
POPULATION AND DEVELOPMENT
AN EVOLVING DEBATE

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INTRODUCTION

Population-development: are these two terms incompatible or do they form a synergy for the future survival of the planet?

The debate on population and development is not new. Already, nearly 2500 years ago, Plato in his *Republic* was concerned with achieving the best equilibrium between population size and the perfect city-state, or between population and sustainable development. Concretely, estimating the number of inhabitants or the size of armies for the greater glory of a kingdom has been a constant throughout history. Clay tablets from ancient Mesopotamia give gruesome accounts of the enemies killed in battle. Ancient roman historians such as Livius often included estimates of army sizes and losses in battle. In general, through much of history, a large population was perceived as a reflection of the greatness of the state and was correlated to prosperity and to development. More fundamentally, the traditional interest in enumerating populations resided in finding a basis for taxation and recruiting soldiers.

Although, in the past, population growth was perceived very positively, I shall present the modern debate on whether population growth and development are compatible or not and some of its consequences. Then, in a second part, I shall focus on replacing population in an emerging development paradigm.

(*) The views expressed in the paper are those of the author and not imply the expression of any opinion on the part of the Food and Agriculture Organization.

1. SHOULD IT BE «POPULATION AND DEVELOPMENT» OR «POPULATION OR DEVELOPMENT»?

The concern for population and development has been taking a reductionist approach, focusing on certain quantitative factors to the exclusion of others. The focus is on numerical growth and the rate at which populations grow, i.e. growth in absolute and relative terms. The most important factor in growth has been fertility. For development, the attention has frequently focused on the quantitative aspects, such as the gross national product or GNP. These are the kinds of issues the classic debate has concentrated on.

Obviously, population issues are far more complex and diverse than just their numeric growth rate. A population is a complex set of human beings subjected to events from births to deaths with multiple interactions. People develop, produce, consume, reproduce, move from one place to another and so forth. Collectively, human beings form populations with both quantitative and qualitative dimensions, e.g. educational level. In a similar manner, one can show that development has many dimensions; in fact its definition changes with the priorities adopted. The emerging paradigm I shall present in the second part is now trying to take this complexity into account.

THE CLASSIC DEBATE: IS THERE A CONFLICT BETWEEN POPULATION AND DEVELOPMENT?

There are two schools of thought, one is that population growth will be kept under control through development and, the other, that population growth can threaten developmental efforts. Condorcet belonged to the first school and, in the typical manner of the Enlightenment of the 18th century, believed in the role of self-regulating mechanisms based on rational behaviour and education which would lead to development and to happiness. This 18th century idea of happiness can nowadays be understood as the qualitative dimension of development. The proponents of this optimistic view of human behaviour and society have always stressed the role of human ingenuity and ability to adapt, particularly in the face of challenge. Challenges were believed by some to trigger invention and spur progress. For example, population pressure led to major innovations in agriculture, thus laying the ground for a new cycle of food and population growth.

In practice, however, the Condorcet descendants branched into two schools: those who believed that population growth did not result only in

more mouths to feed, but also in more hands to produce food, and, those who believed that development would be the best contraceptive pill through reducing the need for children. In both cases, it led to inaction in the area of population. On the contrary, Malthus, concluded that food production increases in an arithmetic manner and population in a geometric one. Because of Malthus' social class perceptions, the concern was with the increase in the number of the poor. It was the fertility of the poor which needed to be controlled, placing the onus on them. Being a pastor, Malthus' analysis, expectedly, had moral dimensions which are important to highlight because they still emerge in both the debate and in the actions recommended to resolve the problems of population growth. What is important here, is to stress that the solution to the imbalance between the rates of growth of food and of population was to be found in checking the growth of population rather than in attempting to accelerate development. Population growth was the «guilty» element responsible for the imbalance and, therefore, it was legitimate to intervene in order to promote its control. Such interventions were all the more justifiable since, in the absence of voluntary checks, one could expect mortality increases to reestablish the broken balance. The result was that, although population could increase and, because food production could do so too but at a slower pace, the standard of living would tend to be always at the minimum subsistence level. This was due to the mortality check bringing back the population to the number that could be fed at a given level of agricultural productivity.

