PART ONE. REPORT OF THE EXPERT GROUP MEETING ON COMPLETING THE FERTILITY TRANSITION

INTRODUCTION

The United Nations Population Division, with the support of the MacArthur Foundation, convened the Expert Group Meeting on Completing the Fertility Transition, at United Nations Headquarters in New York, from 11-14 March 2002. The purpose of the meeting was to discuss guidelines for fertility change proposed by the Division for use in intermediate-fertility countries, defined as countries with total fertility between 2.1 and 5 children per woman in 1995-2000. The proposed guidelines anticipate that by 2050 fertility in the intermediate-fertility countries will fall below the level required for long-term population replacement. These guidelines represent an important break with traditional demographic views about the future of fertility and with the guidelines used by the Population Division to project the fertility of intermediate-fertility countries in the *2000 Revision* of the official United Nations projections.

The meeting was opened by Mr. Joseph Chamie, Director of the Population Division, who noted that this meeting was the third in a series. The first meeting, held in 1997, focused on future fertility assumptions in low fertility countries. The report and papers of that meeting were published in the monograph *Below-Replacement Fertility* (United Nations, 2000). The second meeting, held in 2001, focused on future fertility assumptions for high fertility countries (United Nations, 2001).

Mr. Chamie noted that an impressive group of scholars from all over the world had gathered in New York for this meeting. Many of them had prepared background or country papers covering a broad range of topics and providing case studies on countries in all regions of the world, and the discussions held at the meeting promised to be exciting. Historically, Mr. Chamie said, the Population Division has played a leading role in the population field. Since its establishment in 1946, it has maintained a tradition of addressing key population and development issues. Mr. Frank Notestein, first director of the Division, spoke with vision and boldness about the expected evolution of the world population when he addressed the first meeting of the Population Commission in 1947. A major achievement of the Commission was the convening of the first global inter-governmental conference dealing with population and development held in Bucharest in 1974. This groundbreaking United Nations conference was followed by the 1984 Mexico City conference and, ten years later, by the International Conference on Population and Development held in Cairo in 1994.

Mr. Chamie concluded his introduction by noting that the Population Division aimed to continue the tradition of addressing the most critical and challenging questions in the population field with scientific rigor, clarity and boldness. With the assistance of the experts gathered at the meeting, he said, those goals would be furthered during the coming four days of discussion and debate. Mr. Chamie then invited the moderator for the opening session, Ms. Afsani Bassir-Pour United Nations correspondent for *Le Monde,* to begin the session.

United Nations Population Division. Below Replacement Fertility. Population Bulletin of the United Nations, nos. 40/41, New York, 1999.

United Nations Population Division. United Nations Workshop on Prospects for Fertility Decline in High Fertility Countries, New York, ESA/P/WP.167, 2001.

I. COMPLETING THE FERTILITY TRANSITION: ISSUES AND A PROPOSAL

The first session provided the focus for the conference as a whole by presenting the proposed guidelines for the projection of fertility. The background paper for this session was prepared by the United Nations Population Division and presented by Ms. Sabine Henning.

A. THE FUTURE OF FERTILITY IN INTERMEDIATE-FERTILITY COUNTRIES
Population Division

Two considerations prompted a revision of the existing guidelines for the projection of fertility in the intermediate-fertility countries, Ms. Henning said. The first was the growing number of developing countries whose fertility was already below-replacement level. The experience of China and several countries or areas in Eastern and South-eastern Asia and in the Caribbean, she said, indicate that the transition to low fertility will not necessarily stop at replacement level.

The second consideration was the finding that socio-economic factors alone could not explain the onset of fertility decline, especially given the diversity of social, economic and cultural settings in which the transition to low fertility was occurring. Recent studies of the fertility transition indicate that it has been driven mainly by the diffusion of information, ideas, values and norms regarding fertility control. The pervasiveness of fertility reductions and the implied normative and behavioural changes suggest that a similar process might be driving the persistence of below-replacement fertility in developed countries. This diffusion could lead to similar behavioural change in other societies, causing below-replacement fertility to spread from one social group to another and from one country to another.

The key revision to the guidelines, Ms. Henning said, was that the target level of fertility reached by 2050 (that is, on or before 2045-2050) in the medium variant for the intermediate-fertility countries would be changed from 2.1 children per woman as in the *2000 Revision* to 1.85 children per woman. In the low and high variants, the target fertility levels for intermediate-fertility countries would be 1.35 and 2.35 children per woman, respectively. No changes would be made to the guidelines for the projection of fertility in high-fertility countries or to those for low-fertility countries.

Ms. Henning concluded by noting that, until recently, demographers had thought that the demographic transition would end by producing a stable state in which fertility remained constant at replacement level and total world population stabilized. It now appeared likely, she said, that the world as a whole might experience an extended period of below replacement fertility leading, eventually, to a reduction of world population. This change in thinking about long-term trends in future population growth was momentous.

B. DISCUSSION

Discussion of the issues raised by this presentation continued throughout the meeting as participants raised points stimulated by subsequent presentations. This section incorporates some of the pertinent points made in subsequent sessions as well as the discussion that immediately followed the presentation of the revised guidelines. Section VIII of this report presents more conclusions of the meeting concerning the proposed United Nations guidelines.

There was general agreement that fertility in the intermediate-fertility countries would decline to levels below replacement, but a diversity of views was expressed on how soon this might happen. It was pointed out that the developing countries in which fertility had already fallen to below replacement level were not representative of all developing countries. It was also noted, however, that the intermediate-fertility countries in which fertility had fallen rapidly to levels just above replacement were a very

heterogeneous group. Some participants questioned whether fertility in some intermediate-fertility countries would really fall below replacement level by 2050. Other participants expressed confidence that fertility would fall below replacement level in many of the most populous intermediate-fertility countries, despite possibly lagging economic development.

It was suggested that, on the one hand, that reducing fertility from 3.3 to 2.1 children per woman in some of the intermediate-fertility countries would be difficult, but also that declining fertility would bring about changes in the lives of women that would promote further fertility decline. As fertility declined, women became increasingly free to adopt social and economic roles that did not involve childbearing. Consequently, the potential for further fertility reductions would increase as rising proportions of women would remain unmarried or voluntarily childless within marriage.

It was noted that the rate of fertility change depended on the level of fertility attained. Declines would tend to be slower at higher levels of fertility when the transition was starting than when the transition had gained momentum and somewhat lower levels of fertility had been reached. The pace of decline would slow, however, as fertility approached 2 children per woman. This pattern of fertility change should be incorporated in projections of future fertility, rather than the pattern of linear decline that seemed to underlie most of the projected fertility trends for intermediate-fertility countries in the *2000 Revision*. With such a change, the "target" level of fertility could be thought of as a "floor" below which fertility would not fall.

Several participants felt that using a single target value for all intermediate-fertility countries was not advisable and suggested that different targets might be used for different regions of the world. It was pointed out, however, that the countries making up the world regions were already too diverse to justify a regional approach of this kind, though this diversity might be taken account of by grouping countries in other ways.

II. KEYNOTE ADDRESS

Following the presentation of the proposed new guidelines a keynote address was presented by Mr. John Caldwell, Professor at the Australian National University.

