, and education, continued growth is extremely worrying, especially when the heavy burden on the environment is taken into account. The ideal of 'sustainable development' is still a long way off.

Current population growth is one of the features in the worldwide *demographic transition*. This transition, its tempo reaching top speeds at times, has been going on for 200 years and is not yet spent. The first stage of the *demographic transition* —from high mortality and birth rates to low rates— has now come to an end in many developed countries, including the Netherlands. A second transitional stage started from the 1960s, with "dramatic, drastic, unexpected, unprecedented, most remarkable, and revolutionary" developments in types of relationship and having children, but also in mortality and migration (Van de Kaa, 1993).

Europe's population in 1994 is estimated at 514 million, corresponding with ten per cent of the world's population. The European population growth of about 0.3 per cent annually is lower than on any other continent. First characteristic of Europe is low to very low fertility that is (way) below the level required to replace the current generations, with a considerable degree of convergence within Europe (Cliquet *et al.*, 1993). A structural rise in this low fertility is not expected, thus a negative growth and a declining European population may not be far off. Some scenarios target the year 2000 for this, when net migration would no longer compensate for negative natural growth (births minus deaths). A second characteristic is a considerable and ongoing ageing in Europe, irrespective of selected scenario. The population aged 60 years and over will rise by 25 to 30 per cent in the next thirty years, while those aged 80 and over will increase even more (Cliquet *et al.*, 1993).

2 | Population growth and fertility

The *declining population growth* in the Netherlands, from about 1.0 per cent at the beginning of the seventies to 0.7 per cent at the beginning of the nineties, can mainly be attributed to the unprecedented, rapid fertility decline between 1969 and 1977. The year 1965 was the last in a period of twenty consecutive years in which the total period fertility rate was higher than three; the replacement level (2.1) was passed in 1973. More or less stable rates of 1.5 to 1.6 have been measured since 1976. Migration, however, has become more significant over the years.

Although population growth has dropped considerably, it is still much higher than in most of the other European countries. One reason for this is the relatively large number of women of reproductive age. Compared to other European countries, life expectancy is high, as well as migration. According

to the most recent population projection, the population will continue to grow to a maximum of about 17.7 million by 2035.

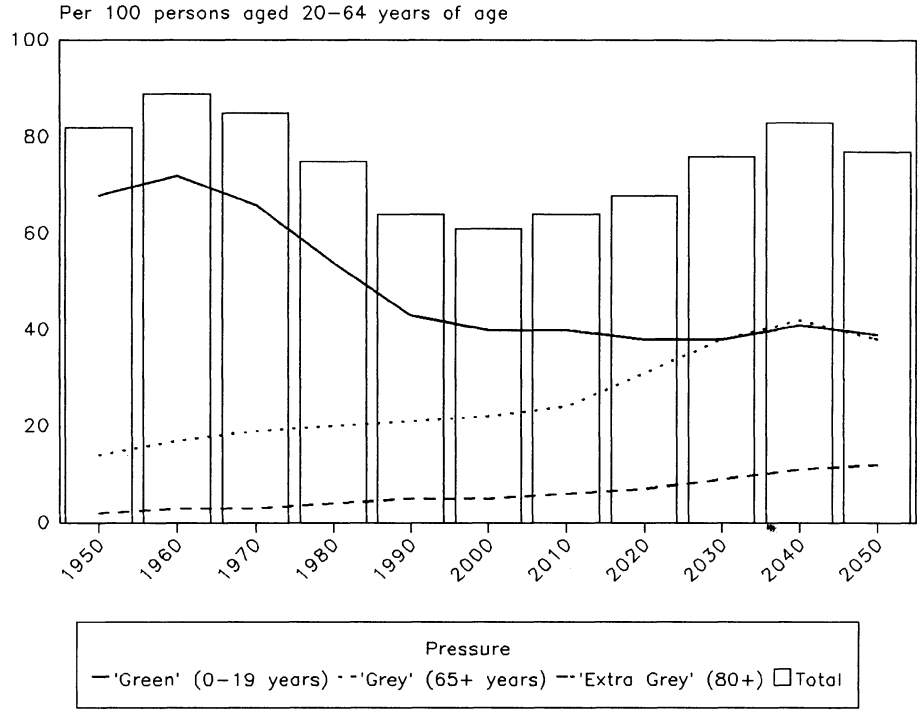
Compared to other Western countries, the Netherlands still has a relatively *young age structure*. This is mainly due to the fact that fertility in the Netherlands started to drop later than in many other European countries and, moreover, had always been at a higher level. In spite of this, the ageing process has also accelerated in the Netherlands. In fact, the Netherlands has already been ageing since the last century and will continue to do so for a few decades. Around the year 2040, persons aged 65 and over are expected to account for 23 per cent of the population, compared with 13 per cent to date.

The so-called *demographic pressure* —the relation between the number of young persons aged 0-19 years ('green' pressure) plus the number of persons older than 65 years ('grey' pressure) and the number of persons aged 20-64 years— has changed dramatically since 1950 and this process will continue in the next decades (*Figure 1*). The 'grey' pressure will rise over virtually the entire period from 1950 to 2050. A drop will not take place until after 2040. The 'green' pressure will drop from 1960 to 2030. As this drop will initially be much stronger than the rise in 'grey' pressure, the total demographic pressure will drop from 1960 to 2000, but will rise afterwards. The level of 1950 is not expected until 2040, however, the 'green' and 'grey' pressure will be fairly balanced then, while this was definitely not the case in 1950.

Meanwhile, the percentage of very old persons (80+) is rising as well. Initially, this so-called 'extra grey' group will increase gradually, but especially after 2010, more and more rapidly. The main cause of this rapid ageing is the drop in the birth rate since the seventies. The rise in life expectancy has only played a limited role. The proportion of persons aged 50 years or older has doubled since 1950, but only eight per cent of this growth can be attributed to rising life expectancy.

The proportion of persons aged 65 and over in the Dutch population is lower (13 per cent) than in many surrounding countries. Scandinavia has already reached 18 per cent. However, from 2010, the Dutch postwar baby boomers will be 65 years of age, being the reason for subsequent rapid ageing. The ageing peak is expected to be reached around 2040: by that year, almost one quarter of the population will be in this age group.

Figure 1. Development of demographic pressure in the Netherlands



Source: For rates after 1990, Medium Variant Population Projection (De Beer, 1993).

The average, final *number of children* that women bear in successive birth cohorts has been declining for more than a century already. Initially, it was mainly the number of large families that was declining. About half of the women born around 1930 had at least three children, against only about one quarter for women born after World War II. A second stage is mainly characterized by a rising number of childless women. This was about ten per cent for those women born around World War II, but it is expected that this may rise to about 18-20 per cent for women born in the 1970s. This development is mainly due to the voluntary choice for a life without children, but is also partly caused by postponing parenthood. Postponing this too long could lead to involuntary childlessness, despite the advances in medical fertility technology.

The declining fertility rate, postponement behaviour, and increasing childlessness are all related to the changing status of women. Secularization, urbanization, modernization, emancipation, and individualization are the underlying societal processes related to these demographic trends. Other reasons are the substantial increase in the number of years spent in school —resulting in higher levels of education, for women in particular— and the many women who now choose to be active on the labour market. Although more women are trying to combine a career with raising a family, the majority of women quit work after the birth of their first child or around the time of the second pregnancy. If women continue to work, they usually reduce the number of weekly working hours after the birth of their child (Camstra, 1993; Imbens, 1992).

3 | Health, morbidity, and mortality

Dutch life expectancy is still on the rise; Dutch male life expectancy is about 74 years and about 80 years for females. This means that life expectancy has doubled compared with 150 years ago. A further rise in average life expectancy to 76 years for males and over 81 years for females is forecasted by the year 2010 (De Beer, 1993).

Women live longer than men, on average, but the difference is gradually becoming smaller. Female life expectancy improved most between 1950 and 1980. In 1950 the difference between males and females was about two to three years, in 1980 6.5 years. From about 1980, males started to catch up. The current difference is 6.0 years and may be 5.5 in 2010. The main gain in life expectancy was initially due to declining infant mortality. However, since the 1980s, mortality risks are also declining at higher ages. Any further reductions in the main causes of death (cardiovascular diseases, malignant growths) would mainly affect the oldest groups, but have little impact on total life expectancy. This explains the declining growth rate.

Thus the Dutch population's life expectancy is still rising. But does this increased life span also go hand in hand with a rise in the number of healthy years? Or will this actually correspond with an increase in the number of unhealthy years? In other words, is there compression or expansion of morbidity? It is very difficult to measure so-called 'healthy life expectancy', i.e. the number of years spent in good health, as the concept of 'health' must be properly defined as must be the aspects taken into account. Although data —objective data on physical limitations and subjective ones on how

individuals experience health— must be used with caution, they show that both females and males in the Netherlands spend about 60 years of their lives in good health. As females live longer, this means that they spend an average of 20 years in somewhat poorer health conditions, compared with 14 years for males. This does not necessarily relate to the last years of life. In other words: it is expected that women will spend about 75 per cent of their lives in good health, men about 81 per cent. Calculated from about the age of 65, men would spend about 64 per cent of their remaining life span in good health compared with about 48 per cent for women.

In addition to male-female differences in healthy life expectancy, there seem to be even greater differences between social classes. Individuals from higher classes do not only live longer but are also in better health than persons from lower classes, an indication of existing health differences by socio-economic status.

So, a justifiable conclusion is that a longer total life expectancy does not automatically run parallel with an increase in healthy life expectancy. However, a healthier life style can help to postpone poor health.

In addition to an altered life style, changes in healthy life expectancy are directly related to the mortality rate and degree of disablement by diseases and ailments. Diminishing the prevalence of ailments that could be disabling but are not life-threatening (motoric disabilities) makes the healthy life expectancy increase, but effectively combatting 'killer diseases', such as cardiovascular diseases and malignant growths, results in a rise in the number of unhealthy years, as those who live longer will be exposed to other, more chronic diseases. It must be noted that some chronic ailments are not as bad as others: unhealthy life expectancy varies in degree. However, in extreme terms, this could mean that successful cancer treatment would place an increasing health care burden on society. The health care sector is thus faced with a paradox: successful public health policy could lead to an increase in ill health and disablement.

In 1990, in the Netherlands 3.4 million patients suffered from the ten diseases and ailments with the highest *prevalence*, which is 23 per cent of the total population. By 2010 the number of patients will have risen to 4.4 million. From now until 2010, the growth rate will be about 25 to 40 per cent for each separate ailment, but, compared with 1990, the Top Ten list will hardly change to 2010.

If we look at the numbers of new patients (*incidence*), then individuals with diseases will increase from 6.1 million to 6.6 million between 1990 and 2010. Eight out of ten diseases and ailments with the highest incidence are infectious diseases, such as colds, acute bronchitis, acute urinary tract infections, and pneumonia.

Projections on the development of infectious diseases are currently completely lacking. Up until now forecasted growth rates are thus exclusively the result of demographic changes. Due to the nature of these diseases, they may suddenly increase (epidemics), but they may also be effectively prevented by vaccination programmes. However, potential (new) risks will have to be taken into account, for example, the transfer of infectious pathogens from animals to humans —one of the AIDS hypotheses—, genetic virus mutations, but also the increasing resistance of some types of bacteria to antibiotics. Epidemiological projections indicate that the extent of many health problems may increase significantly in future, particularly chronic illnesses frequent among the older age groups. This will obviously have an impact upon (health) care. But there are certainly medical gains possible, especially with respect to life style factors (smoking, diet, exercise). Collective prevention, promoting good health, and protecting health are areas worth to be highlighted in policy.

In summary, it can be concluded that sustained population ageing and the continued rise in average life expectancy will run parallel with an increasing demand for health care. Thus rising costs of this care will also have to be taken into account.

4 | The caring society

To what extent can the rising demand for care be satisfied by informal care, that is care provided voluntarily by individuals who do not work in a care profession ('the caring society')?

The need for care depends on the personal situation. The composition of households, the nature of daily tasks, and the (non)availability of informal carers nearby are aspects that play a role in the demand for care and the type of care (professional or informal). It is not surprising that, as one gets older, one is faced with health-related problems in performing daily tasks. Thirty-nine per cent of persons facing such problems are older than 65 years, or one in three persons in this age group. This is, of course, augmented in the

80+ age group. However, not all problems automatically generate a demand for care. Females seem to encounter more obstacles, as do persons with a lower level of education or a lower income. The proportion of single persons with (severe) health-related problems is also reason for concern. It is expected that this group will contain a quarter of a million individuals by the year 2010.

The projected increase in health-related problems in the total population is from 11.6 per cent in 1995 to 12.3 per cent in 2010. Approximately one quarter of the persons facing problems will not request help from others and can manage themselves; 54 per cent will depend on relatives or other informal carers. One striking projected trend is that the use of all care resources will decline up to the year 2010, except for privately organized professional care. Is continuing individualization a factor in the declining preference for requesting (unpaid) assistance from relatives and friends?

For the future, an increase in the demand for (home) care must certainly be taken into account, even with a constant supply of professional care. The issue is whether the informal carers, mainly members of the social network, will be able to continue to meet this rising demand.

The elderly are a special category with their own care requirements. Although the need for care rises with age, it must be remembered that the majority of the elderly live independently. The stereotype of the dependent, passive, and care-requiring older person is unjustified. If one looks at the balance between the support received and given by the elderly, then one notices that there is a balance of 'emotional support' among all age groups. When comparing 'instrumental support' the picture is different. The younger elderly provide more instrumental support than they receive, particularly within the family, while the oldest receive more support than they give to others, this transition occurring around 70 years of age.

Persons living alone have previously been identified as a relatively vulnerable group. On average, persons living alone receive less emotional and instrumental support than couples. However, differences can be attributed to the size and composition of the social network: never-married people have relatively small networks (few children and no in-laws) as well as divorced persons (loss of contacts due to the divorce). This does not apply to widow(er)s.