Another very important dimension contained in the Malthusian theory was the idea of *limits* which trigger checks when reached. The question of limits has become the focus of many discussions, particularly with the recent concern for the protection of the environment and the awareness that resources are not always renewable. This adds an element of urgency which not only sharpens the debate, but also results in promoting more radical interventions. Once again, the idea of limits orients attention to the population factor as the most important and easy one to intervene with rather than with the promotion of development.

During the 19th century when population growth was rapid in most European countries, the solution to the Malthusian trap was found in emigration and in colonization. Inside Europe, the debate had shifted from the food-population balance to that of balance between nations and the possibility of expansion with definitely nationalistic and military connotations.

THE DRAMATIZATION OF THE DEBATE: THE POPULATION «BOMB»

After the second world war, when mortality started to decline rapidly in the developing countries, many of which were also emerging as independent states through decolonization, the debate shifted back to the relationship between population and development. The declines in mortality were celebrated as triumphs of medicine, science and development. A classic example was that of Sri Lanka where malaria control programmes had considerable success. Mortality was amenable to cheap and effective public health measures, eg. DDT, vaccinations. It became clear that development could have an impact on mortality, which, to some extent, was amenable to technical fixes without a great deal of development. The problem was that, in the absence of serious development schemes, fertility remained high and therefore, on a more sudden and much grander scale than in 19th century Europe, population grew rapidly. The rapid population growth of the developing countries came as a shock and appeared as a menace to the developed ones. Unlike in the 19th century Europe, there was no more room for massive emigration or for colonization and it was hoped that the problems of high fertility would find their solution through technical measures such as family planning programmes.

This concern with, and fear of, rapid population growth taking place in developing countries led to considerable efforts in the areas of research, training and setting up family planning programmes. In 1969, Paul Ehrlich's *The Population Bomb* was published and clearly represented the anguish created by rapid population growth. In a number of publications the demographic and nuclear threats to humanity were often highlighted together and the terminology used was dramatic. Projections, if not predictions of hundred of millions of deaths, were made sometimes accompanied by specific scenarios such as a starving China invading the Soviet Union by the late seventies. The population of China was just over 800 million in 1970, projected to reach 1 billion by 1980. Would there be a crash before that date? China is now over 1.2 billion... The purpose is not to ridicule such projections, but to underline the impact of such debates. It is a fact that, through dramatization, the population-development debate spills out of the academic and decision makers circles to be presented to the general public, in order to stimulate an awareness of the importance of the issues for the entire future of the planet. Therefore, citizens in developed countries needed to be made aware of the problems and, consequently, encourage their countries to provide

assistance to developing countries wishing to reduce their rate of population growth. The Malthusian trap was thus considered applicable at the global level, and required both technical and moral responses.

THE IMPLICATIONS OF THE DEBATE: TRANSLATING THEORY INTO ACTION

The consequences of the population-development debate became very concrete. While it was often recognized that development had an impact on lowering fertility, the time necessary for this effect was questioned and so was the possibility of waiting for the countries concerned by high population growth. For all kinds of reasons, ideological, political, theoretical and others, a number of countries chose to take no action in the area of population, preferring to promote development. However, year after year, an increasing number of countries formulated population policies based primarily on the recognition of the negative consequences of rapid population growth.

One of the interesting characteristics of population programmes was that they attempted to integrate research, policy and programme levels. The results of research were analyzed for their policy and programme implications. The feeling of urgency led to the setting up of military style «campaigns» in some cases, setting «targets», and placing considerable importance on logistics, organization effectiveness and marketing. Every conceivable method and strategy was discussed, often experimented with, ranging from «inundation programmes» to distribute contraceptives to finely tuned incentives for family planning workers and acceptors. Urgency led, in some cases, to abuses, to violations of human rights and to discussions on coercion and the primacy of collective interests over those of individuals. It must be recognized that there were a few regrettable and condemnable attempts. Fortunately, such abuses provoked a backlash which, in certain cases, resulted in reviewing programmes in order to more fully respect individual rights.