THE CONTEMPORARY POPULATION CHALLENGE
John Caldwell

Mr. Caldwell began by saying that the present time was an unexpectedly critical one for population change and policy. Huge population growth would continue for another fifty years, but the Governments of developed countries seemed to be losing interest in the issue. The immediate challenge was to maintain some of the attitudes, policies and foreign assistance expenditures that had so far sustained the fertility decline in the developing world. If this did not happen, then slow or stationary world population growth might be attained with a population of 10, 11 or 12 billion persons rather than with 8 or 9 billion persons. The difference such figures could make in terms of long-term environmental sustainability would be enormous. A lower population size in the future was likely, Mr. Caldwell said, if developed countries did not become too fixated on their own prospects of population decline in coming decades. One concern was that technical aid for family planning programmes in developing countries would continue to fall if the prospect of population decline in developed countries became an all-absorbing policy concern in these countries. Another concern would arise if, as seemed likely in the long-term future, countries with below-replacement fertility adopted pro-natalist policies aimed at stabilizing population numbers. If that

happened, countries all over the world, including those that might still have relatively high fertility levels, might tend to follow suit and adopt pro-natalist measures as well.

The most difficult aspect of future demographic behaviour in the world would likely be international migration. The pressure from both legal and illegal migrants to enter the developed countries would probably be far greater than the numbers those countries desire. The growth of large cities in developing countries also raised a number of issues. In particular, questions about the health levels of the poor living in those cities had to be answered by quantitative inquiry to give direction to remedial measures. Further specialized work was needed, finally, to delineate and measure the impact of the HIV/AIDS epidemic.

Mr. Caldwell concluded by observing that there no longer seemed to be any barriers to most countries reaching below replacement fertility levels. Whereas we once thought of the demographic transition as leading to a stationary population where population growth would be zero, more recently we have thought in terms of a maximum population followed by a long period of perhaps accelerating reductions. This might not be a bad outcome.

III. GLOBAL ISSUES IMPACTING THE FERTILITY TRANSITION

Moderator François Héran introduced the four speakers in turn. The discussion of the four papers is summarized in section E below.

A. Impact of the 1994 International Conference on Population and Development on population and development

Jason Finkle

Mr. Finkle discussed the political dynamics and patterns of influence that gave shape and substance to International Conference on Population and Development, "the Cairo conference". The conference was part of a process that did not end with the adjournment of the meeting, he said. It has continued for many years thereafter as Governments and international organizations of all kinds struggle to accommodate, or at times ignore, the Cairo Programme of Action. At the same time, the role of past United Nations population conferences in shaping the Cairo conference and its aftermath must be recognized.

The United Nations population conferences, Mr. Finkle said, have evolved through three stages. First came the epistemic gatherings of Rome in 1954 and Belgrade in 1965, where participants were invited as experts. Their aim was to discuss scientific ideas, and more general problems, and to encourage population research and training in the Third World. They were neither authorized nor inclined to make "commitments" on behalf of their Governments. Not withstanding the intellectual value of these meetings, they did not satisfy many nations that were concerned, if not alarmed, by rapid population growth in the developing world. This led to the second stage, the intergovernmental conferences at Bucharest in 1974 and Mexico City in 1984. Here the focus shifted from expertise to policy. In the minds of donor Governments and population activists, the main purpose of these conferences was to make Governments aware of population problems and to encourage and assist them in lowering their birth rates. Cairo represented a third stage in this evolution, marked by the massive presence and active involvement of non-governmental organizations (NGOs). Mr. Finkle said that this was actively promoted by donor nations, partly out of frustration with what they perceived as bureaucratic inefficiency and a generally poor quality of governance. This fundamentally changed the dynamic of the conference and was in no small part responsible for the shift from population and development to gender issues and reproductive health.

Assessing the impact of the Cairo conference on Government policies and programmes throughout the world is a complex and difficult task. Work that Mr. Finkle had done with Jack Kantner suggested that direct and immediate impacts were limited, and indeed that some policies and programmes have not been affected at all. Rhetorical compliance as reflected in statements by national leaders may contribute to a change in policy, but change may come slowly and incompletely. It may be too much to expect conferences to prescribe population policies.

More important than the specific programmatic changes that Cairo recommended was the clear and unqualified demand that women be equal partners with men in every phase of life and therefore, implicitly, the recognition of the comparative disadvantage of women at the present time. One major reservation, Mr. Finkle noted, was that the objectives of Cairo were not advanced, in his opinion, by using a population conference to fight for women's rights. The Beijing conference was the appropriate forum for that.

B. THE ROLE OF INTERNATIONAL FUNDING IN FUTURE FERTILITY DECLINES AMONG INTERMEDIATE-FERTILITY COUNTRIES

Steven W. Sinding

Mr. Sinding began by saying that his paper examined the role of external funding in past fertility declines and speculated about future fertility declines in the intermediate-fertility countries. The work had begun with an attempt to show by statistical methods that countries with a high level of political will and significant external assistance achieved more rapid fertility declines, other things being equal, than other countries. Regrettably, no statistically significant findings emerged. This should not be interpreted to mean that political will and external funding are irrelevant, however, but rather that they were inadequately measured and that their effect was washed out by other, unmeasured factors. In particular, during much of the Cold War, money flowed to developing countries for geopolitical rather than developmental reasons.

A better approach, Mr. Sinding suggested, might be to select pairs of countries, with one country in each pair experiencing more rapid fertility decline. One could then explore differences between each pair of countries that might account for the different rate of fertility decline. While this lacks the elegance of multiple regression analysis, it is more contextual and more appealing to the common sense of well-informed observers. From the experience of such countries as Bangladesh, Ghana, Indonesia and Kenya, Mr. Sinding concluded that external aid couldn't substitute for sound development policies, population policies, and political will. Where these factors are present, however, external assistance can significantly accelerate fertility decline.

Will future external funding produce more rapid fertility decline in the intermediate-fertility countries? Mr. Sinding did not think that it would, not because external funding doesn't matter, but because he did not think that this funding would be forthcoming. Assistance for population programmes has fallen regrettably short of the goals set at the Cairo conference. There seems to be a broad decline of interest, he said, in population growth as a matter of international and public concern on the part of countries and international agencies. This was evident in the absence of Cairo goals in the United Nations Millennium goals, in the failure of the forthcoming environment conference at Johannesburg to mention population as a factor in environmental problems, and in the growing media preoccupation with ageing and below replacement fertility. It seemed unlikely that this trend would be reversed, or that external assistance for programmes to reduce fertility would increase in the future. The "population movement" that originated in the 1960s may have nearly run its course. Domestic resources and the continued momentum of the small family norm that this movement helped create may be far more important for future fertility declines than external assistance.

C. Examining changes in the status of women and gender as predictors of fertility change issues in intermediate-fertility countries

Maria E. Cosio-Zavala

Ms. Maria Cosio-Zavala proposed the introduction of a gender perspective into the study of fertility transition, because gender relations have a critical but neglected influence on fertility behaviour. Her presentation reviewed four studies of these influences and noted indicators and results that seem particularly relevant to the study of declining fertility. A study of five Asian countries used several indicators of women's autonomy, including economic decision-making authority, freedom of personal movement, freedom from threat of bodily harm, and access to economic resources. Studies in Africa provide evidence of two models of reproductive behaviour. In the traditional model, high fertility is associated with low autonomy of women. In the modern model, low fertility is associated with high autonomy of women. Studies in Latin America have focused on male and female roles in child rearing. A study in Nigeria of couple's agreement on the wife's autonomy looked at several indicators of woman's authority to determine whether some indicators are more strongly related to reproductive outcomes. The six indicators used reflect wives' involvement in household economic decisions, their contributions to household expenditures, their decision making power, and the level of agreement between husbands and wives on the wife's authority. One interesting finding is that husbands in Nigeria are more likely than wives to be contraceptive users if they approve of family planning. Another study using individual level data from three sites in South Asia argued that gender systems influence the pace at which fertility transition proceeds and pointed to two conclusions. First, female autonomy plays an important role in reproductive behaviour. Second, there is strong evidence that gender systems play a strong role in explaining reproductive behaviour even after controlling for women's autonomy. The role of women's decision-making power in Mexico's rapid fertility decline may be evaluated using a national survey on family planning. The results of this study show that women's empowerment is positively associated to women's use of contraception.