Another interesting issue is the amount of support provided by children, particularly when taking declining family size into account. Elderly persons with small families receive more support per child, on average, than those elderly with more children. However, with respect to the total amount of support received, the elderly with smaller families are not so well off. One compensation for this is that elderly persons with smaller families could benefit from alternative sources of support, for example, neighbours, friends, or siblings.

Taking the rising demand for care due to ageing into account, the function of the social network for the well-being of the elderly must be better recognized, without this network being used as a substitute for more formal types of care. Formal care is not usually requested until the most necessary care tasks have become so complex, time-consuming, and intensive that they go beyond the capabilities of the social network. Given the existing willingness of the network to contribute as much as possible to filling part of these care needs, it is relevant to ask how the preconditions can be improved under which informal care is provided.

Micro-simulations show that the percentage of potential carers per type of care will hardly change. Only if these potential carers would be willing and able to provide care more intensively and for longer periods, will informal care provision be able to fill the rising demand. In addition, it is plausible that there will be a shift towards private care. As the latter alternative will not be financially realistic for everyone, stimulating a supportive care policy seems obvious. The introduction of legal 'care leave' should be examined. This leave would help those persons who work to better fulfil their care duties. Both a short-term calamity leave and a longer nursing leave could be considered. A 'client-related budget' could also be examined, being a sum of money available instead of care (resources) so that the individual can use this for tailormade care. Facilities for day, night, and temporary care could ease the burden of informal carers so that they can perform their duties for a longer period. Technical aids for home care could increase the comfort of the person requiring care and again ease the burden of the carer. Finally, fiscal changes are also being examined, such as extending opportunities to deduct the costs of informal home care.

In summary, care policy should be aimed at supporting and extending the existing supply and opportunities, including care by social networks, and this should result in a flexible, 'tailormade' type of care. Societal need for such a policy is already great and only seems to be growing.

5 | Work and care tasks

Healthy economic development is crucial for maintaining the economic foundation of a welfare state that is under demographic pressure, and for continued affluence. As (Dutch) economic development in the long term is very uncertain and is influenced by numerous factors, including demographic ones, the Netherlands Central Planning Agency has formulated three plausible and consistent future scenarios (NCPA, 1992). After examining the implications of these scenarios for the working population and employment opportunities, it becomes apparent that much more paid work will be required for maintaining economic development. The non-utilization of large portions of human capital seems to be a luxury that an ageing population cannot afford any more. The current, poor economic climate with strongly rising unemployment and a possible further rise in the ratio between persons living on benefits and those gainfully employed are further complications. The low participation rate of (young) ethnic minority groups also deserves attention, containing considerable labour potential which is insufficiently being utilized (OSA, 1992).

Involving more persons in the labour market, in other words, diminishing economic 'inactivity', may conflict with the demographically projected further growth of informal care demands. In 1993, about 50 per cent of the potential working population (all 15-64 year olds minus full-time students) were gainfully employed. The potential working population will grow about ten per cent up to the year 2015. However, due to an expected higher labour participation, the actual working population (= all persons available for the labour market including unemployed persons looking for a job) will rise more rapidly, so that the direct economic threat will be somewhat lessened. Reducing unemployment is a necessary condition.

Rising female labour participation could provide an important share of the necessary growth of the working population. From an international viewpoint, the labour participation of Dutch women is still fairly low. Van Nimwegen and Van Solinge (1991) deal extensively with the participation of the elderly in the labour market, highlighting various retirement opportunities and policy measures to confine these opportunities.

The Netherlands is working towards a re-evaluation of the role of the elderly in the labour process. An increase in the elderly's participation is considered indispensable for absorbing some of the costs of an ageing society. Reducing unemployment, disability for work, and demotion, reducing collective

schemes for early retirement, age-conscious personnel policy, (re)training, and increasing pensionable age are key concepts in the societal debate.

The labour market participation rate of the elderly in the Netherlands is one of the lowest in Europe. For example, the participation of 50-64 year old males dropped from 85 to 62 per cent between 1971 and 1991. Only Belgium and Luxembourg score lower within the European Union. The labour market participation of older women rose in the same period from 17 to 27 per cent (Ministry of Social Affairs and Employment (SZW), 1993).

Persons retiring nowadays have become victims of work disabilities or unemployment, or retire early. Very few actually retire at the official retirement age of 65. For example, only 70 per cent of all 50 year old males still work (females 28 per cent), only 28 per cent of 59/60 year old males (females eight per cent), and only seven per cent of 63/64 year old males (females two per cent). These percentages make it clear that a thorough revision is needed of the total system of retirement opportunities.

Particularly disability for work schemes and, to a lesser extent, facilities for voluntary early retirement have resulted in a drop in labour participation by the elderly. The Netherlands has a rather special status, especially with respect to disability for work. Compared to Belgium and Germany, the Dutch disability for work level is at least twice as high. Around 1990, there were about 900 thousand persons disabled for work in the Netherlands, of which more than half were 50-64 years of age. The various voluntary early retirement schemes only account for a small share of the outflow of elderly from the labour process, especially since the beginning of the 1980s. Disability for work and early retirement schemes are definitely linked. For example, the recent stabilization of the number of persons disabled for work can mainly be attributed to the opportunity for early retirement provided for leaving the labour process. Research has shown that more than one third of those who have opted for early retirement would have left their jobs due to disability if the former option had not been available. However, the 'expensive' early retirement schemes have cut costs of the disability for work schemes, amounting to about 25 per cent of the scheme's costs. There are also other positive effects of such schemes, for example, sick leave costs. Although early retirement is under increasing pressure, due to the aforementioned links, abolition or restriction of these schemes, especially in the long term, would certainly result in rising costs for disability for work schemes.

Due to the rising pressure on collective early retirement schemes, increasing attention is being paid to more tailormade, individual, flexible retirement alternatives. The latter would create a better balance between the supply and demand of labour, and would help to resolve the problem of losing the knowledge and experience of older employees. In addition to avoiding the destruction of human capital, flexible schemes would provide each older employee with more options and allow a more gradual flow from the labour market.

Much, however, remains obscure about the effects of flexible retirement schemes, including changes in the amount of retirement benefits. Although the collective and full-time schemes are being severely criticized, one must keep in mind that the number of persons who have actually retired early is negligible compared to the unutilized labour potential of persons disabled for work and unemployed persons, as well as the many females who do not yet participate in the labour market. Thus, it seems obvious that policy should promote labour participation among these groups.

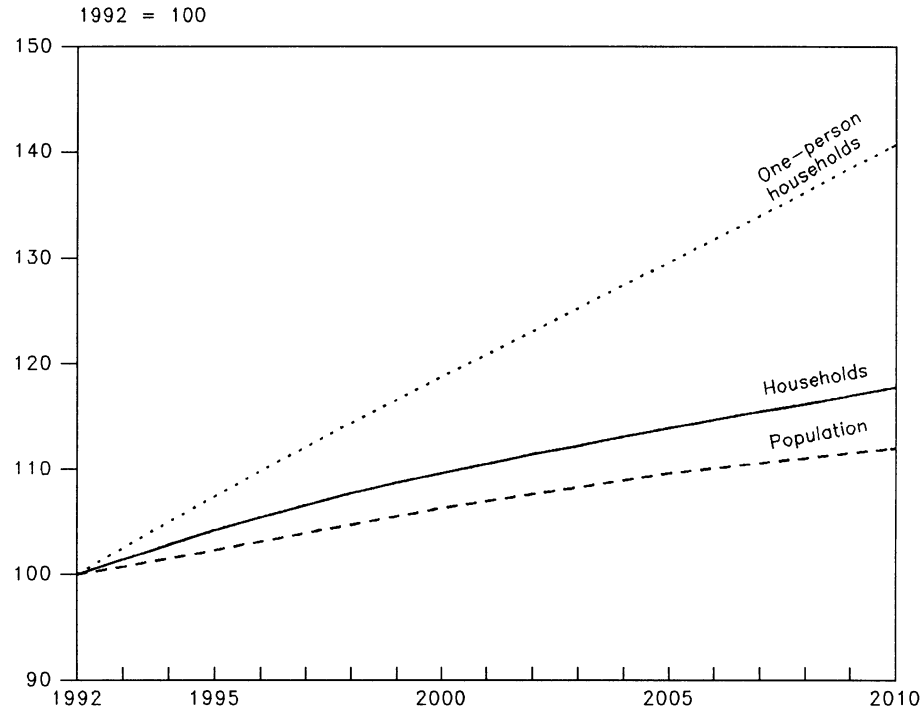
As previously noted, increasing labour participation in general and that of women in particular could conflict with the expected greater need for informal care. A rise in the double burden in combining a career with care duties will take place in the near future, especially for women. A reduction in working hours is often opted for in the Netherlands for solving this double burden. Where care tasks are directly related to children, a further reduction in fertility could result. Where these tasks are also (increasingly) related to care of the elderly, the well-being of the elderly could be threatened. In any case, the fight for economic independence (= paid work) seems to conflict with (unpaid) care for dependents. A further extension of the so-called 'facilitating policy' allowing persons (both men and women) the opportunity to combine work with care duties thus seems inevitable. Although Dutch 'facilitating policy' in relation to fertility and family formation led to improvements —more child care facilities, extension of maternity leave, introduction of parental leave— the Netherlands still lags behind from a (West) European perspective. A more balanced facilitating policy, for care in a broad sense, should effectuate the desired combination of care and work tasks and reduce the existing and growing frictions between the two.

6 | Living arrangements

While the number of *households* is rising, the average size of households is dropping, these two phenomena being highly correlated. In the beginning of the 1970s, the average household in the Netherlands consisted of 3.56 persons; in 1992 only 2.46. By the year 2010, this is expected to be 2.32. The total number of households will rise to 2010 about twice as quickly as the total population (*Figure 2*). This is mainly due to the growing number of one-person households, which will rise even more quickly. In 1970, about 17 per cent of all households consisted of one person. This is currently 30 per cent and, according to Statistics Netherlands, will be about 36 per cent in 2010.

This rapid growth in one-person households is not only due to changing preferences. Living alone is often a temporary stage for young adults on their way to living together or marriage. Although living alone has gained popu-

Figure 2. Development of households in the Netherlands (1992 = 100)



Source: De Beer (1993) and De Beer *et al.* (1993).

larity among young adults and is usually voluntary, the rise in the number of one-person households is also strongly related to ageing: in 1990, about 287 thousand women aged 75 years or older lived alone. In 2010 this is expected to be 367 thousand. In both years this is about half of the total population of that age group. The reason is not usually voluntary: most of these women have become widows. In addition, at middle age, the number of divorced persons increases. Divorced men often remarry, but the majority of the women initially live in a one-parent family and, after the children have left home, often live alone.

In the 1970s, the annual number of *marriages* dropped sharply. From the middle of the 1980s, the absolute number rose slightly, although not much for first marriages. Due to the similar rise in divorces, the number of persons who have become eligible to remarry is greater than ever. According to the latest insights, about three quarters of those born around 1970 will ultimately get married. This is considerably less than the approximately 90 per cent that applied to persons born between 1930 and 1950. Thus, marriage is becoming less popular, despite the rising absolute number of marriages occurring now and again.

When analysing marriages, it must be remembered that the size of the birth cohorts and age at marriage could greatly influence the annual marriage rate. Recently, average age at marriage has risen substantially. These developments are partly related to the rising popularity of living together. However, for most persons living together, this is merely a stage on the way to marriage, especially if children are desired later. Thus, living together has mainly become more popular because having children is being postponed and consequently marriage as well.

The *divorce* rate rose particularly rapidly in the 1970s, partly due to a 'catching-up' effect of the restrictive legislation up to 1971. The amended, more liberal legislation caused a rapid rise in the divorce rate from that year. However, this rate already had been rising gradually for more than a century. The rise continued to the mid 1980s, similar to many countries surrounding the Netherlands. Then it dropped, but most recently increased slightly again. It has been suggested that this 'Dutch phenomenon' is due to the popularity of living together, so that part of what otherwise would have been divorce —the splitting up of couples living together— would no longer be included in divorce statistics. In addition, living together could be seen as a trial marriage which might end in a more balanced marriage. However, there are indications that the divorce probability of marriages following a period of

living together is only lower in the initial years of the marriage (compared to persons who did not first live together), but this is no longer the case after about five years. A likely explanation for this is that living together has become so popular (80 per cent of all recently married couples have lived together) that marriage without previously living together only occurs in a small portion of the population for whom living together as well as divorce are taboo. But living together has probably prevented many divorces.

In summary, trends in marriage, divorce, relationship formation, and household developments are continuing in creating a broader range of living arrangements in the Netherlands, whereby marriage has lost its prominent position, but is still the most common. Besides marriage, the number of one-person households is rapidly rising. Living together is increasing as well, but not (yet) as a permanent alternative to marriage.

The trend towards more, smaller, and more varied households is continuing which, not surprisingly, has direct implications for housing policy. Demographic pressure is also being exerted on the housing market due to continuing population growth. In general, moving away from a steering population distribution policy towards a policy that anticipates (housing) demand ought to be accompanied by careful monitoring in order to spot problems before they arise. Only then will rapid adjustments to policy be possible. Current planning schedules are already taking this into account.

7 | Migrants and minority groups

International migration

Migration from and to the Netherlands has always fluctuated. For example, net immigration (the balance of immigrants and emigrants) in 1980 was about fifty thousand but was practically zero in 1983. The end of the 1980s witnessed another immigration excess of around fifty thousand per year.