The neglect of human factors and the top-down approaches resulted in attempts at social engineering. A number of lessons have been learned from population programmes, in particular the importance of respecting human rights and the need to empower people, especially women.

In practice, a number of countries promoted activities in both population and development rather than choosing one at the expense of the other. These countries generally succeeded on both fronts, for example programmes of some South-East Asian countries. Although these countries succeeded in

fertility reduction and economic development, their reductionist strategy led to neglecting other population aspects such as migration as well as other development dimensions such as environment and quality of life, thus precipitating certain difficulties in these areas.

THE RENEWAL OF THE DEBATE: SOME EXAMPLES

Now, I would like to provide some examples on how this debate was recently renewed.

With the emerging concern for environmental protection and the introduction of quality of life considerations into development, the Malthusian debate has been reborn like the phoenix. It now raises, in a more subtle and refined way, the question of limits: are certain levels of population growth and/or consumption and production patterns compatible with environmental protection and conservation? Such a question can be expressed more crudely: can the planet sustain the Western standard of living or mode of life for the present and projected populations of developing countries?

Such a question is perfectly legitimate and useful. Its policy implications are important. But it is very difficult to answer. It requires quality data and methodological developments which might not always be feasible.

I would like here to illustrate with some attempts which have been made and others which are still on-going.

In the mid seventies, FAO embarked on a complex and ambitious research to determine and project the population carrying capacities of various types of land. Very simply stated this consisted in combining soil and climate maps in order to define «agro-ecological zones». For each type of zone, in a rain fed agriculture system, it then became possible to determine the production potential at various levels of agricultural inputs. This, in turn, would determine the size of the population which a *unit* land could sustain. Three levels were defined, low, which corresponded to subsistence agriculture; intermediate, using a basic package of fertilizers and biocides with some other improvements; and, high, with the best (for 1975) use of inputs and technology. Population projections to the year 2000 were then integrated and the results were very revealing. Globally, at low levels of inputs, the situation in developing countries would be tight, but, if all the developing countries successfully reached the intermediate level of inputs, their land carrying capacity could be ensured. However, examining individual countries was

more realistic. Under the assumptions made, a number of critical countries were identified for the year 2000, eg.: Rwanda, Yemen, Afghanistan, Haiti, Burundi, Somalia, Comoros, Ethiopia, Uganda, Nigeria. Sadly, for some of these countries the projections proved to be true. This shows that countries, in isolation, which are exclusively or mostly dependant on agriculture, particularly subsistence agriculture, are very vulnerable to the imbalance between population and development. Thereupon, the Malthusian trap can function ruthlessly. The projections also show that it is possible to escape this predicament if proper investments are made in agricultural development or if a country can import food through wealth generated in industry, services or other sources such as oil.

Recently, with the growing concern about the possible limits to the availability of water resources, an attempt has been made to introduce this further constraint into the preceding picture. The results are disturbing. In Africa, for example, five countries would soon find their population pressure beyond the «water barrier», i.e. the maximum population pressure that can be handled in the present state of water technology and management capabilities. A further group of ten African countries would find themselves with increasing difficulties to develop because they would reach water scarcity stage over the next few years. One can thus introduce new issues and constraints into the debate. As seen, the water and land carrying capacities of population can be combined.

These debates will continue and could take on new directions according to circumstances. They have many policy and programmatic implications, in particular with respect to the need to invest more in agriculture, from research in plant genetics to human resource development and to introduce environmental and sustainability concerns. Just like in the recent debate over climate change, even if one is far from certain of the importance of a number of linkages, it would be prudent to take these issues seriously.

However, as mentioned at the beginning of this presentation, other developments are unfolding which open some potentially interesting new avenues.

2. TOWARDS A HOLISTIC STRATEGY OF POPULATION AND SUSTAINABLE DEVELOPMENT

THE CONTRIBUTION OF GLOBAL UNITED NATIONS CONFERENCES

Until recently, world conferences were, to some extent, held in order to draw attention to certain issues and to monitor and measure the changes and progress since the previous conference in the same field. Each conference tended to be sectorially focused, and, although there were cross references to other conferences, these often remained very rudimentary at the substantive level. For example, the Population Conference of Mexico held in 1984 was, to a large extent, a follow-up to the 1974 Population Conference of Bucharest.