The gender perspective, Ms. Cosio-Zavala concluded, enriches the theoretical framework for studying fertility decline in developing countries. Several indicators that have been developed are very useful in providing explanations. Most studies to date, however, examine only contraceptive intentions and desired family size. They do not distinguish between fertility reduction due to postponement or avoidance of marriage and fertility reduction due to contraceptive use. More research is required, but substantial progress has been made in understanding how gender systems influence fertility decline.

D. The impact of HIV 1 on fertility in sub-Saharan Africa: causes and consequences

Simon Gregson, Basia Zaba, and Susan-Catherine Hunter

Ms. Basia Zaba began by describing the possible impacts HIV might have on fertility. It is important to point out in this connection that 2.1 children per women represents replacement level only if mortality risks are low. For the United Nations group of least developed countries, for example, replacement level fertility is 2.7 children per woman.

Ms. Zaba noted that HIV affects fertility through both biological mechanisms operating on HIV positive women and through social mechanisms operating on both HIV positive and HIV negative women. HIV negative women are affected as a result of behavioural change resulting personal and social circumstances created by the epidemic. Biological factors include fetal loss, amenorrhea, increased susceptibility to other sexually transmitted diseases, decreased spermatogenesis, decreased coital frequency due to illness, and increased widowhood. The male factors affect HIV negative women as well as HIV positive women. Social factors include increased divorce and decreased remarriage, decreased

breastfeeding, increased condom use, less extra-marital and pre-marital sex, contraception to avoid leaving orphans, and "insurance" and "replacement" reactions to increased child mortality. Behavioural changes aimed at reducing the risk of AIDS will often have fertility consequences, though these may not be intended.

Analysis of data from community surveys together with models of the impact of HIV on fertility suggests that the fertility of HIV positive women is 10 to 50 per cent lower than fertility of HIV negative women at ages 20 years and over. The differential is larger in high fertility countries. The impact of the epidemic is much larger than its impact on HIV positive women, however, because of population selection effects and behavioural change among HIV negative women.

E. DISCUSSION

It was noted that assessment of the direct impact of the Cairo conference on Government policies and programmes may not be appropriate, even if this is the long run objective. The conference served rather to define and redefine a universe of discourse within which population issues are discussed over the long term. It was very appropriate for Mr. Finkle's paper to focus on ideology as a feature of international conferences. A "political correctness" emerged at the Budapest conference, and it was concerned far less with population that with the "new international economic order". The same may be true of the Cairo conference, which shifted emphasis away from family planning and toward reproductive health services. This does not necessarily lead to a loss of focus on population and development, however, nor was the feminist agenda that emerged at Cairo inconsistent with a focus on population and development. There was proper worry about the human cost to women entailed by excessive emphasis on family planning targets. Moreover, addressing concerns of women is an enabling condition for successfully addressing population and development issues. On the whole, national governments appear to be pragmatic about population. They continue to see population as important for development. It is important, however, to get NGOs which became involved at Cairo more sensitized to population issues.

Mr. Sinding's contention that preoccupation with low fertility has drawn attention away from the problem of rapid population growth was questioned. It was noted that in Europe, where the world's lowest fertility level countries are located, there is considerable concern with population growth. Mr. Sinding replied that while this was true, there was at the same time little funding of population programmes by these Governments. Indeed, because immigration from relatively rapidly growing countries is a sensitive issue in Europe, there is a tendency to back away from such funding. Countries do not want to appear to be resisting immigration by promoting population control in the countries from which their immigrants originate. In support of Mr. Sinding's contention it was pointed out that two messages about population growth are being broadcast: that it may be too slow in some countries, but too fast in some other countries. In contrast, during the 1960s, there was a single message that all countries should attempt to reduce population growth. There is reason to worry that, over the long term, pro-natalist policies of low fertility countries may spread to higher fertility countries.

It was suggested that Government policies to raise fertility are inherently more difficult than policies to reduce fertility. This is because the latter have to compensate parents for the children they do not have, whereas the former have to compensate parents for both the costs of raising additional children and for the opportunity costs of having children they would not otherwise have had. Mr. Sinding replied that one reason demographers have been surprised at the speed of fertility declines is that they have not appreciated the impact of policy. They tend to think that demographic behaviour is peculiarly resistant to Government intervention. They were wrong with respect to the decline of fertility in the high fertility countries, however, and they may yet be shown wrong about the difficulty faced by policies to raise fertility in countries with below replacement level fertility. In response, however, it was suggested that

policies are of minor importance compared to mass political movements. The response to thirty years of low fertility in Europe has been muted, but there has not yet been any significant population decline. Should population decline by one third, a political and social response would probably be forthcoming.

The nature of policy impacts was clarified by way of a comparison between Mexico and Brazil. Mexico has a population policy. Brazil has none. Fertility has declined rapidly in both countries. This does not mean that policy is irrelevant, however. There is much more abortion in Brazil than in Mexico. Fertility decline may occur without supporting policy, but only by incurring a serious social cost. Policy can facilitate adaptation to changes that would have occurred in any case. Fertility decline is not the only issue.

It was noted that world population will increase by more than one billion persons between 2000 and 2015, that almost all of this growth will be in the developing countries, and that much of it will be in the world's least developed countries, many of which still have high fertility. Another participant questioned Mr. Sinding's assertion that support for population and development issues is in decline, citing interest on the part of the Government of the United States and various private foundations. In response, Mr. Sinding noted that several of these foundations had recently closed down their population programmes. Another participant noted that though external funding is important, it isn't necessarily the most important factor. The Islamic Republic of Iran, for example, received no external funding after the revolution, yet fertility there has declined very rapidly and is now just above replacement level.

Mr. Sinding said that it was very important to return to a broad view of population in development planning, committed to such issues as primary education and to health care. He noted also that the population industry, though perhaps in decline, is still "alive and kicking". Finally, he emphasized the importance of understanding the concept of the momentum of population growth and of developing policies to address it. Where is funding likely to go? What is the alternative to early and frequent childbearing?

Concerning Ms. Cosio-Zavala's paper, it was noted that the status of women is very much a social concept. In some contexts, women who have many children and who do not have to engage in paid employment may have higher status than other women. In some countries in which gender inequity is increasing we nonetheless observe rapid fertility decline. This suggests that there is no clear relation between the two phenomena. It was suggested that we should perhaps be less insistent about the predictive value of gender variables. Between 1996 and 1998 fertility declined in all groups in South Africa, but there was no increase in the status of women. The explanation seems to have been, rather, that women realized the economic advantages of small families.