Not only the size of migration flows fluctuates, but the 'type' of migration as well. In the 1950s, immigrants mainly came from newly independent Indonesia (former Netherlands East Indies) and emigrants went to specific countries, such as Australia, Canada, New Zealand, the Republic of South Africa, and the United States. In the sixties and beginning of the seventies, labour migration ('guest workers') was high from the Mediterranean Sea area (mainly Morocco and Turkey). The oil crisis caused this type of labour migration to decline rapidly after 1973. Net immigration rose again during

the second half of the seventies, mainly due to family reunification. Next, the independence of Surinam played a role in the 'migration waves' of 1975 and 1980. Family reunification was the main migration type in the eighties. In addition to family reunification (partner and children come to join their husband/father), marriage migration was also popular with the future spouse migrating to the Netherlands.

The number of refugees and asylum seekers rose considerably in the eighties as well. Up to 1980 their numbers had barely reached one thousand per year, while in 1993 about 35 thousand persons requested asylum in the Netherlands.

In addition to temporary migration waves, there are more structural flows of migrants. For example, there has been intense migration traffic for centuries with neighbouring countries, especially due to work and marriage. Countries in the European Union adhere to the freedom of settlement principle for all citizens with a Union nationality.

All in all, net immigration has increased the number of inhabitants in the Netherlands who were born abroad. In 1993, almost nine per cent of the population was born elsewhere, compared to five per cent in 1971. The number of persons born elsewhere has been rising more rapidly lately than the total population. The largest groups per 1 January 1992 (in thousands) come from Indonesia/former Netherlands East Indies (188), Surinam (171), Turkey (159), Morocco (131), and Germany (128). However, if the population is counted by 'foreign descent', the amounts are very different, especially for Germany (430) and Indonesia/former Netherlands East Indies (462).

On the other hand, one must not forget that many fellow countrymen in the past —especially in the 1950s— left the Netherlands to live elsewhere. Plus there are also those who work or live in another country for a shorter or longer period. According to the most recent estimates (SN, 1990), this involved about 650 thousand Dutchmen living in other countries at the end of the eighties. Countries with a large Dutch population (in thousands) include Australia (80), Belgium (65), Canada (40), Germany (110), New Zealand (55), the United States of America (65), and South Africa (35). About 250 thousand Dutchmen live outside the Netherlands but within the borders of the European Union, about 70 per cent of these in Belgium or Germany.

Statistics

Even in a country like the Netherlands, with its excellent documentation system, the quality of migration statistics should be questioned. Population statistics are based on mutations in the (municipal) population register, a virtually perfect system. If a person comes to the Netherlands with the intention of living here for at least one month (for Dutch persons) or for six months (non-Dutch persons), then that person is registered as an immigrant in the population register of the municipality where he or she lives. However, not everyone is aware of all the regulations surrounding the 'population accounting system'. Thus, it can be assumed that the population register is somewhat biased, mainly due to migration. This applies to internal migration traffic, if persons notify their changes of address too late. But this probably applies even more so to international migration, in particular out-migration. Consequently, data presented in the official migration statistics could deviate from actual numbers.

There is still little international consensus on how the migration process should be documented. Due to the lack of similar definitions and concepts, international comparison of migration statistics is currently almost impossible. And when you take into account the fact that the methods of data collection vary from country to country, then it is no wonder that even the emigrant flow from the Netherlands to Belgium (according to Dutch statistics) does not correspond with the flow of immigrants to Belgium from the Netherlands (according to Belgian statistics).

Nationally and internationally, statistics on asylum seekers and refugees are faced with problems of incompleteness and incomparability. Moreover, these statistics are difficult to relate to migration statistics. It would be much better if the registration of asylum seekers would be set up in such a way that it would provide a recognizable proportion of the total flow of foreign migrants. Ideally, migration statistics should indicate how many migrants, asylum seekers, or refugees there are, and the status of their legal procedure (for asylum seekers) with respect to admission, first court decision, appeal, and post-appeal decision. It would be preferable to also take into account the differences in duration of procedures per cohort of asylum seekers.

On the basis of the current scarcity of data, it can now only be concluded that, within the European Union, Germany receives the most asylum seekers, closely followed by (in alphabetical order) Belgium, Denmark, France, the Netherlands, and the United Kingdom. The other member states are relatively unimportant asylum countries, at least according to the situation in 1992.

Minority groups
Those who are considered part of an ethnic minority are just as difficult to define. Is someone's nationality the determining factor which, by the way, can be changed by naturalization, or is it someone's country of birth? Or does nationality and country of birth of (one of) the parents and perhaps even of the grandparents play a role? As duration of residence increases, and thus the chance of an ethnically mixed marriage with children, the issue only becomes more complicated. Depending on the type of criteria used, there were in the Netherlands in 1992 between 491 thousand and 974 thousand persons, belonging to those groups who were for policy purposes officially designated as minority groups.

It is expected for the coming years that immigration will remain high and may even increase. Labour migration is virtually only evident among citizens of the European Union. It is expected that family reunification and marriage migration will rise initially, but will ultimately decline because second-generation individuals will increasingly choose partners who already reside in the Netherlands.

The rise in emigration from the beginning of the 1990s will likely continue for a while because many immigrants —e.g. the majority of the asylum seekers— will finally be refused a legal residence permit and will have to return to their countries of origin. Some of these people may opt for remaining illegally. Immigrants from other countries of the European Union usually only come temporarily and thus will ultimately emigrate.

8 | Population and the environment

The first National Environmental Policy Plan (Tweede Kamer der Staten-Generaal, 1988-1989) already explicitly mentioned size and growth of the population as causes of environmental problems, in addition to the development of technology and the level of affluence. The second Plan (Tweede Kamer der Staten-Generaal, 1993-1994) noted that population development is linked with individualization and material consumption, that the level of 15.2 million inhabitants in the Netherlands had already been reached in 1992 instead of the year 2000 according to an earlier projection, and that the number of households (the principal consuming units) is growing more rapidly than expected. Consequently, population development was given a more prominent role in environmental policy.

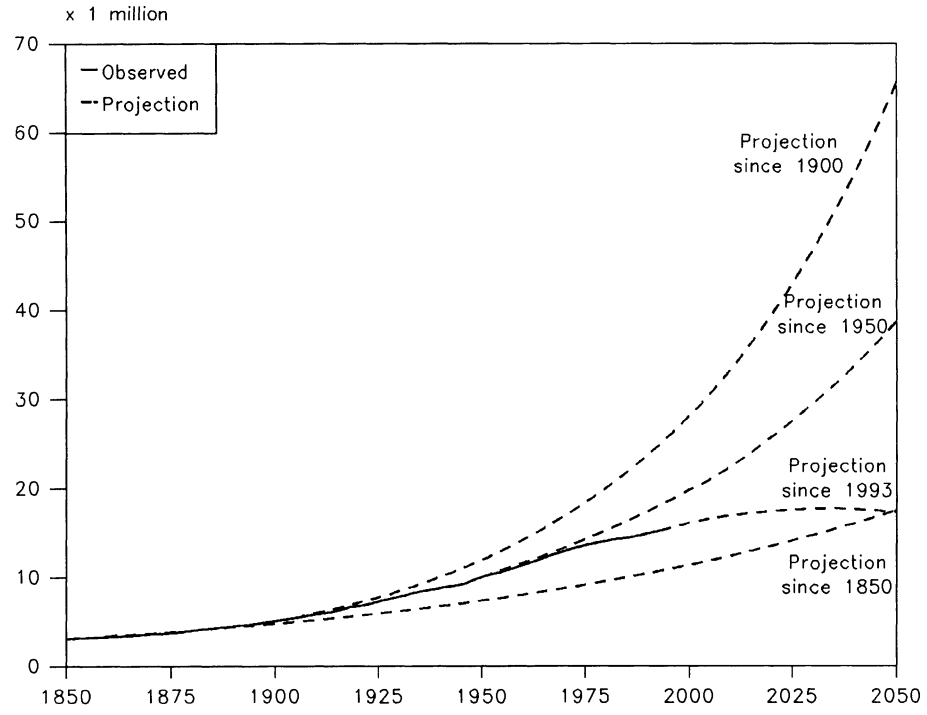
The second National Environmental Policy Plan sets the strategy for the period 1995-1998, aimed at achieving sustainable development. However, continuing population growth is an obstacle to this goal. Although optimal population size cannot be ascertained, sustainable development can only be reached if both current economic patterns and demographic developments are considerably curtailed, certainly on a global scale. The tempo in which population growth can be reduced has positive effects. The more rapidly this takes place, the smaller the final size of the population and the accompanying environmental pressure. This would also mean that fewer adjustments would be required, especially with respect to production and consumption.

In environmental terms, population size must mainly be considered as 'the number of consumers'. However, the role of consumers in the environmental issue is fairly unknown to date. Virtually all consumption has a negative environmental impact, so that consumers are involved in all aspects of environmental issues. This applies to such topics as changes in climate (greenhouse effect), acidification via motorized traffic, fertilization which endangers potable water preparation and disrupts ecosystems, the dispersion of environmentally hazardous substances which accumulate in the ground and in underground and surface waters, waste disposal issues as consumers are partly responsible for the 'waste mountain', noise, stench, and local air pollution, dehydration causing depletion of drinking water supplies, and wastage such as failing to use recyclable products whenever possible.

Environmental problems mainly arise due to passing on responsibilities. The costs of environmental deterioration play too small a role in decision-making by individuals. Moreover, not many persons have insight into the environmental impact of their own actions and are thus not easily proven liable. To date, environmental costs are not sufficiently expressed in product prices. These costs are too often transferred to other groups, to other levels or to future generations. If all substance cycles are not closed, then exhaustion of the earth is inevitable. In order to achieve sustainable development, a change in production and consumption is urgent.

The following experimental calculation gives an impression of the possible consequences of demographic-behavioural change: What would the population of the Netherlands have been if trends had been kept constant from a specific year in the past? *Figure 3* shows what the effects are of changes in number of children and life expectancy within the span of one century. In 1994, the simulated population would have ranged from 10.7 million (30 per cent lower

Figure 3. Actual and projected population of the Netherlands, with unchanged demographic behaviour since 1850, 1900, and 1950, and according to the 1993 SN population forecasts (medium variant)



than the actual population size under the hypothesis of constant fertility and life expectancy from 1850) to 25.0 million (64 per cent higher than the actual size under the hypothesis of constant trends from 1900). This difference mainly expresses the effect of rising life expectancy from the end of the former century and the beginning of this one. If demographic patterns had remained constant from 1950, then the Netherlands would now have 18.1 million inhabitants (19 per cent higher than the actual number). The difference with the actual population size of 15.3 million shows the effects of both the drop in the birth rate and in the death rate since World War II. These types of calculations not only clarify what the effect is of changing behaviour, but also how precarious demographic forecasts actually are. It is no wonder that these are sometimes incorrect.

But there is more than demography. Most developments since 1970 have shown increases. Virtually all trends regarding production and consumption indicators, whether agricultural land, road or air traffic intensities, waste disposal, etcetera, have risen more rapidly than the number of households or consumption units. Compared with the number of households, the number of housing units has followed the same pattern, while the number of kilometres of paved roads lags behind. As the number of cars has increased more rapidly, as well as personal transport, traffic intensity has also increased. These indicators are mainly related to changing mobility and production and consumption patterns, and thus a changing lifestyle. Insight into changing, environmentally harmful trends is generally not available if one only looks at the total population. More accurate forecasts can be made with more detailed demographic data. Projections on private consumption of electricity and water receive added value if the following is taken into account: for electricity, changing household size; for water, changing age composition. Preferring one demographic characteristic above another has everything to do with the extent to which consumption patterns differ per individual, per age group, or per household. For example, when projecting future electricity use, taking changes in household composition into account —more but smaller households— this results in a 20 per cent lower forecast than if only the total number of households is taken into account. This is because the number of small households will rise considerably, but will use less electricity than the average household. When making a forecast of water use taking into account the ageing of the population, the outcome is seven per cent higher than a forecast based on total population development only.

The shift from exponential population growth to a much smoother demographic development has taken place in the Netherlands and many other industrialized nations due to a highly changing fertility pattern. The fact that mortality has also declined dramatically has slowed down this development, but not brought it to a halt. Despite declining population growth, it still plays an important role in environmental issues. In addition to continuing population growth for a few more decades, the rise in the number of households is taking its toll on the environment.

Periodically and certainly recently, 'the Netherlands is full' debate has been dominating the public agenda. However, from a scientific point of view, there is no objective criterion for the term overpopulation. In 1965, when Statistics Netherlands forecasted that the Netherlands should be prepared for 21 million inhabitants by the year 2000, there was a shock reaction. Current forecasts remain far below this daunting figure. Moreover, it is known that

population size will gradually decline as more persons die than are born. A migration surplus, as is the case now, can only postpone the turning point from positive to negative population growth.

As the Netherlands is so densely populated, relatively speaking, space has become a much scarcer commodity, thus requiring careful handling. Main physical planning decisions take a long time to mature, but guarantee that the various aspects, all competing for space, are democratically weighed. These aspects play a role at very different levels, from local to international, for example to find suitable building sites.

9 | Viewpoints and policy on population issues

The Netherlands does not have an explicit population policy. Direct intervention in demographic processes is rejected on political and ethical grounds. This viewpoint, shared by most European countries, was recently expressed during the European Population Conference held in 1993 in Geneva in preparation for the International Conference on Population and Development organized by the United Nations in 1994. However, this lack of a population policy does not mean that the Dutch government is not interested in population issues. The government clearly recognizes that population development is closely linked with various policy areas and that many policy measures, directly or indirectly, in the short or long term, will have an impact upon the size, growth, composition, and spatial distribution of the population. The complicated links between population and society, taking politically and socially sensitive issues into account, carefully manoeuvres Dutch policy between the 'Scylla' of socially undesirable and politically infeasible State intervention into the private lives of citizens and the 'Charybdis' of the necessity to adapt society to demographic trends.