During the last few years, there has been a significant evolution leading to a genuine effort to relate conferences held in diverse sectors. This will entail changes in the nature and contribution of each conference. No longer is each conference developed in isolation from, but in synergy with, other relevant ones. This radical shift has a profound impact on how population and development are perceived. Both population and development have been discussed in each recent global conference, each time from a different perspective, with different emphasis and shedding new light on their inter-relationships. Something new and different appears to be in the making.

This movement started with the United Nations Conference on Environment and Development (UNCED) held in Rio in 1992, followed by the World Conference on Human Rights held in Vienna in 1993, the International Conference on Population and Development held in Cairo in 1994, the World Summit for Social Development held this year in Copenhagen, to be followed, also in 1995, by the Fourth World Conference on Women and Development to be held in Beijing. The last of this series of UN global conferences, Habitat II, will be held in Istanbul in 1996. The Cairo Population conference has been deeply influenced by the ideas developed in the Rio and Vienna conferences on environment, sustainable development and human rights. Considerable efforts have been made to integrate population issues into the agendas of the other conferences, for example there is a chapter on population in Agenda 21, one of the major outcomes of the Rio conference.

When the conferences are viewed together, rather than separately, a new paradigm of development begins to emerge, based on the concerns for sustainability of development, environment, human rights, population, poverty reduction, redefinition of gender roles, improvement of the status of

women and the recognition of the changes in the forms of human settlements. Each issue should be seen from all these different perspectives and the interrelationships between these factors will result in new forms of development.

Thus, the population and development relationship is finally brought into a broader context. It is no longer population *and/or* development, but the dynamic interaction between population and its interrelated major factors which should result in more effective and broad based development of a sustainable nature over time! Both the process and the subsequent results are vital. The real challenge to the world is to «reduce and eliminate unsustainable patterns of production and consumption and promote appropriate policies to meet the needs of current generations without compromising the ability of future generations to meet their own needs» (principle 6 of the Cairo Programme of Action). From the discussions at the Preparatory Committee for the Cairo Conference as well as the Conference itself, an implicit agreement between developed and developing countries is emerging: developing countries should attempt to reduce their population growth rates and the industrialized countries should in turn adopt sustainable patterns of production and consumption. Questions can be raised on the extent to which countries are really ready to take on the challenges.

These are not just rhetorical questions. Developing countries are changing and would compound the effects of unsustainable patterns of production and consumption. Malthus had perceived the danger as emanating from the numerous poor, but, in this new paradigm, the rich also constitute a threat. The new trap is that, to a significant degree, sustainability is threatened by production and consumption patterns of both extremes of the present development spectrum, i.e. the rich and the poor. The rich use up too many resources, for example, the unsustainable logging in tropical forests is related to factors such as the demand for wood from the wealthy countries and not only through destruction by populations from developing countries in need of fuel wood or land to survive. A similar phenomenon can be found in overfishing. Although fish is one of the major affordable sources of animal protein for the growing populations of the developing countries, it is clear that marine fisheries will not be able to maintain per capita supplies at present levels, as the population continues to grow. As to the developed countries, the demand for fish is linked to changing food habits and our meat consumption, because a significant portion of the fish we caught are actually fed to cattle.

These problems are not merely technical issues, but indeed complex, multi faceted challenges which must be tackled from different angles. For example, in developing countries, the necessary changes in the status of women will entail hundreds of millions of growing young women becoming more able than now to decide freely on the timing and number of their children while attempting to find remunerated employment which is available mainly in cities. Production and consumption patterns are therefore going to be influenced by factors such as changes in gender roles or population geographic distribution and not only by changes in technology. The status of women, urbanization, fertility and poverty alleviation all become interlinked under the new concern for sustainable forms of development.

The series of global conferences allow us to go beyond the debate of population *or* development or population *and* development and reach towards a comprehensive population *in* sustainable development strategy. Population, together with environmental protection, human rights, improvement in the status of women are considered central to sustainable development.