It was suggested, with respect to Ms. Zaba's presentation, that the biggest impact of the HIV/AIDS epidemic is likely to be on *uninfected* women, that there may be a large behavioural response as consciousness of the epidemic develops. Another participant noted that an analysis of the most recent census data has found no evidence of an increase in widowhood in Kenya despite a severe HIV/AIDS epidemic. It appears that when a woman loses her husband she is absorbed into her husband's brother's family. If this new marriage is consummated, the brother's family is at risk. Ms. Zaba responded that there is indeed levirate marriage, but that there is pressure to keep it symbolic (unconsummated) precisely because of the risk of HIV infection. In response to a question on the issue of survival of HIV infected children, Ms. Zaba noted that estimates of child mortality due to AIDS have been revised on the basis of new evidence from community studies. Unfortunately, HIV tests for children are much more expensive than tests for adults, so that this data is generally obtained only in clinical settings. It was pointed out that the most recent Demographic and Health Survey in Mali includes AIDS seroprevalence tests for adults.

IV. LEVELS, TRENDS AND DETERMINANTS OF FERTILITY

The meeting continued with four background papers on levels and trends of fertility in the intermediate-fertility countries and on the determinants of these levels and trends.

A. Fertility levels and trends in countries with intermediate levels of fertility
Population Division

The background paper for this session was prepared by the United Nations Population Division and presented by Ms. Hanta Rafalimanana. The paper focused on 54 intermediate-fertility countries with a population of one million or more persons in 2000, including 12 countries in Africa, 21 countries in Asia, 20 countries in Latin America and the Caribbean, and 1 country in Oceania. For the past three decades, fertility has been declining in all of these countries. The pace of decline is higher for higher fertility countries and lower for lower fertility countries. The changing age pattern of fertility suggests that older women contributed most to the decline, with the exception of North Africa, where rising age at marriage resulted in lower birth rates for younger women. Though contraceptive use levels are high, levels of unmet need for contraception remain high as well, suggesting a potential for further fertility decline. In many countries, fertility declined more rapidly for women with no education than for women with secondary or higher education, and more rapidly for rural women than for urban women. However, declines had occurred in all socio-economic groups considered, even in countries where development was lagging. The central questions remained, whether fertility in these countries will decline to replacement or below-replacement levels without further improvement in socio-economic conditions, and whether relatively low fertility could be sustained without those improvements.

B. Family structure and the Decline of fertility in intermediate-fertility countries in West Africa
Thérèse Locoh

Ms. Locoh began by noting that her paper concentrates on the West African countries, particularly on Ghana, Cameroon, Côte d'Ivoire, Nigeria and Togo. Only Ghana has entered the group of intermediate-fertility countries, but the others are close, with total fertility rates just over 5 children per woman. Fertility in West Africa is strongly influenced by social norms and family arrangements. There is a preference for large families. Children are cared for by the adult members of their lineage as much as by their parents. Marriage occurs early and polygamy is practiced. Matrimonial systems in West Africa, which have been favorable to high fertility, are changing. Family influence on matrimonial decisions has declined, as shown by increasing mean age at marriage, declining age difference between spouses, a slight decline in polygamy, and an increase in marital dissolution. Large, multigenerational households are common, but so are female-headed households. The countries where fertility has started to decline are also the countries in which female-headed households are most common. Extended families play an important role in child rearing, but economic problems may have weakened this role and it is now observed that some young, educated urban adults are adopting a more nuclear family-centered way of life that implies a need to limit the number of children they have.

Though rapid transformation of family structures in West Africa has been observed, the fertility consequences are uncertain. The most important impact of rising female age at marriage may be that it will allow young women to become more independent and take a larger role in decisions that concern them. With respect to relations between spouses, two trends have been observed, rising autonomy for women and closer relationships between spouses. Both of these may lead to lower fertility. Contraceptive use is not common, even in the countries with lowest fertility. Fertility has declined as a result of birth

spacing, separation of spouses, and unions without co-residence. In several West African cities, including Douala, Yaoundé, Accra and Abidjan, total fertility rates have decline to between 2 and 3 children per woman. This decline may spread to other cities in the region. The motivation for smaller families is present, but availability of contraceptives is limited.

Will the small family norm be adopted in West Africa in less than 50 years? Probably not in the countries of the Sahel as a whole. It will be adopted in the larger cities, but not necessarily in the smaller cities or in rural areas.

C. EDUCATION AND FUTURE FERTILITY TRENDS, WITH SPECIAL REFERENCE TO MID-TRANSITIONAL COUNTRIES

John Cleland

Mr. Cleland said that his paper addressed the relationship between education and fertility decline in the intermediate-fertility countries, and more particularly whether this relation suggests that fertility in these countries will decline to below replacement levels. The paper presented a simple model of the way in which the relationship between education and fertility changes during the fertility transition. In pre-transitional societies the link between education and fertility is weak and variable. Most persons have received little or no formal schooling and fertility differentials are small. As fertility decline begins, fertility differentials by schooling tend to increase because family size declines first among the best educated and last among the least educated. Family size among the least educated declines after a lag, however, whence fertility differentials by education begin to decline. Toward the end of the transition, they tend to disappear. Abundant evidence supports this temporal model of the changing relation between education and fertility.

The temporal perspective, Mr. Cleland emphasized, provides greater insight into the possible role of schooling in future fertility decline than the more common cross-sectional perspective. The reproductive behaviour of the best-educated elite probably provides the best guide for the future behaviour for the rest of the population. Well-schooled couples represent a vanguard of change that less well-schooled couples are likely to follow in the future. Historical evidence strongly suggests that convergence between education strata will come about as the fertility transition ends. There is probably no better guide to fertility forecasting at the national level than to assume that the less privileged strata will follow the path of the most privileged. To be sure, the speed with which this happens may vary greatly between countries. A corollary of this temporal perspective is that detailed consideration of future trends in schooling and their impact on fertility may be a poor investment of time and resources.

D. FEMALE LABOUR-FORCE PARTICIPATION

Lin Lean Lim

Ms. Lim began by observing that recent increases in women's labour force participation in the intermediate-fertility countries will not necessarily lead to lower fertility. An inverse relation between female labour force participation and fertility will be observed only if certain conditions hold. Two of the most important conditions are, first, that circumstances make it difficult for women to engage simultaneously in childbearing and labour force participation, and second, that the satisfaction that women derive from work exceeds that which they derive from having children. Many of the jobs that women have been engaged in do not provide superior satisfaction, however, and many do not seriously conflict with childbearing. Increases in women's labour force participation appear to have been accompanied by a general deterioration in the quality of work and therefore cannot be supposed to lead to lower fertility.

Ms. Lim's presentation identified numerous indicators of the quality of women's labour force participation, including the proportion in wage and salary employment, the level of security of income provided by employment, whether or not employment is home-based, the level of occupational segregation, and whether the employment provides incentives to the use of child labour. She suggested in conclusion that attempts to link women's labour force participation to fertility should go beyond labour force participation rates and examine the quality of employment.

E. Discussion

The discussion began with the background paper on levels, trends and determinants of fertility. One expert raised a caution on the use of statistics from the Gulf countries, noting that many of them have a very large proportion of foreign workers. Total fertility rates at the national level may be rather low on account of this, but the native populations in these countries have some of the highest levels of fertility in the world. Ms. Rafalimanana replied that this had been duly taken account of in the estimates presented in the background paper. Another expert noted that there have been major changes in marriage behaviour in some areas of Southeast Asia, with proportions of women never married around age 30 years rising in some areas from around 10 to nearly 30 per cent.