The outcome of this process is not population policy as such, but a more or less cohesive system of policy measures linked to population development. This policy, described in international fora as 'population-related policy' is usually not motivated by demographic aspects but, for example, by aspects such as labour market policy, emancipation, social security, fiscal economics, well-being, and public health. That the Dutch government is aware of the importance of population issues for society is emphasized by their view that we should aim for a more or less stationary population, that is, a population of a constant size and constant age composition.

In addition to monitoring demographic trends, related societal issues, and policy it is important to maintain insight into the opinions and attitudes of the population on these types of issues. Therefore, opinions from nine European nations are now presented based on a recent, partly Dutch-initiated European comparative study (Moors and Palomba, 1995). From that study it becomes clear that if the relevant parties are asked about the most important 'causes' of low fertility, the Netherlands scores higher than other countries on 'the wife with a career', 'the desire for independence and self-fulfilment', and 'the need for a comfortable life'. Apparently these are not considered compatible in the Netherlands with a large family, another indication that fertility is not likely to increase in the near future. Individual opinions also play a role in their actual behaviour. In most countries, but especially in the Netherlands, maintaining the current standard of living is the reason mentioned most often for deciding not to have children. The choice for having a second child in the Netherlands is mainly determined by not being able to combine work and a family, in addition to the standard of living argument. In Germany, the Czech Republic, Slovakia, and Italy, it seems to be easier to combine work and a family, even with a second child.

It is not surprising that the desire for policy aimed at combining parenthood with a career has great priority in many European countries. It is striking that especially Dutch women prefer to work part-time (60 per cent compared to a 28 per cent average in the European Union). When it comes to a choice between a career or a child, more than one quarter of Dutch women prefer motherhood, but this option is more popular in Germany, Austria, Switzerland, the Czech Republic, and Slovakia. Very few Dutch persons (30 per cent) feel that the government is responsible for creating conditions to improve the combination of a career and raising a family. Does the Dutch preference for part-time work play a role in this, whereby Dutch persons prefer to find their own solutions? Or are Dutch people so much disappointed in what the government has (not) done that there is a lack of confidence in fundamental changes in the (near) future? Many more citizens in all the other countries involved in the study welcome active government intervention in this area.

What type of facilitating policy do European citizens prefer? Persons with children have other priorities than those who (still) have none. Childless couples mainly prefer the creation of part-time jobs, child care facilities, and parental leave. Financial measures score surprisingly low on the preference list of (still) childless couples. In contrast, persons with children place great

value on a higher child allowance and this applies to all the countries in the study.

It can be cautiously concluded that, although there is convergence in European fertility trends, there is an intercountry difference with respect to fertility-related policy. The specific socio-economic and infrastructural conditions are extremely diverse and greatly determine the policy preferences of the various populations, together with prevailing values and norms. Against the backdrop of this wide range of socio-economic contexts, actual convergence in European fertility behaviour is much more striking. Apparently, there are many roads to low fertility. Whether these same roads will ultimately lead to an integrated European (family) policy is certainly questionable.

10 | Conclusions

Although the rate of growth is declining, the world's population is still increasing. In absolute figures, this growth is even more rapid than ever before, justifying the term sustained 'population explosion'. Global population growth is even more disturbing because acceptable means of providing adequate food, shelter, health, work, and education cannot even be currently realized in many parts of the world. Furthermore, continuing population growth is exerting increasing pressure on an already heavily burdened environment. The realization of sustainable development is only becoming more difficult.

Population ageing, particularly but not exclusively in developing countries, is adding a whole new dimension to the population issue. It must be mentioned here that population ageing is a logical phase in demographic developments and is as such not problematic, but should be considered as a sign of demographic maturity.

Compared to other European countries, demographic developments in the Netherlands are mainly characterized by relatively high population growth, partly caused by migration, a still relatively young population, however, with an increasing ageing, low fertility, favourable mortality ratios, and a household structure in which individualization is becoming more distinct. The Netherlands has a high level of affluence and a very dense population, so that continuing population growth would make the space problem even greater. Maintaining the economic support for an ageing society requires

frugal use of human capital, whereby the non-utilization of large portions of the potential working population becomes a luxury that is ill afforded. Also and particularly in a situation of high unemployment, mainly with an eye to the long term, the relation between active and non-active or no longer active groups is becoming more and more strained. The discovery of new sources of labour potential and the more efficient utilization of existing potential implies that combining work and care duties (for both children and the elderly) must be simplified for both males and females. A further extension of facilitating policy should be considered.

In summary, it can be concluded that the demographic challenge to the social, economic, and ecological support in our society is considerable. In a policy that is aimed at sustainable development, this demographic challenge must certainly be taken into account.

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BOURDIEU'S 'THEORY OF PRACTICES': a challenge for demographic research

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Abstract. The article examines the useability of several theories as a basis for demographic research. Two criteria are applied: the resolution of the agent-structure dilemma and the scope for taking account of the unequal balance of power between the sexes. After discussing established demographic approaches, the 'theory of practices' is introduced, developed by the French sociologist Pierre Bourdieu. It is argued that his concepts of 'habitus', 'field', and 'capital' offer a deeper insight into the realization of behaviour. Further application of these concepts in demographic research may improve our understanding of demographic behaviour. The contribution ends with a proposal of how Bourdieu's concepts can be operationalized, especially the concept of 'habitus'.

Keywords: Demographic research; theories; Bourdieu.

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1 | Introduction

How will government policy in support of women's emancipation affect labour force participation, relationship and family formation, and the dissolution of relationships in the long term? This question was addressed in a research project on the demographic implications of Dutch emancipation policy (Keuzenkamp, 1995). In order to answer this question, it was necessary to first establish a theoretical frame of reference to describe the relationship between social conditions (including government policy) and demographic behaviour. This article is an account of the search for a suitable theoretical frame of reference. First, the use of established demographic approaches was considered, but eventually a choice was made for a theory developed outside that context and which has scarcely been used in demographic research.

The useability of each theoretical approach was assessed on the basis of two criteria: firstly, how a particular approach resolved the 'agent-structure dilemma', and secondly, how much consideration it gave to gender relationships. These two criteria are discussed briefly below.

The central theme of the research project is the impact of government policy on women's behaviour (representing, as it does, one aspect of the social context). Underlying this issue is the pivotal question of how much influence should be attributed to social conditions, or in this case government policy, and to the autonomy and freedom of individual choice. This classic question, sometimes known as the agent-structure dilemma, is a recurrent, if at times only implicit, feature of all social sciences. It is, in theory, possible to distinguish two positions in this respect: a deterministic and a voluntaristic standpoint. The underlying assumption of deterministic approaches is that social conditions ultimately determine human behaviour. Voluntaristic theories, on the other hand, presuppose that individuals ultimately determine their own behaviour. In the discussion of demographic theories, we will indicate which stance the proponents of the various approaches adopt for this dilemma. If the research project is to properly assess the influence of social conditions (i.e. emancipation policy) on the production of behaviour and the freedom individuals exercise when expressing that behaviour, it is important to use an approach which accommodates both the deterministic and voluntaristic aspects of behaviour, since people's behaviour will at times be more determined by social conditions, and in other situations more influenced by an individual's behavioural freedom.

The second issue we wish to focus on is the unequal balance of power between the sexes. Women live their lives in the context of a structurally unequal balance of power between the sexes. This context partly determines the possibilities for women in the course of their lives. At the same time, women themselves contribute to the maintenance and/or change of the structurally unequal balance of power between the sexes. It is therefore desirable that any theories we might use should take account of gender relationships, or at least offer clear points of departure to enable the relevance of gender relationships to be included in the analysis.

2 | Theoretical approaches used in demography

Although demography is concerned with migration and mortality, as well as with family formation and the formation and dissolution of relationships, this discussion will be confined to demographic theories on family formation, and the formation and dissolution of relationships. These theories can be divided into three categories: sociological and anthropological, (micro)economic, and social-psychological approaches.[1] Since we are primarily interested in the essence of each approach, which we will summarise in each case, we will limit ourselves to a brief discussion of each of these categories, rather than elaborating on or amplifying any of them since, although such an exercise might reveal subtle distinctions, it would not alter the essence of each approach. After summarising each approach, its usefulness will be discussed in terms of our research based on the two criteria mentioned earlier.

2.1. Sociological and anthropological approaches

The oldest theory used in demography is known as the *theory of demographic transition*, a term used to denote a logical succession of historical phases which each population undergoes during the process of modernization (Chesnais, 1992), and which entails society making a transition from high mortality and birth rates, to low mortality and birth rates. This demographic transition is linked with socio-economic and socio-cultural changes (e.g. industrialization, urbanization, higher educational standards, and secularization). Many authors have described and formulated theories on demographic transition, with Landry (1909; 1934), Thompson (1929) and

[1] Biological approaches, such as those formulated by Bongaarts (1978), are not included here, since they are primarily concerned with the physiological determinants of fertility.

Notestein (1945) being major contributors in this regard. An extensive study of demographic transition and current theories on the subject was published recently (Chesnais 1992). Our description of the theory of demographic transition is based on this most recent study.

The theory can be broadly summarised as follows. In pre-modern (pre-transitional) societies which had high mortality rates, high birth rates were considered necessary for survival. Society was organised in such a way as to ensure high levels of fertility. Changes inherent in the modernization process triggered demographic transition: the mortality rate declined and subsequently the birth rate. Although different variables played a part in this process and not all of them featured in every situation, the one certain fact is that demographic transition takes place against the background of a more general social development. To quote Chesnais:

> *"Historically, there is no example of demographic transition occurring independently of a more general evolution, whether in the material form of socio-economic changes, or in the immaterial and less obvious form of transformation of mental outlook"* (Chesnais, 1992, pp. 10-11).

His study showed, however, that certain causes always play a part.

> *"Even if patterns of fertility decline differ from one case to another in the developing as in the industrialized world, the same causes appear to have been at work: improvement in health conditions, higher educational standards, increase in income, a change in female status"* (Chesnais, 1992, p. 392).

Recent formulations of population trends observed since the mid-sixties, labeled as the *second demographic transition*, affecting not only fertility and family formation, but mortality and migration as well, are essentially comparable to those of the (first) demographic transition, although the specification of the interpretations scheme is rather new. Indeed, according to the most elaborate version of the theory of the second demographic transition (Van de Kaa, 1994), the theory links

> *"three dimensions of our social system —**structure, culture, technology**— to three social units most immediately relevant in studying demographic processes — **secondary groups, primary groups, individuals**"* (Van de Kaa, p. 104).

Besides,

> *"the demographic effects of the interrelated changes in structure, culture and technology tend to point in the same direction. (...) The higher living standard and greatly increased economic independence and security of individuals, the shift in values towards greater individualism and post-materialism, and the 'second contraceptive revolution' are identified as having had a profound impact on the aspirations, life course, and life style of the populations concerned. They have reduced the role and influence of secondary groups, have changed the institutional context and mental model of the family and couple, and make individuals seek self-fulfilment and pursue higher order needs"* (Van de Kaa, p. 114).

On the face of it, both versions of the theory of demographic transition have a certain appeal. Although there are countries which deviate from the aforementioned pattern, the theory does offer scope for describing the demographic trends in general terms and for placing them in a wider context.

> *"It has the advantage of being the only interprétative schema which reflects a synthetic and coherent view of contemporary demographic changes"* (Chesnais, 1992, p. 5).

Having said that, both versions of the theory contain a number of important characteristics which make it less suitable for the research project which, as stated in the introduction to this article, revolves around two important criteria, namely how the agent-structure dilemma is 'resolved' and what attention is given to the unequal balance of power between the sexes. As far as the first criterion is concerned, the theory of demographic transition clearly has a very macro-sociological nature. Although it is in principle possible to use this theory to analyse the relationship between social trends and population trends at the macro level, the theory offers no insight into decision-making at the micro level. The theory effectively adopts a deterministic standpoint, i.e. it presupposes that social conditions in particular determine human behaviour. Of the two versions, the theoretical formulation of the second demographic transition permits the most promising avenues to include a micro-social approach. For that reason, it deserves serious attention as a new explanatory framework to be used in setting up a comprehensive theory of recent demographic trends.

The second criterion concerns the unequal balance of power between the sexes. The theory of demographic transition takes changes in gender relationships into account to a certain extent. Changing values and attitudes towards gender roles and the increased autonomy of women are, for example, linked with demographic transition, but the theory only gives a fairly general description of changes at the macro level. The theory does not shed light on the direction of the supposed causal relationship between women's changing social status and demographic trends. Oppenheim Mason (1993) stated that there are, in principle, five possible relationships between the status of women and demographic trends (although she only concentrated on mortality and family size). The first is that a change in women's status contributes directly to a change in demographic behaviour. This is the model people usually have in mind when they contend that "improving the 'status' of women will lower fertility, or infant and child mortality rates" (Oppenheim Mason, 1993, p. 21). The second possibility is that a change in women's status is an intervening variable which helps to explain why other social or economic changes lead to changes in demographic behaviour.

> *"Women's autonomy may (...) be an intervening variable — one that is determined by other social or economic factors, and which explains why these other factors precipitate the fertility and mortality transitions"* (Oppenheim Mason, 1993, p. 21).

The third relationship entails a statistical interaction between women's status, other variables, and demographic change. The degree to which other changes affect demographic behaviour depends on the existing status of women. The fourth possibility is that there is no relationship between women's status and demographic trends. The fifth and final possibility is that an inverse relationship exists between them — that the status of women changes as a result of a decline in the mortality rate and family size, rather than women's increasing autonomy or power causing a decline in the mortality rate and family size. The theory of demographic transition does not explain these different possible relationships between women's social status and demographic trends.[2]

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[2] The way in which the concepts of 'social status' and 'autonomy' are applied also poses problems. It is debatable, for example, whether frequently used indicators, such as level of education or labour force participation, are in fact accurate for these purposes (see Oppenheim Mason 1993 for a discussion of this).