POLICY AND PROGRAMME IMPLICATIONS OF THE NEW PARADIGM

Under this new perspective, simple technical fixes are no longer viable solutions. Understanding the complex interdependence of population factors in sustainable development opens new possibilities for action. What kind of effective compromises can be found between oversimplification and unmanageable complexity? Such a question is now being explored by family planning programmes following the Cairo Conference. The Malthusian perspective led to pressures for family planning programmes to perform and achieve measurable declines in fertility in short periods of time. The Cairo Programme of Action sets family planning in a broader framework of reproductive health. Perhaps more importantly, reproductive health is becoming a human right and part of the empowerment process of women. Consequently, family planning programmes must diversify and upgrade their service quality in many countries in order to better serve the needs of both women and men. It is hoped that such improvements at the individual level, will become more effective in contributing to national fertility reduction.

NEW FRONTIERS FOR POPULATION IN SUSTAINABLE DEVELOPMENT

Let us try to examine what this broader perspective of population issues in relation to development can mean in practice on the one hand, and reflect on whether we have the necessary knowledge and data to assist decision-makers in deciding on strategic actions, on the other.

The United Nations projections show that, over the next 30 years – up to 2025 – most of the world population growth will take place in the developing countries. The present combined population of developing countries, estimated at 4.5 billion in 1995 is projected to increase to 7 billion in 2025. This time, I do not want to focus on whether successful family planning can modify significantly the projections made, but I would like to examine with you some of the geographic implications of such a growth.

The basic questions are where will this increase be located and, should something be done to modify the geographic distribution of this population growth? If the answer to these two questions is positive, what, then can be done? Many of these questions remain unanswered. It is therefore high time to start the process of thinking, exploring and testing tentative answers. With respect to problems of geographic distribution we do not have ready-made operational programmes equivalent to family planning programmes that are organized in response to fertility problems.

I do not want to overburden you with figures, but the United Nations estimates that in 1995 nearly 40 per cent of the population in developing countries live in cities. The total urban population in these countries is estimated at 1.7 billion and we know the problems these cities are already facing. There are mega cities of 8 million or more such as Mexico, Cairo, Bombay, Shanghai, with quasi-intractable problems of pollution, congestion, security, resulting in squalor, poverty, poor health, low quality of life, i.e. enormous social, economic and environmental costs for the countries.

The increasing number of mega cities in developing countries receives most of the attention, and also considerable resources. However, the population concentrated in mega cities represents only 6 per cent of the urban population in developing countries. In fact, more than half of the urban population of developing countries live in small cities of less than 500 000 inhabitants which, due to lack of resources and rapid population growth, have their own problems in maintaining a decent quality of life for most of their inhabitants.

It is projected that the urban population will increase from 1.7 billion at present to 4 billion in year 2025. As comparison, this increase is nearly

equivalent to the total world population of 1950. Some of this increase would be attributed to absorption of surrounding rural areas. However, most of the increase will come from urban fertility and from rural-urban migration. In any case, it represents an unprecedented growth. It is difficult to imagine how governments and municipal authorities are going to cope with such massive population movements. Some response so far has been to invest most of the resources in urban areas, thus further aggravating the urban-rural disequilibrium and fuelling the very rural-urban migrations they so desperately want to control.

THE ROLE OF MIGRATION IN URBAN GROWTH

As just mentioned, a major factor, besides urban fertility, in the projected urban increase, is rural-urban migration. The assumption in the UN projections is that roughly half of the urban increase is derived from rural-urban migration, which represents roughly 1.1 billion people. If this assumption is correct, then one can expect the population of rural areas to begin to stabilize or even to decline in some regions. For agricultural development this would have major implications which could be favourable or unfavourable, depending on the circumstances under which they take place, e.g. slowing down land fragmentation, would be a positive consequence whereas increasing the proportion of women headed households through gender differential migration would be a negative one. One can thus see that urban and rural changes are interrelated.

However, one may wonder if the UN assumption on the contribution of rural-urban migration to the growth of cities is correct. This leads to questions about which factors determine the intensity and direction of migration.