Several meeting participants expressed appreciation for Ms. Locoh's presentation on family structure and fertility in West Africa. It was noted that there is a low fertility belt that runs across West Africa, though this is obscured by Nigeria's extending so far north, and that rural-urban fertility differentials are larger here than anywhere else in the world. Several participants regretted the lack of similar studies for Latin America.

Mr. Cleland's conclusion that detailed study of future trends in schooling and their impact on fertility could be a poor investment of resources was questioned by several participants. It was pointed out that while education differentials may indeed become less important in the future, they continue to be of interest and importance during the transition. It was also noted, however, that the "value added" of these studies for projection purposes needed to be kept in mind, since it is possible to spend a great deal of time and effort on them without seeing much change in the projection results. The more basic work of getting accurate estimates of fertility levels for the recent past should take priority.

It was noted that changing educational composition in India explains only about 20 per cent of fertility change. Most of the change is due to fertility decline among illiterate women. As education has become more widespread, and as knowledge increasingly comes from many sources other than schools, the meaning and perception of education in society as a whole has changed. Women with little or no education may recognize a quality-quantity tradeoff for their children and choose to have fewer children so that the children they do have can become better educated. Children with fewer siblings benefit both from less dilution of family resources available for education and from not having to spend time helping their mother take care of younger brothers and sisters.

Ms. Lin's contentions regarding the quality of women's labour force participation were generally accepted. One participant was puzzled by the pattern of the data for Asia and the Pacific and raised the question of whether labour force participation data was measuring different things in different countries, drawing attention to the importance of investigating data problems.

V. NATIONAL POLICIES AND PROGRAMMES

Two papers were presented during this session. The moderator, Mr. Dov Friedlander, introduced the papers and presided over the following discussion.

A. Views and policies concerning population growth and fertility among governments in intermediate-fertility countries

Population Division

The background paper for this session was prepared by the United Nations Population Division and presented by Mr. Anatoly Zoubanov. His presentation reviewed the policies and views of Governments of the intermediate-fertility countries on fertility, family planning, reproductive health, and related matters. The majority of intermediate-fertility countries had policies to reduce fertility during the past 25 years. The proportion of Governments with a policy to lower fertility rose from 47 per cent in 1976 to 63 per cent in 2001. The percentage of intermediate-fertility countries providing direct support for family planning has increased during the past 25 years. Following the adoption of the Programme of Action at the Cairo conference in 1994, many Governments have been revising their national population and health policies and integrating family planning with comprehensive reproductive and general health policies.

B. Effort measures for family planning action programmes: past trends and future prospects

John A. Ross

Mr. Ross noted that while other papers presented to this meeting have been concerned with fertility, his paper dealt with family planning programme effort and changes in contraceptive prevalence. A review of contraceptive prevalence trends for the intermediate-fertility countries led to the following observations: upward movement has been remarkably even; there is no evidence of plateauing; there is considerable variation in level; and central tendencies in Asia, Latin America, and North Africa and the Middle East are remarkably similar. Mr. Ross then raised the question of how high contraceptive prevalence and programme effort measures might go. A ceiling for contraceptive use may be in the range of 80 to 85 per cent. Prevalence of 75 to 85 per cent is generally consistent with replacement level fertility. Both positive and negative influences will impinge on future trends in programme effort and its effect on contraceptive use. The net effect will vary from one country to another, but most programmes have ample room for improvement and the past record is encouraging. There has been as yet no sign of a fall-off in contraceptive use in the intermediate-fertility countries and their programme effort scores have been rising. Both trends, however, are linked to changes in social settings whose continuation is not entirely assured.

C. Discussion

One participant asked to what extent the measures of family programme effort referred to in Mr. Ross's paper reflected Government ideas and behaviour and to what extent they reflected public demand. Another participant asked how the programme effort methodology handled the diversity of implementation at the sub-national level that results when family planning programmes are decentralized. Mr. Ross responded that the effort measures were derived from questions addressed to persons knowledgeable about the country's family planning programme. In the case of decentralized programmes, the respondents were supposed to "take an average" over the entire country in formulating their answers. The measures did not incorporate any direct component reflecting demand for contraception. It was suggested that Mr. Ross's paper underscored several comments made earlier in the meeting that what countries do bears little relation to the pronouncements of international conferences. Still, it was said, the programme effort analysis was encouraging. The discussion concluded with a brief comment on the situation in Mexico, where contraceptive use is at about 70 per cent and programme effort may be as high as it will get.

VI. FUTURE EXPECTATIONS FOR FERTILITY

A. The end of the fertility transition in the developing world
John Bongaarts

Mr. Bongaarts began by noting that reproductive behaviour has changed rapidly in much of the developing world over the past four decades. Recent fertility declines have been more rapid and pervasive than was expected. Conventional theories have little to say about the pace of fertility decline or the level at which fertility will stabilize at the end of the transition. The objective of his study was to identify regularities in the past record that may provide clues to future trends. There were three principal conclusions. First, the future course of fertility will depend crucially on human development, as suggested by regression analysis of past trends in fertility and (representing human development) literacy and life expectancy at birth. Second, the pace of fertility decline will slow as countries approach the later stages of the fertility transition. This is to be expected, but Demographic and Health Surveys taken during the 1990s have indicated that fertility decline has stalled in several large intermediated-fertility countries that had previously seen substantial fertility declines. Third, average fertility can be expected to remain significantly above replacement level until at least 2025. The proportion of developing countries with fertility below 2, currently one in ten, will no doubt rise over time, but it will almost certainly be less than one half by 2020-2025.

B. The proximate determinants during the fertility transition
Jean-Pierre Guengant

Mr. Guengant began by noting the importance of "proximate determinants" for projecting future fertility in the intermediate-fertility countries. Since the early 1980s, the United Nations Population Division has made periodic assessments of the level and trend of contraceptive use in all countries of the world for which data is available. The latest assessment, *Levels and Trends of Contraceptive Use as Assessed in 1998* (New York: United Nations, 2000), includes projected contraceptive prevalence at the regional level up to 2025 derived from the fertility assumptions of the *World Population Prospects: The 1998 Revision* (New York: United Nations, 2001). It is important to review these relations between fertility and contraceptive prevalence trends in the intermediate-fertility countries.

Mr. Guengant had carried out an analysis of these data using the FAMPLAN computer programme. Keeping in mind the limitations of the data, he computed the contraceptive prevalence required to reach the 2025 and 2050 fertility levels in the *2000 Revision* for each of eight developing regions provided that all other factors remain constant. For Western Asia, for example, contraceptive use should reach 66 per cent by 2035 to reach a total fertility rate of 2.3 children per woman, the projected low variant value given in the *2000 Revision*. This and similar exercises suggest that it cannot be taken for granted that fertility in all of these countries will soon reach replacement level. In concluding, Mr. Guengant noted that while he did not propose that fertility should be projected by projecting its proximate determinants, he did strongly recommend that the relationship between fertility projections and proximate determinant projections be explored when making projections.

C. Discussion

Discussion began with a comment on Mr. Bongaarts paper. If the Population Division had arranged for a meeting on this subject for European countries during the 1960s, it was suggested, the meeting would have come to the same conclusion: that fertility would not fall so quickly. Multiple regression analysis, in particular, can be misleading. Mr. Bongaarts noted that the United States had below replacement fertility during the 1930s and that the many demographers who predicted continuing low fertility on this basis failed to anticipate the "baby boom". Similarly, the United States Census Bureau missed the "baby bust" as late as the early 1970s. This was a failure of "momentum" forecasting that should not be repeated, Mr. Bongaarts added.