Another theory which can be classified under the heading of sociological and anthropological approaches is Caldwell's *'wealth flows' theory* (1982). This theory, like the theory of demographic transition, attempts to explain the decline in the birth rate. Caldwell, however, does not draw any automatic link between the declining birth rate and the decline in the mortality rate.

According to Caldwell, there are two types of 'fertility regimes' and a transitional phase. In the first regime, individuals derive no economic benefit from limiting fertility, whereas in the other situation this benefit does exist. According to Caldwell, whether or not a high or low level of fertility is 'economically rational' depends on social conditions, in particular on the prevailing direction of the 'wealth flow' between parents and children (and on that which could be expected throughout the lifetime of the individuals concerned). By 'wealth flow', Caldwell means "all the money, goods, services, and guarantees that one person provides to another" (Caldwell, 1982, p. 333).

Caldwell describes how, in so-called primitive and traditional societies, the 'flow' is predominantly from child to parent, making it rational to have many children. In more recent societies, however, this flow (in both material and emotional sense) is predominantly directed from parent to child, making a high level of fertility irrational. The way in which society organizes production is vitally important to the direction of wealth flow. Historically, all production took place within the family.

> *"The essence of all precapitalist modes of production was kin-based production, and the relations of production were those between relatives. These relations were unequal and gave material advantage to the elders"* (Caldwell, 1982, p. 178).

In more modern societies, however, production took place via the labour market, outside the network of relatives. In this sort of situation, children are ultimately a greater (material and emotional) burden than in earlier times.

The 'wealth flow' theory, like the theory of demographic transition, is very macro-oriented and fairly deterministic in nature, given its focus on describing fertility trends in various types of societies characterized by a particular mode of production. Although the theory pays some attention to the issue of decision-making within households, the information it provides in this respect is not very specific. Caldwell himself emphasized the importance of undertaking more in-depth research into this area.

> *"Perhaps the most urgently needed research [to explain the onset of fertility decline] is that into intra-familial economic and power relations in the traditional family characterized by familial production, and into the causes and effects of shifts within these relations. (...) Related to this work is the need for knowing a great deal more about the locus of economic and fertility decision-making in such families. Subsequently, we also need to have such information for the successor family systems, as familial production and its attendant mortality was transformed with the growth of the external labour market"* (Caldwell, 1982, pp. 350-351.)

The 'wealth flow' theory is similarly lacking information about gender relationships. Although Caldwell gives a general description of how women's status has changed in the two types of societies, and how women have, for example, shown a growing tendency to challenge male authority, it is not clear how this relates to the choices women make in the context of family formation (for example, of the possible relationships between these two situations; see Oppenheim Mason, cited above). The research referred to above, which Caldwell felt was needed in order to gain a better insight into the situation at the micro level, is equally important if the relationship between men and women in the family formation decision-making process is to be properly addressed.

2.2. Microeconomic approaches

Microeconomics places far greater emphasis on the choices individuals make than sociological and anthropological approaches. Microeconomic approaches in the field of demography are based on neoclassical economic theory, the main aim of which is to explain consumer behaviour. Subsequently, researchers decided to examine the viability of using the underlying assumptions of neoclassical economic theory to explain how decisions relating to family formation were taken within households. In this theory, children were represented as consumer goods: people opt for a certain family size according to particular preferences they have (to have children and other consumer goods), according to how much these goods cost, and according to their income; this choice is made in a rational manner, and in such a way as to derive maximum 'utility' or 'satisfaction'. Gary Becker (1960) was the originator of this approach, which he and others later expanded into what is now called 'new home economics'. Although this approach was initially only applied to family formation, it was subsequently also applied to the formation and dissolution of relationships (Becker, 1973; 1974).

Both neoclassical economic theory and new home economics are based on the paradigm of rational choice theory. The following assumptions are central to this paradigm (Burch, 1980):

1. The behaviour of an agent (an individual of either sex, who may or may not be part of a couple or household) is largely the result of a conscious, deliberate decision.
2. This decision entails a choice between various alternative types of behaviour available to the individual (including the option of doing nothing).
3. The choice entails an overall evaluation of the many consequences of each type of behaviour.
4. Agents will have a greater tendency to choose those types of behaviour which they anticipate will give them the best outcome; in other words, their aim is to maximize the benefit to themselves.

These assumptions have been criticized by various authors (see Folbre, 1986; Hagenaars, 1988; Willekens, 1990; Gustafsson, 1990; Coleman *et al.*, 1992, etcetera). One particularly criticized aspect is that the rationality of the individual is exaggerated, and that the impact of other relevant factors, such as experiences, habits, and emotions, is given too little attention. Moreover, it is doubtful whether people always consider all the consequences of their behaviour, whether they always want to have their cake and eat it, and whether they act only out of selfish motives. Moreover, the postulate of maximizing utility implies an a-historical view of human behaviour and a universal view of preferences and the stability of preferences over time, of what is most useful, and of anticipated costs and benefits.

Notwithstanding the fact that the underlying assumptions of new home economics do merit some criticism, as the above suggests, this school of thought has made a major contribution to the development of demographic theory. By highlighting the fact that people have to apportion scarce goods such as time and money when shaping their behaviour, and by introducing the concept of choice, this approach has helped focus greater attention on the individual rather than predominantly the context, and the fact that more attention is focused on the rationality of individual behaviour is also important.

Despite the above, however, the approach does have certain shortcomings related to the agent-structure dilemma and assumptions about gender relationships which make it less useable for our research project. In contrast to the

wealth flow theory and the theory of demographic transition, the paradigm of new home economics starts from a voluntaristic standpoint. The central assumption is that individuals act autonomously when making choices. Nelson (1992) described the degree of autonomy attributed to individuals in this paradigm.

> *"The conception of human nature underlying neoclassical eco-nomics is of an individual human as radically separate from other humans and from nature; the emphasis is on separation, distance, demarcation, autonomy, independence of self. (...) The environment has no effect on him, but rather is merely the passive material, presented as 'con-straints', over which his rationality has play"* (Nelson, 1992, p. 115).

The fact that people live in a social context which they are capable of influencing to a certain extent and which has an impact on them is given too little consideration in new home economics.

The second issue which is important in the context of this discussion concerns assumptions related to gender relationships. The 'agent' concept on which the theory is based poses a major problem. As we saw above, the agent is seen as an autonomous entity; the fact that agents are themselves dependent on and responsible for others is scarcely taken into account. Moreover, the assumption that agents can be regarded as entities can in itself be criticized. In many cases, the agent is a couple rather than an individual person. In such cases, the theory presupposes that a climate of harmony and consensus exists between partners or within households, but it is debatable whether men and women within a relationship, or whether various members of a household, share the same preferences, and whether each individual weighs up the costs and benefits in the same way. The structurally unequal balance of power between men and women, which in itself means that men's and women's positions in the decision-making process within a household are unequal, also needs to be taken into account. A serious flaw in new home economics is its failure to address these different aspects of gender relationships.[3]

2.3. Social psychological approaches

In contrast to microeconomics, whose underlying principle is that people's preferences are largely fixed, psychologists in demographic research are

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[3] For a recent review of feminist scientists' criticism of neoclassical economic theory, see Kuiper *et al.* (1993).

primarily interested in studying these preferences. An assumption central to these social psychological approaches is that behaviour is largely a reaction to human needs. What these approaches have in common with microeconomics is that maximising benefits is the basic premise of both. Children have a particular function for parents and satisfy particular needs, but at the same time also incur (both material and immaterial) costs. Whereas exponents of new home economics focus primarily on financial factors when making analyses, social psychologists focus primarily on the social and psychological costs and benefits.

Much psychological research is oriented towards studying the *motives* underlying demographic behaviour. The unit of analysis is the individual. This sort of research is primarily used in the context of having children (the so-called Value-of-children approach). Commenting on this type of research and on what psychologists have contributed to the development of demographic theory, Fawcett said that

> *"the most fundamental knowledge is that reasons for wanting and not wanting children do in fact vary systematically with social structural factors, such as class, culture, and gender. Not everybody wants children for the same reasons, and there are quite diverse positive and negative motivations for childbearing"* (Fawcett, 1991, pp. 15-16).

A second branch of research is principally concerned with *decision-making* processes in the context of demographic behaviour. A theoretical framework frequently used for this purpose is Fishbein and Ajzen's 'model of reasoned action' (1975), represented by the following: beliefs → attitudes → intentions → behaviour. The basic premise of this model is that a person's intention to display certain behaviour is a reliable gauge of the probability of that behaviour occurring. This intention can be determined by ascertaining two things: which beliefs a person has as to the consequences of certain behaviour (for example, partners believing that having a child will improve their relationship) and a person's perception of how that behaviour will be judged by other people who matter to them. In Fawcett's view, this and similar social psychological models have succeeded — in statistical terms — in providing explanations for the use of contraceptives and to a lesser extent for the timing and prevention of an additional child.

A major drawback of decision-making models of this kind, however, is that they enable only one type of targeted behaviour at a time to be considered.

> *"They predict only the targeted behaviour (such as having another child) and do not take into account alternative outcomes, such as adjusting attitudes to accommodate constraints or choosing 'next best' substitutes for the behaviour under study"* (Fawcett, 1991, p. 18).

The model is not designed to explain how a choice between these alternatives arises (e.g. working and/or having children).

Both social psychological and microeconomic approaches have made a major contribution to the development of demographic theory, in particular by expanding further upon the role of individuals in determining demographic behaviour, and also by emphasizing the dynamic nature of decision-making in the context of demographic behaviour. Without wishing to deny the significance of social psychological approaches in demographic research, we were nonetheless forced to conclude that they were insufficient for the purposes of the research project based on the criteria that were set. In terms of resolving the agent-structure dilemma, the basic premise of social psychological approaches is too voluntaristic. Behaviour is primarily attributed to individual selection processes and the relevance of context is given relatively little attention, although to a slightly greater degree than in microeconomic approaches. Fishbein and Ajzen's model, in particular, demonstrates this fact, in that it acknowledges the importance of social values and incorporates the anticipated reaction of other people. Besides, social psychological approaches to demographic behaviour have up until now given relatively little consideration to gender relationships. They focus primarily on attitudes (in particular, social attitudes towards masculinity and femininity) and on differences between men and women which may be attributed to independent variables. Processes of interaction between (heterosexual) partners and the relevance of the unequal balance of power between partners are scarcely considered in this demographic school of thought.

2.4. Conclusions

Although each of the demographic theories discussed briefly here have contributed to explaining demographic behaviour, the conclusion of the analysis was that they were not really useable in the research project. Speaking in very broad terms, sociological and anthropological approaches overemphasize the relevance of the social context and fail to elaborate sufficiently on the behavioural freedom of individuals, whereas microeconomic and social psychological approaches pay too little attention to the former and overemphasize the latter. And all three types of approaches fail to adequately address the relevance of the unequal balance of power

between the sexes. We were, therefore, obliged to look outside the confines of demography for a theory which could be used in the research project, and which provides concepts capable of bridging the gap between the individual and the social context, and which also make it possible to examine the impact of gender relationships.

3 | Pierre Bourdieu: a theory of practices

In the course of looking for a different theoretical framework with which to gain insight into human behaviour and its diversity, so as to be able to assess the impact of government emancipation policy on behaviour, we became inspired by various theoretical concepts developed by the French sociologist Pierre Bourdieu. His work is characterized by three recurrent concepts: 'habitus', 'field', and 'capital'. Bourdieu uses these concepts to explain the production of practices. The concepts are fairly complex and their meaning is enhanced by their interrelationship.

Habitus is one of the most important concepts Bourdieu uses. Habitus is a collective term for all the durable dispositions an individual acquires, and which function as unconscious schemes of perception, appreciation, and action. Bourdieu describes habitus, amongst other things, as

> *"necessity internalized and converted into a disposition that generates meaningful practices and meaning-giving perceptions"* (Bourdieu, 1984, p. 170).

Habitus offers individuals schemes for classifying reality, for perceiving things as good or bad, desirable, or undesirable, for doing particular things, and for doing things in a particular way. According to Bourdieu, habitus is a concept which above all represents an attitude, a particular way of construing and understanding the specific 'logic' of practice (Bourdieu and Wacquant 1992, p. 77).

In Bourdieu's view, one of the most important qualities of habitus is that it makes a virtue of necessity. Habitus

> *"produces strategies which are adapted objectively to the objective situation, even though they are neither the outcome of explicit ends consciously aimed at, nor the consequence of a mechanistic*

determination by external causes. Social behaviour is governed by a 'practical sense' or 'a sense of the game'" (Bourdieu, 1989, p. 64).

This practical sense is founded on past experiences. Moulded as it is by conditions and experiences from the past, habitus contains schemes which are objectively compatible with these conditions and which have in a sense been pre-adapted to their demands.

"The most improbable practices are therefore excluded, as unthinkable, by a kind of immediate submission to order that inclines agents to make a virtue of necessity, that is, to refuse what is anyway denied and to will the inevitable" (Bourdieu, 1990b, p. 54).

Habitus is, in effect, the embodiment and therefore the individualization of the social context. It is a type of psychological structure (Welten, 1989) which develops as a result of a person's upbringing and socialization in the specific social context (Bourdieu speaks of conditions of existence) in which an individual is raised. Habitus regulates our behaviour in a way which makes the traces of the conditions of existence apparent. Different types of habitus (e.g. class habitus) occur by virtue of the fact that individuals are raised in different circumstances. These different types of habitus, in turn, produce different practices. (Bourdieu uses the collective term 'lifestyle' to denote all practices generated by a habitus).

"The conditionings associated with a particular class of conditions of existence produce habitus, systems of durable, transposable dispositions, structured structures predisposed to function as structuring structures, that is, as principles which generate and organize practices and representations that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the operations necessary in order to attain them" (Bourdieu, 1990b, p. 53).