Let us briefly consider some such factors which are classified into «push and pull» factors on which many studies have focused. Such studies generally place a great deal of emphasis on economic factors, but also stress less measurable, but important ones such as the pull of «city lights».

Rural people can be pushed out from rural areas through environmental factors such as land degradation or unfavourable social and economic factors. In addition, one has to consider insecurity, conflict or wars as an important source of displacement.

One of the interesting and valuable contributions of the Cairo Conference is the emphasis it generally placed on ecologically vulnerable zones, more

specifically, on role that environmental degradation can play as a push factor in migration, at both internal and international levels. Population pressure can affect both directly and indirectly, the environment. As previously mentioned, population pressure leads to deforestation through the increasing need for fuel wood. However, more often, the impact of populating pressure on the environment is indirectly associated with socio-economic factors. Institutional factors such as land tenure or the organization of farming systems influence the way people maintain or degrade the land they have access to. Attempts to escape from poverty can lead landless farmers to become rural refugees who cannot be expected to respect the land, the forests or the fisheries they exploit in their quest for survival. The alternative to such rural-rural migration is, of course, rural-urban migration. Environmental and socio-economic factors can thus force rural people off the land, leaving them no choice but to migrate to the cities.

Another very important factor in rural-urban migration is the unequal distribution of wealth and resources. People move in order to have access to resources. The need to have access to income which can be often found only in cities, in order to either survive or to channel it back to rural areas through remittances, contributes greatly to rural-urban migration. Similar patterns can also be transposed to international migration. Major new factors are fuelling the propensity to migrate. For example, the development of transport systems and the increasing flow of information. Whether the El Dorados exist or constitute real opportunities to improve one's fate is often of little weight in front of their powerful lure. Such factors work both inside countries as well as between countries. One can thus wonder whether the frequently proposed building of iron curtains, Great Walls, or Maginot lines can be effective in warding off present and future negative consequences of migration flows. Solutions need to deal with upstream causes, particularly in rural areas, rather than downstream consequences of migration. For example, capital formation and access to credit in rural areas are crucial factors in determining the need to migrate. The level of prices for agricultural products and many other socio-economic factors are also key determinants of migration.

Rural families, in their survival strategies or attempts to improve their condition, do not separate issues according to traditional academic classifications, e.g. fertility from migration. Depending, for example on size of land holdings, inheritance customs, the seasonal character of rural activities which are functions of the farming system and job opportunities in cities, it might make sense to combine various fertility and migration strategies. Family

planning programmes need to take into account the broader environment and concerns of the population they are expected to serve.

This identification of the most important factors and the study of their interrelations in different settings is still very much in its infancy. New perspectives require rethinking the use of existing tools and devising new ones. For example, it is necessary to improve the matching of population data, collected on the basis of administrative units and the biophysical data bases reflecting the environment they live in, such as river basins or coastal areas. These are challenging tasks, but necessary if one is to progress in the understanding of the forces shaping our world. Resources, i.e. not only financial ones, but also in the form of innovative thinking and the development of new methods, are essential for meeting such challenges. Policy makers need to give sufficient recognition in considering priorities born from the awareness of the new complexities and interdependence of population factors in sustainable development. Such recognition is meaningless unless it is translated into allocating the necessary resources to attract the best talents and to introduce effective measures which lead to solutions rather than just treating the symptoms. As has been shown, all levels of decision making and interventions are being challenged. If solutions to problems are not found at the local level, they would send shock waves upwards resulting in international problems. National and international cooperation and coordination are necessary to meet these challenges.

CONCLUSION

As can be seen, the population and development debate is not a quaint intellectual luxury because it concentrates on issues which are literally vital for our future. It is further important because the answers found are often translated into action with effects on hundreds of millions, if not billions of human beings. Inaction or inappropriate intervention would result in a high price for all humanity. Both the problems to be tackled and their solutions are part of dynamic processes and change overtime. The emerging paradigm of population in sustainable development provides an improved framework to meet this complex challenge. The debates will continue and there can be no final answer because they are part of the human adventure, of the «condition humaine».

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