Regarding the negative relationship between fertility and literacy it was noted that causation may work in both directions. In many societies, declining fertility means that children spend less time and effort helping their mother care for younger siblings and are therefore better able to take advantage of educational opportunities. A discussion ensued concerning the quality of the Demographic and Health Survey (DHS) data that indicated stalls in fertility decline. It was pointed out that fertility surveys frequently indicate a huge but spurious decline in fertility just before the survey is taken, a pattern clearly revealed when two or more surveys are available for the same country. Mr. Bongaarts agreed that this was the case, but noted that the trend indicated by successive surveys will be accurate if the error in the estimates is the same in each survey.

One participant noted that economist Herbert Stein once said that "a trend that can't continue won't continue". But what reason is there to expect fertility to level off at 2.2 children per woman rather than 1.8 children per woman, or some other number? And shouldn't the variables in Mr. Bongaarts regressions include the communications explosion? Mr. Bongaarts noted in response that we don't expect any country to hit the target level of fertility exactly. We want a number for the target that will minimize the difference between actual and target fertility taken over all countries. Another participant called attention to the importance of "unwanted fertility". This has been extremely important in the United States, where unwanted fertility has been at about 0.5 children per woman and did not change between the early 1980s and the early 1990s. Mr. Bongaarts agreed with this observation.

On the matter of "proximate determinants" and fertility decline, one participant suggested that projecting fertility by projecting intermediate variables would lead to very conservative projections, mainly because of limitations in the measurement of abortion and spousal separation. Mr. Guengant replied that he fully recognized both the practical and the theoretical limitations of the proximate determinants framework and that it was not his suggestion to base fertility projections solely upon it. Proximate determinant models can shed useful light on the issue, however, by calling attention to discrepancies between projections of fertility and projections of contraceptive prevalence.

VII. REFLECTIONS OF AMBASSADORS

Mr. Joseph Chamie, Director of the United Nations Population Division and moderator of the session, began by saying how honoured the meeting was to have representatives from four permanent missions of the United Nations, Egypt, the Islamic Republic of Iran, Brazil and Mexico. Mr. Chamie then introduced the four speakers in turn.

A. His Excellency Mr. Ahmed Aboul Gheit (Egypt)

His Excellency Mr. Aboul Gheit focused on the implications of fertility and population trends for the future of Egypt. The Egyptian Health Ministry has said that a new baby is born in Egypt every 2.3 seconds and that by 2025 the Egyptian population will be between 93 and 100 million persons. In 1913, by comparison, the country had only 13 million persons. This was a very large increase. Only four per cent of Egyptian land is arable. Much of the country is desert, without rain, so agriculture depends on the river Nile. This situation is compounded by the loss of arable land to development. The population of Cairo is now 23 million persons. Consider then, His Excellency said, what Egyptian policy makers face in contemplating the year 2025. We are about 70 million persons today. Adding another 30 million will require creating 600,000 to 800,000 jobs annually, and we hope to eradicate illiteracy by 2025. How are we to stabilize the demographic explosion? We have been taking the necessary steps, in family planning programmes, in health, and in education. No village is without a health center, and people are learning the negative consequences of having a large family. His Excellency Mr. Aboul Gheit concluded by noting the role of globalization in demographic change. Television is everywhere and has affected family planning behaviour in Egypt.

B. His Excellency Mr. Nassrollah Kazemi Kamyab (Islamic Republic of Iran)

His Excellency Mr. Kazemi Kamyab focused on education and healthcare as two elements that have strongly influenced reproductive health programmes, family planning programmes, and fertility behaviour in the Islamic Republic of Iran over the past two decades. There have been tremendous achievements in these areas as a result of a comprehensive socio-economic and cultural process that has integrated all relevant sectors. Even at the neighbourhood level, for example, traditional meetings for Koran recitation have included question and answer sessions on reproductive health issues. By the end of the 1990s, more than 97 per cent of all children were enrolled in primary education. Adult literacy has risen from less than 60 per cent in 1988 to more than 80 per cent at the end of the 1990s, and the adult literacy rate for women nearly doubled, rising from 46 per cent to 80 per cent. Strong political commitment to achieving these results has been matched by the development of policies and programmes and an efficient infrastructure.

In 1988, His Excellency noted, the Islamic Republic of Iran initiated a wide range of reproductive health and family planning programmes. These were integrated into the primary health care system and have been vigorously implemented. As a result, the maternal mortality rate has fallen from 237 maternal deaths per 100,000 women in 1988 to 37 per 100,000 in the late 1990s. Immunization coverage for children is almost universal, and child mortality has fallen from 173 child deaths per 1,000 births to 33 per 1,000 births. The modern contraceptive prevalence rate has risen to 55 per cent and the population growth rate has been reduced from 3.2 per cent in 1986 to 1.4 per cent in 2001.

His Excellency concluded by highlighting some of the challenges that the Islamic Republic of Iran will be facing in the near future. The main challenge, he said, will be the high rate of unemployment, which is straining public resources. If private investment and higher education do not relieve the situation, the

public sector will need to provide more resources. As the children of the "baby boom" of the early 1980s will soon be reaching marriage age, provision of reproductive health and family planning will need more financial and human resources. In the Ministry of Health this has been seen as a crisis that will require tremendous effort and strong support of multilateral institutions, especially UNFPA. Finally, education and health depend to a large extent on Government funding, and this makes them vulnerable to changes in Government income and spending patterns. Increasing the role of the private sector in these activities could reduce such vulnerabilities.

C. Mr. José Ramón Lorenzo, First Secretary (Mexico)

Mr. Lorenzo noted that Mexican Government population policy dated back to 1974, at which time the Government became more open to the idea of a relation between family planning and unemployment and poverty. Population policies have had a large impact. In 2001 Mexico had a contraceptive use rate of 70 per cent. Regarding the future, Mr. Lorenzo said, the Government expected that the infant mortality rate will continue to decline. The population growth rate has been declining, and it is expected that population will begin to decline by 2044. Before then, however, a large increase in working age persons, as well as older persons, will have occurred. The future presents opportunities and challenges. Declining numbers of births will make it possible for health services and education to achieve higher coverage and quality. There will be less pressure to provide jobs and less pressure for people to migrate abroad. The Government expects, Mr. Lorenzo said, that the level of out migration will drop. Challenges include the aging of the population and increasing demand for health services for the elderly. The Government is very much aware of these issues and has reformed the pension system in anticipation. It is anticipated that the aging of the population will result in a shift in the balance of electoral power.

D. Mr. Alex Giacomelli da Silva, Second Secretary (Brazil)

Moderator Joseph Chamie introduced the presentation, noting that the representative from Brazil would speak briefly, after which Ms. Ana Maria Goldani would provide further information about the situation in Brazil. Mr. da Silva noted that the population of Brazil more than tripled between 1952 and 2000, from 52 million to 170 million people. Life expectancy at birth has increased from 40 to 68 years and the total fertility rate has declined from 6.2 to 2.3 children per woman. Mr. da Silva said that these are important facts and then asked Ms. Goldani to proceed with her remarks. Ms. Goldani began by saying that Brazil should be regarded as an "outlier" in the history of the demographic transition. Though Brazil is a wealthy country with low fertility, it has no official family planning Programme. Several policies of the Brazilian Government implemented between 1975 and 1985 had unanticipated effects. They created a demand for family planning services which was met by sterilization. This is why sterilization has played a major role in Brazil's fertility decline.