Habitus is both a structuring structure (which organizes practices and the perception of practices) and a structured structure:

"the principle of division into logical classes which organizes the perception of the social world is itself the product of internalization of the division into social classes" (Bourdieu, 1984, p. 170).

The way habitus works is shown in the following diagram: conditions of existence → habitus → practices.[4]

A second basic concept used by Bourdieu is *capital*. He distinguishes between three basic types of capital: economic, cultural, and social. He uses the term economic capital to denote capital which is readily convertible into cash and which can be institutionalized in rights of ownership. Cultural capital can take three forms: it can be an incorporated state, i.e. in the form of an individual person's durable dispositions; an objectified state (e.g. books, paintings, machines); and an institutionalized state (degrees and diplomas). And, finally, there is social capital, which Bourdieu describes as

> *"all the existing or potential resources which arise from having a more or less institutionalized durable network of relationships of mutual respect — or which arise from belonging to a group — which provides each of its members with the support of the collective accumulated capital, 'credentials' which make them creditworthy in the broadest sense of the word"* (Bourdieu, 1989, p. 132).

In addition to these three basic types of capital, Bourdieu says a fourth exists: symbolic capital, which is usually called prestige, reputation, or fame. It is in the form of symbolic capital that the different types of capital are perceived and acknowledged as self-evident and legitimate.

Bourdieu sometimes refers to agents as 'bearers of capital', and describes capital as accumulated, incorporated labour which individual agents or groups are capable of acquiring. The accumulation of capital and its conversion from one type of capital into another must be paid for with money, labour, effort, and above all time (Delhaye, 1991, p. 141). The position of a particular agent in 'social space' can be ascertained on the basis of his or her accumulated capital (in terms of both volume and structure). This accumulated capital is changeable. The volume and structure of capital a person has can, for example, change if they undertake training or enter into a (marital) relationship (De Singly, 1987), and the value of a particular type of capital can also change over a period of time.

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[4] There should, in fact, be another arrow after 'practices', pointing to 'conditions of existence', given that practices contribute to shaping conditions of existence.

Bourdieu's third basic concept is *field*. This is the term he uses to denote what is usually referred to in the Netherlands as 'world' (e.g. the world of politics, science, art, etcetera). He describes a field as a network or configuration of relationships between positions which exert pressure on the individuals occupying those positions (Bourdieu and Wacquant, 1992, p. 58). Each field dictates its own values and has its own governing principles.

> *"These principles define the boundaries of a socially structured space within which agents —depending on the position they occupy in that space— struggle to change or perpetuate that space's boundaries and configuration"* (Wacquant, 1992, p. 20).

But in addition to exerting pressure, the fields also provide scope for behaviour. Habitus and capital only have significance within fields.

Although each field is different and has its own rules, Bourdieu maintains there are universal rules which apply to all fields. A field's structure, for example, is defined by the structure of the division of various types of capital operating in that field. Capital is unequally divided amongst agents and the hierarchy of the various types of capital differs from one field to another. Each field is the scene of a perpetual struggle for the division of capital. One important aspect of this struggle is who is permitted access to a particular field; the volume and structure of capital are also very important. But Bourdieu maintains that it is impossible to generalize about which elements of social status are constant and universal determinants.

> *"In fact, what is determinant in a given area is a particular configuration of the system of properties constituting the constructed class, defined in an entirely theoretical way by the whole set of factors operating in all areas of practice — volume and structure of capital (..) sex, age, marital status, place of residence, etcetera"* (Bourdieu, 1984, p. 112).

Bourdieu emphasizes the fact that the concepts of field and capital are closely linked and interdependent. The value of a particular type of capital is, in effect, dependent upon the existence of a field in which that capital has significance. In Bourdieu's view, it is consequently

> *"irrelevant whether we are trying to establish what a field is, where its boundaries lie, or whether we are trying to establish which different*

types of capital are operating in a field, within which boundaries their effects are felt, and so on" (Bourdieu and Wacquant, 1992, p. 59).

According to Bourdieu, the social universe is made up of a multiplicity and great variety of fields. He gives no precise definition of what is or is not a field, and appears to have a fairly pragmatic approach to the concept which he sees as forming part of his 'toolbox'. He tends to apply the concept of field to fairly broad contexts (say, the artistic or economic field), but he also applies it to more limited contexts (e.g to companies, ministries, and occupational groups).

If we accept that social space consists of many different fields, the question which then arises is how these fields relate to one another. In Bourdieu's view, however, this is too complex a question to answer in general terms.

"This is because I believe that there is no such thing as a transhistoric law governing the relationships between fields" (Bourdieu and Wacquant, 1992, p. 68).

The fact that the economic field is a powerful force in industrial societies does not, in his opinion, mean that the economy should be seen as the sole determining factor. Relationships between fields are never permanently fixed. Their interrelationship should be the focus of constant re-examination, particularly in the context of research.

We will conclude the description of the three basic concepts of habitus, capital, and field by summarizing how the production of *practices* should be viewed in the context of these concepts. Bourdieu puts forward the following formula to represent this: [(habitus) (capital)] + field = practices (Bourdieu 1984, p. 101). Agents develop a particular habitus during the course of their lives and accumulate a certain volume of different types of capital. They operate in social space and in various fields. Practices are determined by habitus and field on the one hand and by the structure of, and possibilities offered by, a field on the other.

"Social ageing is nothing other than the slow renunciation or disinvestment (socially-assisted and encouraged) which leads agents to adjust their aspirations to their objective chances, to espouse their condition, become what they are and make do with what they have, even if this entails deceiving themselves as to what they are and what they have, with collective complicity, and accepting bereavement of all

the 'lateral possible' they have abandoned along the way" (Bourdieu, 1984, p. 111).

In order to be able to use research to understand certain practices, it is necessary to establish which of an agent's properties play a part in a given field. We, therefore, have to establish

"the form taken, in that field, by the objectified and internalized capital (properties and habitus) which defines social class and constitutes the principle of the production of classified and classifying practices" (Bourdieu, 1984, p. 114).

4 | Using Bourdieu's concepts as a basis for a theoretical frame of reference

The previous section described the three central concepts Bourdieu uses in his work. We will now consider whether, and to what extent, they can provide a basis for the theoretical frame of reference needed for our research project. We will, therefore, apply the two criteria mentioned at the beginning of this article (resolution of the agent-structure dilemma and scope for taking account of the unequal balance of power between the sexes) to Bourdieu's concepts.

In principle, the different theoretical concepts formulated by Bourdieu and discussed earlier appear capable of providing a basis for establishing a theoretical frame of reference. The resolution of the agent-structure dilemma is, in fact, an essential part of all of his work. He argues that social scientists keep stumbling over the problem of individuals versus society, because their initial definition of reality is wrong. The evidence of biological individuation prevents scientist from seeing that society has two forms: on the one hand institutions, and on the other the acquired dispositions, durable ways of being or acting, that are inscribed on bodies (what he calls habitus).

"The socialized body (what one calls individual or person) is not opposed to society, it is one of its forms of existence" (Bourdieu, 1980, quoted in: Michielsens, 1987, pp. 62-63).

Although all of the concepts of habitus, capital, and field refer both to the agent and the structure, especially his concept of habitus is the one concept

he uses to try to resolve the agent-structure dilemma. Here, he is reacting to both voluntaristic and deterministic theories.

> *"My main aim was to explain the most basic kinds of practices, such as ritualistic behaviour, whether or not to marry, everyday economic behaviour, and so on. In so doing, I wanted to get away from both objectivism, in which behaviour is viewed as a mechanical reaction in which agents are not involved, and from subjectivism, in which behaviour is described as the deliberate enactment of a conscious intention, the voluntary strategy of a conscious mind which formulates its own goals and maximizes its benefits by means of rational calculations"* (Bourdieu and Wacquant, 1992, p. 77).

Habitus is both the result of, and the precondition for, behaviour and for the reproduction of social structures. Or, as Brouns (1993) puts it: it is an active creative relationship to the world, but at the same time a socialized form of subjectivity. Although Bourdieu is quite clearly an opponent of rational choice theories (which he accuses of subjectivism), he does not deny the fact that rational considerations (such as weighing the pros and cons) can play a part.

> *"Habitus is what has to be presupposed in order to understand that social agents are 'reasonable' although not necessarily rational; in other words, they do not gear their behaviour towards maximizing their return on the resources available to them, or, to put it in simpler terms, they do not calculate, they do not make their goals explicit and they do not combine the resources available to them to attain those goals; in short they make no combinations, plans, schemes"* (Bourdieu and Wacquant, 1992, p. 84).

We conclude that Bourdieu's theory of practices is more capable of solving the agent-structure dilemma than established demographic theories, and as such provides us with better tools for the analysis of demographic implications of emancipation policy. The operationalization of the concept of habitus (see section 5) can serve as a further elaboration and illustration of this argument.

As far as our second criterion is concerned (the scope for taking account of the unequal balance of power between the sexes), we also find Bourdieu's theory of practices an improvement compared to the demographic theories. As stated earlier, habitus comes about in a specific social context: the condi-

tions of existence. Different types of habitus develop due to the fact that these conditions of existence vary according to time and place. Bourdieu tends to confine his discussions in this context to class habitus. In his view, habitus is a concept which can be used to further investigate the effects of 'class'. The question then is, can habitus also be used to analyse gender?

Although gender is not a big issue in his research, Bourdieu studies the impact of sexual inequality, especially in his research on the Kabyle society in Algeria. Bourdieu uses the terms 'masculine domination' and 'masculine order', and he effectively views masculine order as one of the social conditions of existence which, as a result of socialization, is expressed in the habitus of individuals. The process of socialization brings about a *"gradual 'somaticising' of gender domination"* (Bourdieu, 1990a, p. 11).

The result of this socialization is that

> *"masculine order (...) [is] largely taken for granted as a result of the quasi-authorisation conferred by, and the compatibility of, social structures as expressed in the social organisation of time and space and the division of labour between the sexes on the one hand, and the cognitive structures which have become incorporated in people's bodies and minds on the other"* (Bourdieu and Wacquant, 1992, p. 117).

He argues that in the Kabyle society education produces two forms of gender habitus.

> *"Elle (l'éducation) tend à inculquer des manières de tenir le corps dans son ensemble, la main droite masculine, la main gauche féminine, des manières de marcher, de porter la tête, ou le regard, en face, dans les yeux, ou au contraire, à ses pieds, etc. (...), elles (les manières) expriment pratiquement les oppositions fondamentales de la vision du monde"* (Bourdieu, 1990a, p. 20).

The masculine order he refers to can be viewed as belonging to the 'doxa'. The doxa is that over which a silent consensus exists, all things which are taken for granted. The doxa includes classification systems such as the existence of two forms of gender. Socialization (Bourdieu also refers to the 'work of inculcation')

> *"which is both sexually differentiated and sexually differentiating, imposes different sets of dispositions upon men and women"* (Bourdieu and Wacquant, 1992, p. 118).

In other words, the habitus's schemes of perception and appreciation are gender-specific and gender-specifying.

Elaborating on Bourdieus work, other authors (Michielsens, 1987; Risseeuw, 1988; Delhaye, 1991) also maintain that there is scope for assuming the existence of a separate gender habitus, given that the inequality between the sexes within society is a durable condition of existence in which people adopt different positions, and on the basis of which they develop a different habitus. Risseeuw elaborates as follows:

> *"From a feminist point of view (...) one has to distinguish two forms of habitus. A man learns he is part of a group, but also that he is a man as opposed to a woman. How 'being a man' is conceptualized in a given society at a given time also greatly influences his perception of the options and strategies available to him. A similar argument holds for women"* (Risseeuw, 1988, p. 190).

Bourdieu gives relatively little consideration to the gendered nature of the division of capital and the structure and functioning of fields. Numerous authors have, however, stressed the importance of this type of analysis. Delhaye, for example, maintains that the accumulation of economic and symbolic capital is predominantly a male preoccupation. In her view, it is generally considered more legitimate for men to accumulate capital, with the result that men acquire more symbolic capital than women (Delhaye, 1991, pp. 138-143). Blees-Booij's research into the division of capital amongst professionals (1994) suggested that female equivalents of occupations featured systematically on the bottom rung of the economic status ladder.

In our view, it is very important that the gendered nature of the division of capital and the functioning of fields be considered in order to gain a broader insight into the unequal balance of power between the sexes in relation to demographic behaviour. The distinctions Bourdieu draws between different types of capital provide scope for making a balanced analysis, which would need to assess the value of the different types of capital in different situations, the extent to which capital is divided on a gender-specific basis, and how successful men and women are in increasing their capital or in converting it into different (in this case more valuable) types of capital.

5 | Implications of Bourdieu's theory for demographic research

What now remains to be seen is how the concepts of habitus, capital, field, and practices can be used in our research project. Bourdieu suggests various ways in which this can be done, one of which is to begin by constructing various classes.

> *"One must construct the objective class, the set of agents who are placed in homogenous conditions of existence imposing homogenous conditionings and producing homogenous systems of dispositions capable of generating similar practices; and who possess a set of common properties, objectified properties, sometimes legally guaranteed (as possession of goods and power) or properties embodied as class habitus (and, in particular, systems of classificatory schemes)"* (Bourdieu, 1984, p. 101).

This entails examining different variables (Bourdieu suggests occupation, income, sex, ethnic origin, level of education, age) and establishing their importance and interrelationship.

Having decided against using Bourdieu's concept of 'class', we would like to interpret the above quotation (somewhat loosely). What needs to be identified and established are categories of women with common conditions of existence which determine both the scope and limitations of their behaviour and generate dispositions (habitus) which govern their behaviour. These categories of women possess similar properties, in terms of both accumulated capital and habitus (we use habitus in this context as the collective term for all schemes of perception, appreciation, and action), that is to say, properties which are important within the specific context of labour force participation, family and relationship formation, and the dissolution of relationships. This framework can be summarized in the following scheme: conditions of existence → (habitus + capital) → practices, in this case labour force participation, family and relationship formation, and dissolution of relationships.

