

**Evidence based communication programs for
managing world demographic problems**

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Goal of the study

World demographic problems are strikingly increasing, and evidence based, scientifically grounded communication programs in managing these problems is common to find solutions to these problems. Current scientific research methods and communication programs and methods are considered in a vast amount of demographic projects worldwide to solve global earth problems.

The day when humanity starts eating the planet, say experts at the home page of the New Economics Foundation is 9 October, 2006. New research reveals rising consumption of natural resources is pushing the world into ever earlier ecological debt, or overshoot. New calculations show that from this date we will be living beyond our global environmental means. Humanity has used up what nature can renew this year and is now eating into its ecological capital. Each year, the day that the global economy starts to operate with an ecological deficit is designated as ecological debt day known internationally as overshoot day. From now on humanity will be in ecological overshoot, building up ever greater ecological debt by consuming resources beyond the level that the planet's ecosystems can replace, and this has been called the biggest issue you have ever heard of.

Part of the above processes is unsustainable demographic processes of global population. This is a serious risk for sustainability of human and earth ecosystems. Population growth, changing birth control, problems of migration, nuptiality, poverty, health crisis, ageing, mortality and various forms of inequality in these demographic processes are serious challenges to the human population as well as to the earth ecosystems. Managing these demographic processes is crucial from the point of sustainability. To make demographic processes sustainable scientific research and communication should

be put in a new way and be used more effectively. To influence current demographic processes research and communication must be made effectively as it has already made by the POPLINE Staff of the INFO Project at the Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs and is funded primarily by the United States Agency for International Development.

It is estimated that the world human population increase by about 200 thousand people daily. Uncontrolled population growth may lead to overpopulation. Conversely, a declining population may lead to an ageing society where the needs of the elderly are being cared for by a smaller group of working age people. Problems of overpopulation, increases in births and life expectancy, ageing societies and unsustainable use and depletion of resources are common problems of the world. Communication programs may effectively help in solving a series of demographic problems. These programs are related to ICT and adult education. New scientific research methods including multivariate and computer-intensive statistical techniques are indispensable part of developing social communication programs to alleviate increasing demographic problems.

Materials and methods

Bibliographic POPLINE CD ROM and other publications are used to assess recent developments in world demographic research and communication programs. POPLINE is a unique source of information on population, family planning, and related health issues. The majority of items date from 1970, but some sources date from as early as 1827. It consists of over 300,000 citations with detailed abstracts and in-depth indexing. It covers all types of publications including journals, monographs, and technical reports. About 30% of the documents are limited distribution, unpublished reports.

Research methodology in demographic projects

In modern demographic projects a series of projects is evidence-based, i.e. the majority of them relies on scientific research. Modern scientific methods in demographic projects include the application of Rapid Assessment and Response Technique (RAR), impact analysis for program evaluation, and statistical methods to get feedback.

Rapid Assessment and Response

The Rapid Assessment and Response Technique (RAR) is a method to assess and rapidly respond to issues especially in situations where there is scarcity of information and data are needed very quickly. Instead of using the heavy and traditional armament of traditional scientific method RAR uses, among other things the triangulation method, which is a process of collecting and cross-checking information.

Impact analysis for program evaluation

Impact is the extent to which a program causes change in the desired direction in the target population: does the project produces desired changes over and above what would have occurred without the intervention? The essence of the analysis of the efficacy of a treatment or program is a comparison of what did appear after implementing the program with what would have appeared had the program not been implemented. Although what would have appeared remains forever in the darkness of the unfulfilled, and this is termed often as the counterfactual, a series of scientific methods may result in evaluative conclusions. An indispensable part of impact analysis is feedback, which means that that the projects should be adapted to needs and expectations as well as to the local circumstances.

Statistical research methods

Radical statisticians warn that statistics can be used to support radical campaigns for progressive social change. Statistics should inform,

not drive policies. Social problems should not be disguised by technical language. Frequently used methods in demography are: Exploratory Data Analysis (EDA), regression and analysis of variance, general linear model (GLM), principal component analysis, factor analysis, path analysis, multidimensional scaling, correspondence analysis, linear dependency analysis (LDA), life table method, survival analysis, cluster analysis, logistic regression, loglinear models, discriminant analysis, model-based multivariate standardization methods, computer-intensive methods, chi-squared automatic interaction detector (CHAID), ecological inference

Communication

Communication is the process of exchanging information between various partners. Information can be exchanged through a common system of symbols or non-symbolically as in empathy. In a protocol, communication sent one-way is a message.

Traditionally nine elements of any communication process is recognized, i.e. sender, receiver, encoding, decoding, message, media, response, feedback and noise.

Research on population processes, e.g. migration, fertility etc. processes and decision-making resulted in a model developed by Fishbein and Ajzen model that was then modified to include personal control. In this model not attitude but intention and behavior is in the focus. Behavior intention is predicted from three components: an attitudinal component or attitude toward performing the specific behavior, e.g. the use of a specific contraception, a normative component or the subjective norm, e.g. pertaining to a specific contraception, and a personal control element, i.e. a perceived behavioral control component.. Social factors must also be incorporated in decision-making models, as they are to a certain extent in the Ajzen-Fishbein model. In addition to social influences, there are also individual factors that must be considered in decision-

making. One of these individual factors is perceived control which also may be termed as controllability. So to the attitudinal and subjective norm component a perceived behavioral control component was added.