E. Discussion

One participant asked, with respect to Egypt, about the role of the Imams in family planning. How have they interpreted the Koran in this context? It was said in reply that the idea that the Koran is against family planning is a stereotype, that there is nothing against family planning in the Koran. Islam is a very pragmatic religion. The Government of Egypt was very successful in recruiting religious leaders for family planning work.

Another participant asked how the decline in infant mortality in the Islamic Republic of Iran was achieved. The reply was that since the early 1980s Iran had made many efforts to eradicate poverty. Rural areas were the focus, and there was extensive investment in rural agricultural development, health care and immunization, and especially in education. The Iranian experience was very impressive, it was

noted. What was the role of religious leaders in family planning? What methods were used? The religious leadership in Iran appreciates very strongly the importance of family planning and reproductive health, was the reply. The Health Ministry has used the large number of Koran recitation meetings as a way to disseminate information. The Ministries of Health and Education were both successfully involved in this work, as were women's non-governmental organizations. Regarding contraceptive methods, 60 per cent of use is of modern methods. Additionally, couples have very comprehensive workshops before marriage. Health care facilities provide contraceptives, and private entities get Government subsidies for this purpose as well. The work is mostly supported by public sector funds. There seems to be a broad consensus on the importance of these programmes.

VIII. BACK TO THE FUTURE: PROPOSED UNITED NATIONS ASSUMPTIONS

Mr. Joseph Chamie, Director of the Population Division, moderated the session and opened the discussion by making several points. First, he said, meetings of this kind provide necessary input to the work of the Population Division, which benefits greatly from the expertise of the participants. Second, he stressed, world population growth is not over. The medium variant projection in the *2000* Revision shows world population growing from 6.1 billion in 2000 to 9.3 billion in 2050, an increase of 3.2 billion persons, or more than 50 per cent. Nearly all of this growth will occur in the less developed countries of the world, and much of it will occur in urban areas. Half of the growth will occur in a handful of countries, including Bangladesh, China, India, Indonesia, Nigeria and Pakistan. It is necessary to focus on these countries. World population has not stabilized, Mr. Chamie emphasized. Population momentum will cause world population growth to continue for many decades even if the level of fertility in the intermediate-fertility countries falls below replacement by 2050.

A third important point, Mr. Chamie continued, is that although fertility in the intermediate-fertility countries is expected to continue to decline, the rate of decline is likely to decrease as lower levels are reached. This may be compared to a train coming into a station. It cannot enter the station at full speed, it must slow down as it approaches. A fourth point is the principle, adopted in the Programme of Action of the International Conference on Population and Development (ICPD) in Cairo, that all couples and individuals have the basic right to decide freely and responsibly the number and spacing of their children. Fifth, there will be great variation in the future. The Population Division takes account of the HIV/AIDS epidemic in our projections, but it does not attempt to forecast disasters. The Division's projections generally anticipate an improving human situation and continued progress in human welfare. Finally, returning to the specific focus of this meeting, the Population Division is proposing below replacement fertility as a guideline for projecting fertility in the intermediate-fertility countries. In doing so the Division is looking beyond 2025, as its mandate requires. Based on this meeting the Division will probably revise the target fertility level to 1.8 or 1.9 children per woman, rather than the 1.85 children per woman originally proposed, to avoid giving a spurious impression of accuracy.

Mr. Chamie then opened the meeting for general discussion. As the discussion proceeded, many participants thanked the Population Division for a constructive, useful and successful meeting that had broken new ground on an important subject.

Several participants endorsed the idea of revising the 1.85 children per woman target in the proposed guidelines to 1.9 children per woman. Three reasons were given in support of this change. First, it would be very odd for the target level for the intermediate-fertility countries to be lower than the target level for the low fertility countries. Second, the two digits after the decimal conveys a spurious impression of accuracy. Third, the existence of "tempo" effects, which it may be assumed will in the future operate

for intermediate-fertility countries as they are operating now for low fertility countries, argues for choosing a higher rather than a lower value.

Discussion then turned to the general issue of the proposed new guidelines for projecting fertility for the intermediate-fertility countries in the *2002* Revision of the official United Nations world population estimates and projections. Various views were expressed, some on general issues affecting all or most countries, others on the situation of particular countries. It was noted that there were two visions of the long term, the vision of a homogenizing world, and the vision of a world increasingly divided by economic and social disparities. The globalization of world communication has made the second of these visions more dangerous than ever before because people in less developed countries all over the world tend to be aware of the disparity between their situation and the situation in the most developed countries. At the same time, the idea of globalization tends to make people in more developed countries forget that we are still living in a divided world. The idea that all intermediate-fertility countries will move toward a fixed target level of fertility below replacement level associates most naturally with the vision of a homogenizing world. It is not necessarily the case, however, that a world of considerable disparity with respect to economic and social development implies a world of similarly disparate fertility levels, for adversity as well as development may lead to low fertility.

Various views were expressed on the applicability of the proposed new guidelines. Some participants doubted that a decline from the current 3.2 children per woman in intermediate countries to below 2.1 children per woman would happen so easily as the new guidelines might seem to suggest. The preconditions for such a decline, including social development and support for family planning and reproductive health programmes, cannot be assumed to be automatically present, it was said, particularly if the idea that high fertility and population growth are no longer problems takes hold among policy makers, funding institutions and the general public. Other participants argued that moving the target fertility level below 2.1 children per woman was a move in the right direction. Fertility decline begets further fertility decline, it was observed, by changing women's lives. As women spend less of their lives bearing and rearing children, they are free to take up other pursuits, including further education and labour force participation. This leads to a new social situation in which some women decide to remain childless, and in which families attach more importance to having "quality" children, particularly with respect to education, than to having a large number of children.

The discussion then proceeded to related but more general issues. Several participants expressed concern over the difficulties of taking "outliers" and "surprises" into account when making population projections. The situation in some countries had deteriorated rather than improved in recent decades, it was observed, and there was a clear possibility of further deterioration in the future. It is difficult to take account of this in projections, but it is important not ignore or dismiss such evidence. Projections assume a surprise-free world, but we know that there will be surprises, even if we can't predict them and incorporate them into our projections.

It is important to address the many challenges posed by future population growth, it was suggested, including the challenges of large and rapidly expanding cities with inadequate infrastructure and, in several of the largest developing countries, the possibility of water shortages. In this connection several participants urged the Population Division to focus more on the near mid-term and less on the long term. What is likely to happen over the next few decades merits more emphasis, it was suggested, than some distant statistical target. The mid-term and the longer term are different, since small populations like Pitcairn Island and large countries like China are different.

Several participants expressed concern over the message that the proposed new guidelines might send to policy makers, funding agencies, and the general public. People who are not demographers tend

not to understand that a decline in completed fertility does not imply an immediate decline in population growth; that even an instantaneous reduction of complete fertility to below replacement fertility level would be followed by 50 or more years of continued population growth before population growth rates fall to zero. The continued decline of fertility in developed countries is important in this context. Back in the 1960s, the message with respect to world population growth was the same for developed and developing countries. Now that fertility in the developed world is well below replacement level and some countries face population decline, the message tends to be very different for developed and developing countries.