Given these properties, women live in what Bourdieu describes in general terms as 'social space', which is made up of many fields. Women are active in various fields which each dictate their own values and have their own governing principles. Given a particular habitus and a particular volume of different types of capital, women function within the different fields and take part in the struggle for the division of capital. Their behaviour is ultimately determined by both their habitus and accumulated capital, and by the

structure of, and possibilities offered by, different fields. Therefore, in order to explain women's behaviour, one has to take account of the fields they are active in, and, equally important, the values dictated by, and principles governing, those fields.

In order to demonstrate the usefulness of Bourdieu's theory for demographic research, we will re-examine one of the concepts often used in demographic research, in this case level of education, in the context of the presented framework.

In demographic research, level of education is usually seen as 'human capital' with which a certain utility can be derived. Bourdieu also uses variables like this in his research, but it is important to note that, thanks to his theoretical concepts, one can get a better understanding of the meaning of the variables. Variables are relevant because they give access to certain practices or generate particular schemes of perception, appreciation, and action. The following quotation, refering to the variable 'occupation', elucidates this argument.

> *"In designating classes (...) by the name of an occupation, one is merely indicating that the position in the relations of production governs practices, in particular through the mechanisms which control access to positions and produce or select a particular class of habitus"* (Bourdieu, 1984, pp. 101-102).

Because of the particular importance of 'level of education' for demographic behaviour, we elaborate on that variable. The literature shows the importance of this variable in many respects. Women of different levels of education vary in their outlook on their future life course. They also vary in their actual behaviour as far as the formation of relationships and family and the breaking-up of marriage are concerned. Lower educated women have to make choices in their lives at an earlier stage than higher educated women. They finish school earlier and are confronted with the transition to the labour market and the 'marriage market' at an earlier age. However, their options are restricted and often the domestic role becomes dominant in their outlook on their lives. Lower educated women have a more traditional view on gender relationships: they want their husbands to be breadwinner, while their responsibility will be the care for the children and the domestic work. Higher educated women finish their education at a higher age. For the time being, they don't want to bind themselves to marriage and children. When they are older they would like to cohabit and many of these women do not want to

marry. They prefer equality in their future relationship in which the parental tasks, duties, and responsibilities are equally divided between both partners. But because of practicalities, they do not expect this to become reality and they foresee that they will be the ones that have to do most of the 'labour of care'. Differences also appear when we look at the actual choices women make in life. Cohabitation is more frequent among higher educated women as well as being single. Single motherhood, on the other hand, occurs more often among lower educated women. Having children is less evident for higher educated women and postponement of parenthood is more common among them than among lower educated women. In terms of Bourdieu, we argue that level of education is a 'condition of existence' that generates both a certain habitus and provides a certain cultural capital. Education generates schemes for perceiving and appreciating reality, and gives access to different possibilities in life.

In a similar way, other variables that have proven to be relevant for demographic behaviour can be re-interpreted to help us gain a better understanding of the mechanisms that underly actual behaviour. However, the concepts of Bourdieu's theory also point out the necessity of conducting other research and collecting other kinds of data.

The division of different types of capital is important to incorporate in demographic research projects, whereby its gendered nature needs special attention. Not only the more easily measurable types like economic and cultural capital should be looked at, but also social and symbolic capital. Besides, one should be aware of the fact that the gendered nature of the division of capital does not remain constant during the life course. For men we observe an accumulation of their economic capital. However, the situation for women is quite different. The social and cultural capital of a married woman may devaluate, especially after the birth of a child or when she divorces, as De Singly (1987) has argued.

The concept of habitus in relation to demographic behaviour requires further research as well, although this is not very easy considering the fact that the concept refers to schemes that people are often unaware of. The work of Komter (1985) can serve as a valuable starting point for such research. She has proven how, what she called, 'the power of the self evident' acts within marriages. The way men and women live and interact, and how they perceive and appreciate their lives and daily interaction is based on all kinds of assumptions that imply gendered rules. The work of Du Bois-Reymond *et al.* (1992) can be of similar use for developing demographic research. They

show, for instance, how young people adapt their aspirations for their future life course by anticipating to what they expect from their future partner.

In order to gather this kind of in-depth information, it is not enough to stick to quantitative research, such as the Dutch National Fertility Survey. More qualitative research is required to gain insight into the mechanisms that determine demographic behaviour (the functioning of habitus and capital). The work of the researchers mentioned above can serve as a valuable source of inspiration in this respect.

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COMMUNICATION

POPTRAIN: computer-assisted population education in secondary schools[1]

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Abstract. This paper describes the computer program PopTrain, which is intended for use in demography and population education (a component of geography) in secondary schools. The objectives of the program are: to introduce the student to demography; and to make the student aware of the importance of demographic developments and their social consequences. Since PopTrain is very much graphically oriented, it is capable of bringing demographic processes to visual life. This especially pertains to the PopTrain features of manipulating age pyramids and making alternative population projections.

[1] The NIDI has developed PopTrain as an instrument to be used for population education in the Netherlands. The program is written in Dutch and based on statistical data for the Netherlands. However, in order to make the program accessible to people in other countries, an English version has also been developed. In principle, it is possible to adapt the program for use in other countries.

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Keywords: Population education; computer program; demographic software.

1 | Why PopTrain?

Teaching basic demographic insights to non-demographers is both easy and difficult at the same time. It is easy, because basic demography does not require complicated mathematics or other advanced tools, and because there is nothing mysterious about everyday processes like fertility and mortality. Some experience in reading and interpreting graphs, as well as some plain common sense is all that is required for being able to understand such basic demographic phenomena as the age pyramid, the relationship between fertility and population ageing, and the interaction between population growth and population age structure.

At the same time, however, demographic processes are typically slow, which makes it quite difficult for the teacher to get his message through in a convincing way. Most demographic trends have their impact on society only in the medium or long run. The fact that the world population will double in 40 years has far-reaching implications, but the fact that population growth is actually occurring at this moment is not easy to see. Similarly, the process of population ageing is not directly visible in the street or on television, which makes it rather difficult to explain that there might be some problems in two or three decades from now.

In teaching demography to school-age children, an additional obstacle is the limited familiarity of the students with demographic events like births and deaths. Family formation and paying contributions to the pension scheme is still far away for 15-year olds, which does not make life easier for the teacher in convincing his audience that demographic processes are going to directly affect their lives.

Still, demography or population education to promote 'population awareness' is too important not to have a place in formal (secondary) education. Thus, in the Netherlands, as well as in most other countries, demography and population issues are included in the regular curriculum. In addition, for those students who choose geography as one of their subjects to graduate in, demography and population are compulsory components of the final examination.

In order to make life easier for the geography teachers assigned with the task of teaching demography, the NIDI developed the computer program PopTrain. The initiative for creating PopTrain was taken at the occasion of the 25th anniversary of the NIDI in 1995. PopTrain is intended to be used in population education at secondary schools. Although in principle the program is accessible also for the general public, it aims primarily at students in the middle and higher types of secondary general education.[2]

The objectives of the educational computer program PopTrain are the following:

- to introduce demography to the user (the student);
- to make the user aware of the importance of demographic developments;
- to make the user aware of some social consequences of demographic developments.

In addition, PopTrain intends to achieve these objectives in a visually attractive way.

It should be emphasized that PopTrain is explicitly *not* intended to replace the teacher: PopTrain is not a tool for computerized education, but rather for computer-assisted teaching. As far as the NIDI is concerned, the development and distribution of PopTrain will be successful if the geography teachers experience that their task of teaching demography and population issues is made easier (knowledge can be transferred more easily) and/or enriched (with PopTrain it is possible to transfer knowledge that could not be transferred otherwise).

As already mentioned above, demographic processes are slow and demographic events cannot be observed every day, especially not by children. As a result, the demography component within geography is somewhat abstract. It is allright for the teacher to declare that a baby-boom works itself gradually upward in an age pyramid, or that increasing immigration does little to prevent the ageing peak in the first half of the 21st century, but for the student it is quite difficult to obtain a concrete image of such mechanisms. Since PopTrain is very much graphically oriented, it may be able to visualize

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[2] In Dutch educational terminology: years 3-5 of VWO and years 4-5 of HAVO. VWO and HAVO are the two types of 'highest' secondary education in the Netherlands. In years 4-5 of secondary school, students are about 16-17 years old.

demographic processes. In particular, this holds for the PopTrain features of manipulating age pyramids and making alternative population projections.

2 | Components of PopTrain

The Main Menu of PopTrain gives access to the three main components of the program:

- **Intro**: gives a very basic introduction to demography, illustrated with simple animations;
- **Trends**: displays a large number of graphs with recent demographic developments in the Netherlands (from 1950 onwards). All these graphs are based on data collected by Statistics Netherlands.
- **Forecast**: here, the user can construct his own population 'forecasts'. The forecast results can then be investigated and assessed on their demographic and social consequences.

All data, forecasts, text, and examples used throughout the program refer to the Netherlands as a whole. Although the program itself is also available in English, the English version still shows data for the Netherlands only. In addition, PopTrain does not provide information on a regional scale. The spatial component of demographic processes is not treated at all in the program.

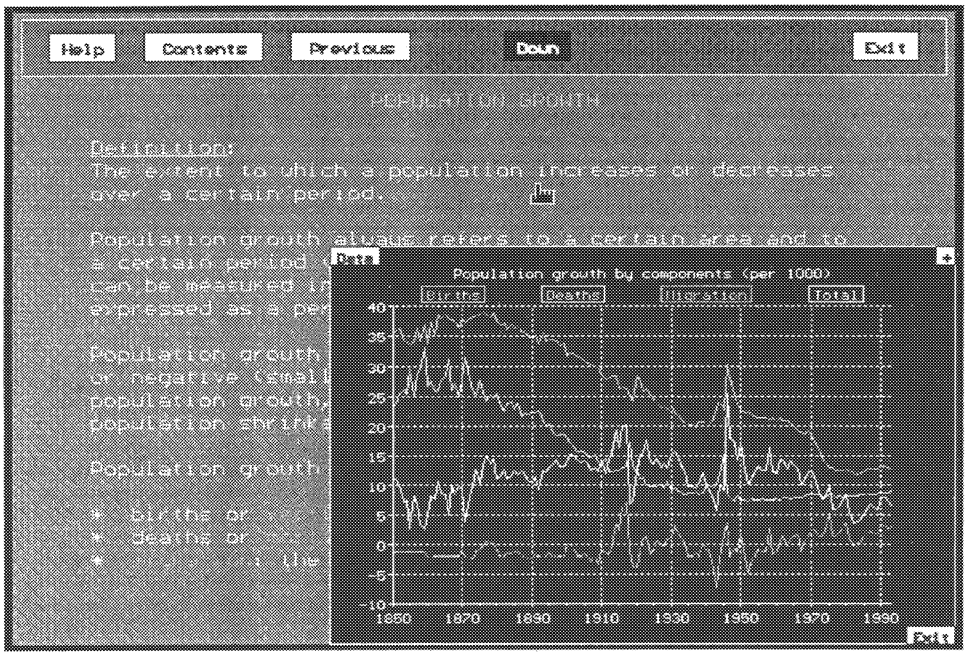
From everywhere in the program, the Help function can be invoked (*Figure 1*). The Help function provides extensive background information on demographic concepts, definitions, causes and consequences of demographic phenomena. A Help index and cross-references between different Help screens facilitate scrolling to related topics.

2.1. The INTRO section

The component **Intro** of PopTrain gives a mini-course 'introduction to demography'. It deals with issues such as:

- what is demography;
- what is a population;
- births, deaths, and migration as components of population change;
- the importance of age structure;
- the interaction between age structure and population growth;
- the age pyramid;

Figure 1. A PopTrain Help screen

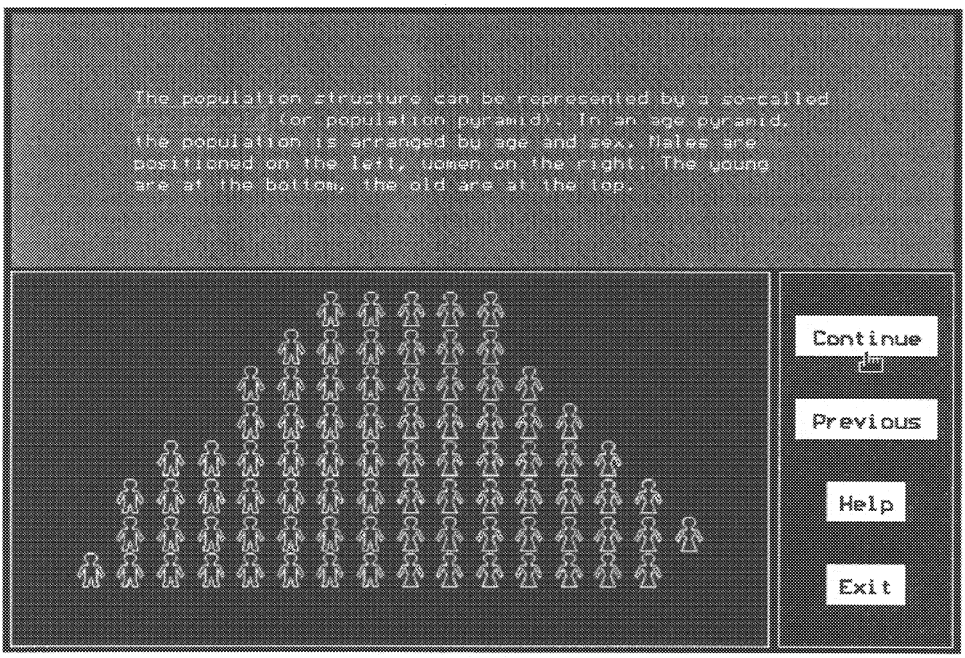


- age structures of growing, declining, and stationary populations.