Important part of communication is social communication which primarily explores the ways information can be perceived, transmitted and understood, and the impact those ways will have on a society.

Cross-cultural or intercultural communication is where people from differing cultural backgrounds communicate.

There is a special type of communication called risk communication which is of crucial importance from the point of controlling risk, which is related to several current processes including risk of the living earth and demographic risk. The concept of risk can be interpreted in at least two distinct ways. There are two positions in the philosophical debate over risk. Some people, the positivists think that risk is a purely scientific concept admitting complete characterization and analysis through data collection and quantitative methods. Other people, the relativists think that risk is a purely subjective reaction to phenomena encountered in personal or social experience. Practical management of risk is generally more detailed and fits in a global and local overall risk management framework. In practice various types of generic risk is defined, and an attempt is made to manage these risks. Disaster risk is about external or environmental events adversely affecting continuity of activities. Human resources risk is about poor staff skills and inappropriate staff conduct that adversely affects performance. Information risk is about of loss of integrity of data due to inaccuracy, delay or breach of confidentiality. Legal risk is about breach of legal requirements in the effective jurisdiction. Market risk is a direct or indirect loss resulting from the impact of market positions due to fluctuations in various market factors such as prices, interest rates and exchange rates etc. Operational risk is about the direct or indirect loss resulting from

inadequate or failed internal processes, people and systems or from external events. Reputation risk is about a decline in reputation resulting in damaged credibility or loss of business. System risk about risk of errors or business interruption due to the failure of or lack of integrity on IT and other systems. In practical risk management an assessment is made for risk considered in standard risk register in that the likelihood and consequence is listed. A consequence descriptor is also created with the amount of estimated consequence on estimated safety. Also embedded monitors and early warning indicators are described that management rely on to determine whether their risk management activities are effective. Inherent and residual level risks are plotted separately on two different grids known as the profiling matrix. This matrix has rows and columns with the consequence and their likelihood to occur. Such a matrix show categorized urgent and less urgent fields of activity, and those fields that need to be monitored. Research and risk communication are of crucial importance for managing the demographic crisis or the earth, which is an integral part of the formidable changes and challenges to the earth ecosystem.

Main topics examined

In the following part of the study successful communication stories and several other demographic issues concerning communication have been examined such as: population growth, demographic transition, population control, nuptiality, maternity, fertility, fertility transition, fertility crisis, birth, infants, children, health (communicable and noncommunicable diseases), health transition, health crisis, quality of life, migration, poverty, elderly people, death, mortality.

Scope of research was the examination of major demographic issues both in the developed and developing countries.

Examples of applications of research and communication projects are more than ten million in number.

Examples of success stories

One of the largest public health problem on earth is malaria. It is, however, no longer a major public health concern in developed countries. However, quite recently malaria killed 1-3 million people annually, mostly children under the age of five in sub-Saharan Africa. In 1998, the WHO launched the Roll Back Malaria (RBM) drive to halve malaria mortality by 2010. The Italians successfully confronted malaria and eradicated it between the late 19th and mid 20th centuries. The Italians employed education and applied socio-political will; however, ecological and socio-economic conditions in sub-Saharan Africa are more hospitable to the disease.

A success story is the use of ABC approach in communication for the prevention of AIDS. Between the late 1980s and mid- 1990s, at a time when HIV/AIDS was well on its way toward ravaging Sub-Saharan Mrica, Uganda achieved an extraordinary feat. It stopped the spread of HIV/AIDS in its tracks and saw the nation's rate of infection plummet. By now, Uganda's **success story** has become virtually synonymous with the so-called ABC approach to HIV/AIDS prevention, for Abstain, Be faithful, use Condoms.

Example of research and communication about population growth

The population of the world has grown at increasing speed since reaching 1 billion in 1804. Fertility is also declining rapidly, but stabilization is not expected until the numbers reach 11.6 billion around the year 2200. Of the components of this population growth, mortality decline is positive, population momentum is inevitable, wanted fertility reflects social and economic inequities, and coerced motherhood is unacceptable. A large amount of research and communication programs in various projects help managing this large issue.

Example of research and communication about demographic transition

World population was transformed in the 20th century as technological and social changes brought steep declines in birth rates and death rates around the world. The century began with 1.6 billion people and ended with 6.1 billion, mainly because of unprecedented growth after 1960. The momentum created by this population growth will carry us past 7 billion by 2015. Beyond that, the future of world population is less certain.

Examples of research and communication about fertility

As in most industrialized countries, Hungary has experienced changes associated with women's and children's changing social and familial roles. Changing values, norms, and social and individual preferences have encouraged the trend. However, fertility in Hungary has characteristics particular to the country, such as its cyclical baby booms and baby busts. At the beginning of the 1960s, while most of Western Europe was experiencing a baby boom, Hungary had the lowest overall fertility level in the world. In recent decades, Hungary's government has developed targets and measures to boost domestic fertility.