IX. RAPPORTEUR'S OVERVIEW

Griffith Feeney

Moderator Joseph Chamie, Director of the Population Division, asked the Rapporteur for the Expert Group Meeting, Mr. Griffith Feeney, to present his Overview. Mr. Feeney began by saying that three themes had been addressed during this meeting: how we make projections, what we need to know to make them, and why we bother making them. On why we project, Mr. Feeney said, John Caldwell's keynote address reminded us of the larger picture. There is one point of his in particular that should be driven home. *We have not seen the end of huge population growth.* Consider a mere three numbers from the tens of thousands contained in the Population Division's *2000 Revision*. There were 1.7 billion persons in the less developed regions as of 1950. In 2000 there were 4.9 billion persons in the less developed regions. Growth from 1950 to 2000: *3.2 billion persons*. The projected (medium variant) number of persons in the less developed regions in 2050 is 8.1 billion persons. Growth from 2000 to 2050: *another 3.2 billion persons*. We are in the middle of a century of rapid world population growth. The end is in sight, but it is still at least 50 years away. To dismiss world population growth as a fundamental issue for the future of humanity is absurdly short sighted and could incur a terrible human cost.

So how can it be that we hear that one philanthropic foundation after another is "going out of the population business"? One reason may be that population disasters have been predicted unceasingly by the population crisis industry for the past 50 years, and these predictions have been, by and large, wrong. If you count yourself in the population crisis group, consider what part of the blame for the current state of disinterest lies with yourself and your colleagues. In any case, consider the moral of the story of the little boy who cried wolf. It is not that wolves never come. It is that constant, ill-considered warnings endanger us all because wolves do sometimes come.

What do we need to know to make projections? Many things, to be sure, but one to single out here is *Why does fertility decline?* Tim Dyson gave us the answer loud and clear: *fertility declines because mortality declines*. What happens during the demographic transition is not that "fertility declines", though this does indeed happen. What happens during the demographic transition is that family size—measured as the number of living children, the only measure that counts—shoots up because mortality risks have fallen. Fertility decline then reestablishes family size at more or less what it was before. This is straight out of Kingsley Davis's classic "multiphasic response" paper, *Population Index*, 1963. The biggest impact has been on the lives of women. The enormous time, energy and emotion they used to spend on bearing and raising children, most of whom died before reaching adulthood, can now be spent on other things. And if you think we see a lot these days about such topics as women's status and gender inequality, let me suggest that *you have not seen anything yet.* This is a change that will play out over many generations.

One other point needs to be made in this connection. Many factors influence the level of fertility. None, individually or jointly, determine it. *There are no "determinants" of fertility!* As long as fertility is declining, this observation can be dismissed as merely persnickety. When we come to considering where fertility decline will end, however, it becomes fundamental. What studies of so-called "determinants" of

fertility tell us is that if factor A goes up a bit, fertility tends to go down a bit, or if factor B is lower, fertility will tend to be higher. This is true of the lowliest univariate regression, and it is equally true of what Norman Ryder once called "these Cadillacs of multivariate analysis". This kind of thinking simply is not useful for deciding such questions as whether fertility will stabilize at 2.1 children per woman or 1.85 children per woman.

Demographers have been roundly ridiculed here for the silliness of the 2.1 children per woman target. This is quite wrong. Having projected fertility tend to replacement level is not arbitrary at all. It is a carefully calibrated statement about the place of man in the universe. We have been around for a million years or so. We want to stay around. We are not greedy. We do not want more than our share of the biosphere. But we do not want to just up and disappear, either. Having said this, the evidence of the below-replacement fertility countries shows that, for less cosmic time horizons, the end of the fertility transition is going to be more complicated than we anticipated. Riad Tabbarah's paper points the way for us here. Reading his last paragraph, you probably nodded in agreement with the statement that "there is no magic attached to" replacement level fertility. But then a few sentences further on you read that "the two child ideal seems to be predominant". It seems there is a deep human need here for "magic numbers". We cannot even get out of the paragraph without coming back to one.

This should give us pause. Humanity has been around for a million years or so. Until this upstart demographic transition came along, how many children did the typical human family have? About two—surviving to reproductive age. It is certainly true that *2.1* children per woman is not "hard-wired" into the human constitution. *But the two child family may well be.* This leads us to Alaka Basu's point about the importance of distinguishing family size for women who become mothers from non-marriage and childlessness. Parity-specific measures may be the best way to think about where fertility decline ends. Unfortunately, we lack proper data for many low fertility countries. Ironically, for this purpose, we have better data for Iran than for the United Kingdom.

Let us return, finally, to the Population Division's vision of the end of demographic history in the intermediate-fertility countries, presented in the first session of this meeting. They want your input. How have we come out? The first conclusion is that a breakthrough below 2.1 children per woman is a possibility for many of the intermediate-fertility countries. A second conclusion is that there should be less focus on targets and more on how they are arrived at. In particular, the pace of decline should be adjusted as fertility declines. A third conclusion is that it would be well to do some checking of projected fertility trends against projected trends in the proximate determinants of fertility. It should be noted, finally, that the Population Division's projections will not end with the *2002 Revision*. We are engaged in a process that will go on through many subsequent *Revisions*.

X. CONCLUSION

Mr. Chamie asked keynote speaker Mr. John Caldwell, Professor at the Australian National University, to provide some further reflections on the meeting. Mr. Caldwell began by congratulating the Population Division on the whole history of its achievement. Its population projections of the 1940s and 1950s changed the world, he said, but these were not "scare" messages. The first principle for the Population Division must always be to adhere to truth and to ensure the scientific integrity of its projections. If this were to be lost, all would be lost. A second principle must be to provide information. The real contribution of the Population Division to action is to *make its projections known.* Perhaps the Division could produce different kinds of reports, he suggested, reports that would spell out some of the implications of the voluminous and highly detailed projection numbers contained in *World Population Prospects*.

Long-range projections influence action more than you might imagine, Mr. Caldwell added. The world ecosystem is under stress, and this is inherently a long-term phenomenon. Population is not the only important part of the picture, but it is a very important part. We should be careful, he continued, not to get too far away from specifics. Sub-Saharan Africa, for example, is at present less than 10 per cent of world population, but in the coming decades it is likely to rise to more than 20 per cent of world population. Yet this region is beset by more economic, health and development problems than any other major world region. This region could well become the main focus of international development efforts in the future.

We have moved a long way, Mr. Caldwell concluded, perhaps too far away, from the old idea of population and development. The International Conference on Population and Development (ICPD) said very little, in fact, about population and development. The Population Division should not slight its measurement of the impact of population growth on development.

XI. CLOSING OF THE MEETING

Mr. Chamie noted with appreciation the many efforts of the Population Division staff in preparing for and supporting the meeting, He asked the participants to join him in a round of applause, which was heartily returned. He then quoted the founding Director of the Population Division, Frank Notestein, writing in February of 1947.

> "We all recognize that the great task which faces the United Nations—the task of building a peaceful world with a richer life for all its peoples—involves population problems at many points. It involves improvement of the people's health, physical and mental abilities, and productive capacities; and achievement of better balance between population and economic resources. It may involve changes in the distribution of population over the face of the globe. If we are successful in solving these global problems the generations of tomorrow will be a healthier, stronger, better educated and happier human race."

These observations, Mr. Chamie concluded, are as applicable today as they were when they were written over 50 years ago.