Many of these topics are visualized on the screen using simple animations.

A dominant position throughout PopTrain is reserved for the age pyramid. In developing the program, it was felt that the essence of basic demography is the interaction between population change and the age composition of the population, i.e. the two-way role of the age structure: on the one hand, age structure as the result of demographic processes (fertility, in particular) in the past; on the other hand, age structure as a determinant of demographic change in the future. For this reason, much emphasis has been given to proper interpretation and understanding of age pyramids and the way they change over time. The **Intro** shows a stylized age pyramid constructed of individual persons (*Figure 2*). During a sequence of animations, first children are being born and added to the bottom of the pyramid; next, some persons (mainly the older ones) are shown to die and be removed from the pyramid; then

Figure 2. A screen of PopTrain's INTRO section



migrants are shown to join the pyramid; and, finally, ageing of the population by one year is visualized by moving all rows of individuals one step higher on the age ladder.

2.2. The TRENDS section

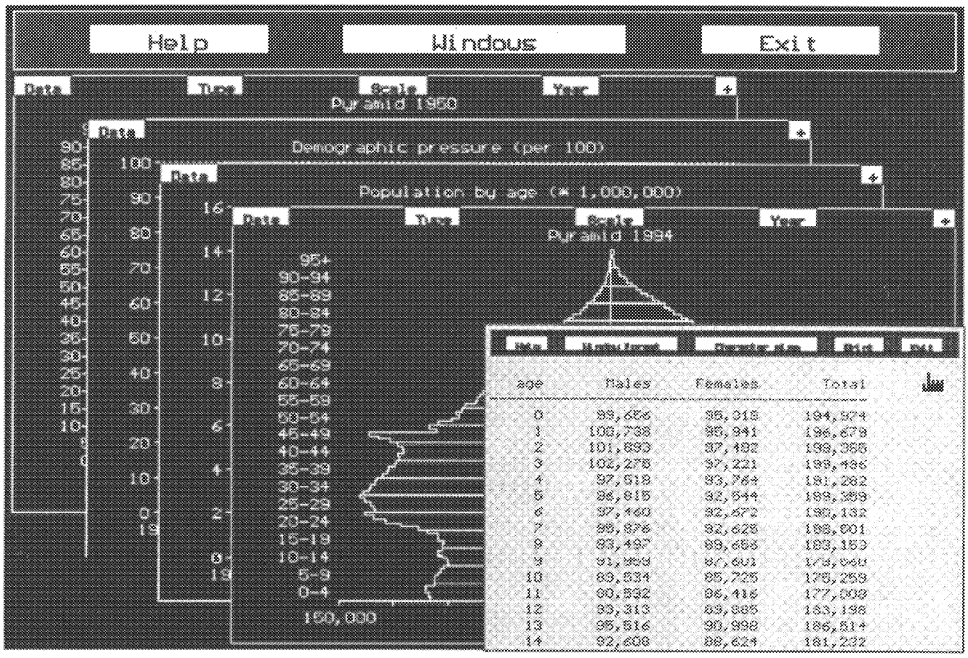
The component **Trends** contains a large number of graphs, in which different aspects of recent population trends in the Netherlands are summarized. The graphs are grouped by the following topics:

- population size and growth;
- age structure;
- fertility;
- mortality;
- marital status composition;
- nuptiality;
- marriage dissolution;
- international migration.

For each topic, a screen with several graphs is displayed (*Figure 3*). By simple operations, these graphs can be dragged, resized, and manipulated. Also, the data underlying the graphs can be inspected.

Graphs with age-specific information can be investigated for different years. In particular, it is possible to scroll through time within a graph, either manually or automatically. This feature is quite powerful for visualizing changing age patterns over time. For example, the 'fertility' screen contains a graph of age-specific fertility rates, initially, say, for 1950. By scrolling foreward in time, one obtains a very clear illustration of the decrease in the mother's average age at birth during the 1950s and 1960s, the sharp increase in average age at birth ('ageing of fertility') during the 1970s and 1980s, and the corresponding drop in period-rates between 1970 and 1975, i.e. the fertility decline. Similarly, in a scrolling age pyramid the user 'sees' the baby-boom cohorts gradually pushing their way upward through the popula- tion age structure.

Figure 3. A screen of PopTrain's TRENDS section



PopTrain example

A possible sequence of instructions (to be delivered by the teacher), with the purpose of showing the student how and why a baby boom pushes itself upward through the population age structure.

- Issue, from the Main Menu, the command [**T**]rends/[**A**]ge structure.
- One of the graphs is titled "Pyramid 1950". Put this graph on top of the other graphs by clicking on it with the mouse. Next, enlarge the graph to maximum size by clicking on its [+] button.
- Give, per 1 January 1950, an estimate of the number of 3-year old boys, 3-year old girls, and total number of 3-year olds.
- If someone is 3 years old per 1 January, in which year has that person been born?
- Explain how you can see in the pyramid that in the year 1946 exceptionally many children were born. Can you think of a reason for this large number of births?
- Why would, per 1 January 1950, the number of persons aged 29 and younger be so much larger than the number of persons aged 30 years and over?
- Issue the command [**Y**]ear.
- A menu bar appears. From the menu bar, select the command [**U**]p. The pyramid now displays the age structure per 1 January of the next year, that is 1951.
- How old are the children born in 1946 per 1 January 1951?
- Issue several times the commands [**D**]own and [**U**]p. You can clearly see how the large generation 1946 shifts up and down in the pyramid.
- Now issue the command [**F**]oreward. The pyramid scrolls automatically foreward, one year at the time, until any key is pressed (or until the last year has been reached). Verify how the different generations all shift up by one year in the pyramid.
- Stop scrolling the pyramid by the year 1970 (1 January). Then issue, slowly, several times the command [**U**]p, scrolling to 1 January 1976. What do you see happening at the lower end of the pyramid? From this, what can you conclude concerning the annual number of births in the period 1970-1975?
- In the Netherlands, every person aged 65 years and older receives an old-age state pension. Per 1 January of which year will the 1946 generation reach the age of 65?
- Close the graphs and return to the Main Menu.

The integrated Help function gives comprehensive background information and additional details. The most important, more technical demographic concepts and measures are also treated in the Help screens, including a comparison of the weak and strong points of alternative indicators. Examples of these include total fertility rate, life expectancy at birth, crude rates, net reproduction rate, and so on. Standardization is also discussed in the Help screens.

Some Help screens contain 'extra' graphs (e.g. crude birth rate since 1850), or an exercise. These exercises, ranging from simple to more advanced, challenge the student to rethink the information just presented, to link different topics, or to execute a population projection that illustrates the point in question.

2.3. The FORECAST section

The component **Forecast** allows the student to look into the future, and to experiment with alternative demographic developments. In order to prevent students losing their way, the demographic projection model used is kept as simple as possible. Thus, only a few key parameters can be modified. In particular, all age-dependent patterns in the model (e.g. the timing of fertility, the age distribution of international migration) are kept constant and remain hidden for the user.

The parameters that can be manipulated by the user are the following:

- total fertility rate;
- life expectancy at birth, separately for males and females;
- total net international migration;
- the time horizon of the projection.

For each behavioural parameter, also a target year can be specified.

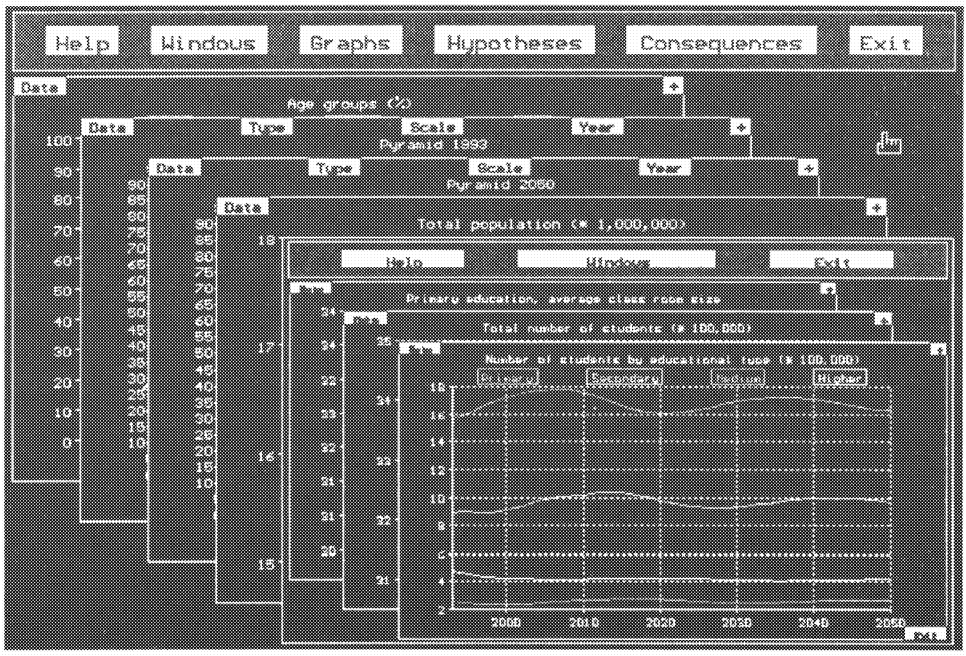
Once all parameters have been set, the projection is made and the results are displayed in graphical form. Graphs include time series plots of total population, demographic pressure, growth rates by component, age composition, as well as — again — age pyramids. By scrolling foreward in time in an age pyramid, one can literally *see* the ongoing process of population ageing.

In addition, with the special command **Consequences**, the demographic developments according to the forecast can be 'translated' into developments in selected social domains:

- households and housing construction;
- care for the elderly;
- labour market;
- education.

Again, the 'model' that links demographic trends to social consequences is kept as simple as possible; in most cases, age-specific proportions are simply kept constant throughout the projection period. The results are displayed in graphical form (*Figure 4*). For example, with this feature it is possible to visualize how a baby boom rolls like a wave through the educational system: first increasing student numbers in primary education, then in secondary education, finally in higher education. Although the underlying models and parameter values are clearly too simplistic for making anything coming close to a real forecast (in the sense of depicting the 'most likely' future), the projection output nevertheless illustrates the broad features of demographic consequences for society.

Figure 4. A PopTrain FORECAST screen



PopTrain example

The impact of ageing on the required capacity of nursing homes.

By making, using PopTrain, a population "forecast" and subsequently activating the screen "Consequences for the Care sector", one obtains, among other things, a rough indication of the trend in the number of patients in nursing homes. In doing so, it has been assumed that the relative use of nursing homes per age group and by gender will remain constant at the current level. The ageing of the population leads to a doubling of the number of patients between 1990 and 2050: from 50,000 to 110,000.

In the standard "forecast" of PopTrain, life expectancy at birth increases for males to 76 years in 2010, for females to 81 years in 2010. From 2010 onward, life expectancy remains constant. What would an additional increase in life expectancy for both males and females imply for the demand for nursing homes? A new PopTrain forecast is made. The results show that demand by 2050 will increase even much more strongly, to 170,000 beds (see Figure 5).

The Help function explains the main principles of demographic forecasting, and gives some background information about the four domains for which **Consequences** can be produced.

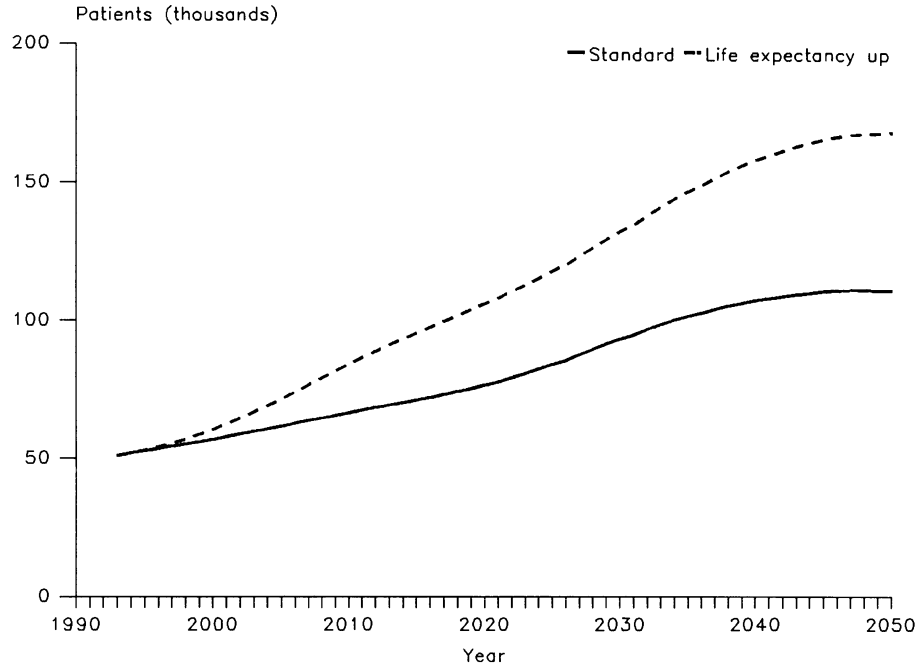
3 | Technical specifications

In order to be able to use PopTrain, a PC is required with the following properties:

- MS-DOS operating system, version 3.0 or higher;
- hard disk with at least 3 Mb free diskspace;
- disk drive for 3.5 inch diskette;
- at least 300 kb free memory (conventional);
- VGA screen, preferably in colour;
- at least a 386 processor, preferably a 486 or Pentium processor.

A mouse is not strictly necessary, but very convenient.

Figure 5. Projection of the number of patients in nursing homes, under different assumptions on life expectancy



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