Examples of research and communication about religion

Arab women are often invisible to the men, except on a television screen. From kindergarten to university to the few professions they are permitted to pursue, as well as in restaurants and banks and in other public places, the female half of Saudi Arabia's population is kept strictly apart. Women are not allowed to drive a car, sail a boat or fly a plane, or to appear outdoors with hair, wrists or ankles exposed, or to travel without permission from a male guardian. A wife who angers her husband risks being "hanged"; that is, suspended in legal limbo, often penniless and trapped indoors, until such time as he deigns to grant a divorce. And then she will lose custody of her

children. They wanted more education, more jobs and more voluntary organizations dealing with women's issues. Amid much vague good feeling, the phrase that recurred was "more awareness"-not just of women's rights, but of women as human beings.

The plight of millions of HIV-infected individuals without access to antiretroviral (ARV) medications constitutes an enormous problem. Religious values can influence policymakers in public and personal health issues. Jewish religious law mandates the broadest possible access to ARV medications for HIV-infected individuals.

Examples of good communication practice in demographic issues

The media plays a unique role within society either to denounce or to perpetuate the bias and moral judgments against people with HIV/AIDS. Sometimes journalists can underestimate how influential their portrayal of HIV/AIDS is in shaping people's attitudes, especially when society fails to distinguish between people and the disease they suffer from; when denial is so pervasive that the infected are ostracized by their families. In addition, reporters, editors and producers constantly grapple with ways to find fresh angles to discuss HIV, and ensure their viewers and readers remain engaged by a topic that never appears to grow old. To address these and other key topics concerning the media and its treatment of HIV/AIDS, the World Bank organized a distance-learning course from June to November 2002 that simultaneously brought together journalists and HIV/AIDS project managers from Tanzania, Uganda, Zambia, Nigeria and Malawi. The course, entitled Fighting the HIV/AIDS Pandemic through Information and Strategic Communication, recognizes the role that **successful communication** campaigns can play in increasing understanding of the disease and promoting life-saving behaviors

Talk About Abortion is for people who already have a public voice or who are beginning to develop their own public voice. In many countries Catholics believe abortion can be morally correct and have

a distinct perspective on ethical issues, values, and social justice. Strategies for **successful communication**; women's perspectives about abortion; personhood and rights of a fetus; role of community values and culture; and the standpoint of Roman Catholic Church on abortion have been developed. A range of difficult questions and assertions can be managed through research and communication methods.

Examples of crisis management

The September 11 attacks have demonstrated the indivisibility of security in the Euro-Atlantic area. The attacks and the ensuing campaign against terrorism have also brought into focus the importance of Central Asia to Euro-Atlantic security and the need for closer cooperation between the NATO and its Central Asia Partners. Civil-emergency planning, **crisis management**, language training, scientific cooperation and the interoperability of armed forces is of importance to manage the problems. Several other examples show success stories of research and communication in this field.

Results

New research methods and inventive evidence based communication programs provide lessons, important tools and assistance to solve, successfully manage major demographic problems of the world.

- Demographic problems are increasing and are threatening human quality of life
- New scientific research, multivariate and computer intensive statistical methods are good to find and present the relevant information
- New communication programs are related to ICT and adult education
- These communication programs help in managing world demographic problems

- Success stories show the effectiveness of research and communication programs in managing major world demographic problems
- Research and communication based feedback plays a crucial role in managing increasing demographic problems
- New methods of communication such as soap operas, rap music contests, drama, a newsletter, posters and other methods are successfully used for controlling major demographic problems, targeting especially children, adolescents and parents.
- Risk communication is properly used in many cases primarily in relation to global processes. However, risk communication is scarcely used in relation to local processes.
- New methods of communication such as soap operas, rap music contests, drama, a newsletter, posters and other methods are successfully used for controlling major demographic problems, targeting especially children, adolescents and parents.

My study proved that impact analysis for program evaluation is a widely used, indispensable method and, these methods should have a much greater emphasis in education. Impact analysis is a must to prove that the project effective and provided value for money.

The study proved that RAR is very rarely used in an expressed format in demographic projects as an evaluation tool. However, certain elements of RAR are applied. This is an inexpensive and still very valuable, very effective tool for collecting and information. Although demographic analysis of data is often based on large population databases, RAR would be a very valuable supplementary tool.

The study proved that among sophisticated statistical methods project evaluators used CHAID analysis very rarely. This is surprising because CHAID is for finding “market segments” and it is useful for targeting certain population groups with special communication packages.

The study proved that the Fishbein-Ajzen communication model proved applicable in many demographic communication projects. An advantage of the application of the Fishbein-Ajzen communication model is that it, instead of focusing on the attitudes, wants to change intention and behavior.

In my view although evaluation is often made, feedback to the participants is not typical. In other words the participative method is not used in demographic projects as it ought to be. As a matter of fact, the participative method is preferred primarily in surveys on peripheral, "alternative" segments of the society. However, the participative nature of demographic projects should be strengthened, since it is an invaluable element of democratic communication.

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