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Fifth Annual Scientific Conference

Conference theme:

"HEALTH AND DEVELOPMENT: SOCIAL AND BIOMEDICAL PERSPECTIVES"

How are the Social Sciences Helping Empower the Poor to Promote Their Own Health and Development?

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I INTRODUCTION

To be asked to provide concluding and summary remarks on the Fifth Annual Scientific Conference (ASCON V) is both an honour and a formidable challenge. It has been an exciting and stimulating two days for all of us, and a broad array of topics of great importance to Bangladesh and beyond has been presented at the Conference. "Health and Development: Social and Biomedical Perspectives" is indeed a relevant topic, and those who have presented papers have made important contributions.

I think we can all agree that the social science approaches used in the various research projects, described over the past two days, offer exciting potential in the future for developing stronger and more effective community-based approaches to promoting health and development around the world.

In 1972, Rex Fendall, a British physician who spent many years working in East Africa, began an address to a scientific conference in New York City with the following words:

> "If I were asked to compose an epitaph on medicine throughout the 20th century it would read: `Brilliant in its scientific discoveries, superb in its technological breakthroughs, but woefully inept in its application to those most in need" (1).

The woeful ineptness of the application of current knowledge for the benefit of those most in need, both in terms of health and overall well-being, and the potential of the social sciences to improve our capacity to further develop and use existing knowledge for the benefit of poor and marginalized people embrace themes that many of the presentations during the past two days have raised.

II A SELECTIVE SUMMARY OF THE ASCON V FINDINGS

From primarily a social science perspective, the numerous papers and posters presented at ASCON V have several recurring themes. The most important ones are the following:

1. the social and cultural influences on health status and health-related behaviours,
2. the problems of organizing and delivering modern health services,
3. the favourable influences which health and development interventions can have, and
4. the constraints faced by the unempowered.

Social and Cultural Influences on Health Status and Health-related Behaviours

1. The socioeconomic status of individuals influences health status and health-related behaviours

Persons with lower incomes or less education have infants of lower birth weight and also children with less favourable nutritional status (2,3). Such persons also have lower rates of contraceptive use (4), lower use of Health and

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Family Welfare Centres (5), higher rates of serious illness (6), and higher mortality rates in later life (7).

2. Culture influences health beliefs and health-related services

Older persons as well as religious and other local leaders continue to promote traditional concepts regarding the causes and nature of ill health (8). Men fear that condom use and vasectomy will lead to diminished energy and productivity (9). Women and their families are reluctant to consent to referral for emergency obstetric services when indicated, especially if the husband is absent (10). Harmful home-delivery practices are still occurring, e.g. swallowing kerosene to induce gagging, so that the placenta be expelled (11). Neonatal mortality among Muslims is lower than among Hindus (12). Older age mortality among Muslims is lower than among non-Muslims (7).

Problems in the Organization and Delivery of Modern Health Services

1. Major barriers exist that prevent persons in need of medical attention from receiving the services they need

Pregnant women have very little knowledge about the signs and symptoms for which they should seek medical assistance (13). Lay practitioners and pharmacists, rather than appropriately trained health care providers, are the first-line source of health care for urban slum dwellers and for women with pregnancy-related problems (11,14,15). Unwanted pregnancies are still an important problem (15,16).

Only one-half of the women in rural areas have ever visited a Health and Family Welfare Centre (5). Fewer than half the women who experienced a birth-related complication obtained assistance from a trained health care provider (17). Seventy-eight per cent of the women in the Matlab MCH-FP Programme Area who die of maternity-related causes have no professional assistance at the time of their death (10). Only 12% of the Bangladeshis use the government health services, and they are the better-off members of the society (18).

2. Clients/patients are dissatisfied with the services they receive

Almost half the urban clients describe their visits from field workers as not helpful or not useful (19). Clients are dissatisfied with the management of contraceptive side-effects, and side-effects are a major cause of contraceptive discontinuation (20).

3. Health services are not efficiently organized or delivered

Urban MCH-FP clinics provide a narrow range of services, and their locations are not evenly distributed (21). Urban clinic staff and field workers spend a major portion of their time in record-keeping and other activities besides direct service provision (22). The government is unable to effectively manage its health services because of the highly centralized nature of its administration (Comments made by Z Hossain during the ASCON V Conference). Men are virtually excluded from the country's primary health care system (Comments made by S Hawkes during the ASCON V Conference).

4. The quality of services provided by field workers, clinic providers, and pharmacy staff in the urban areas is less than adequate

Basic standards of contraceptive counseling and provision of child survival services are not being met by either urban MCH-FP clinic staff or by urban field workers (19,21). Pharmacy staff in the urban areas do not have adequate knowledge on contraindications and side-effects of birth control pills, and they have inadequate knowledge on the evaluation and treatment of acute respiratory infection (ARI) and diarrhoea (23).

The Favourable Influences of Health and Development Interventions

1. Health education interventions can favourably influence health

Health education about the importance of vitamin A-rich foods (24,25) and about hygiene practices related to defecation (26) can influence behaviour and reduce disease in the short- and medium-terms. The provision of health education to pregnant women is associated with increased use of antenatal services and reduced incidence of low-birth weight (2,27).

2. Programmes to empower women can favourably influence health

The participation of women in the Grameen Bank's income-generating programmes is associated with improved child mortality (28). The participation of women in the BRAC's development programme is associated with lower fertility (29). Women who are more "empowered" are more likely to use contraception (30). Participation in the Village Organization Programme of the Bangladesh Rural Advancement Committee (BRAC) leads to more effective and rational health-seeking behaviour (31).

3. Development programmes can favourably influence health

Flood embankment programmes have reduced overall mortality and drowning-specific mortality (32,33).

4. Development programmes can have a favourable impact on the lives of their participants

Women's participation in income-generating and development activities is associated with improvements in the quality of their lives (34,35). BRAC educational programmes for children do improve their basic competency (36). BRAC development programmes make it possible for participants to have an improved quality of life (37). Traditional organizations, as the Chakoria project shows, can take an active role in promoting self-help for health (38-40).

Constraints Faced by the Unempowered

1. Decisions are not under women's control

Women feel that decisions regarding their problems and health care-seeking behaviour are not under their control. They cannot decide about their own treatment for emergency obstetric complications or even for troubling vaginal discharge (10,11,41). One participant in the present conference shared the plight of a Bangladeshi woman who had told her: "I work all month to send my children to school but I have to give the money to my husband, and he takes it to the bar."

2. Female reproductive health services need to be further improved

Contraceptive side-effects and the lack of their effective management are important barriers to continued contraceptive use (4,20). Unwanted pregnancies are common, and access to safe and affordable menstrual regulation and abortion is still not always readily available (15,16). Women (and also men) do not realize that their sexual partner should also be treated if their symptomatic reproductive tract infections are to be cured (42).

3. Divorced, widowed, and abandoned women have special needs

Divorced, widowed and abandoned women have special needs that are not necessarily and adequately addressed by development programmes, even those especially for women (43).

4. Malnutrition is particularly important problem for females

Malnutrition is more common among female than male children (3). Women of low height and weight are prone to produce low-birth weight infants (2).

5. Time constraints affect the capability of the poorest members of the society to obtain needed health services

Heavy workloads are a major reason that mothers do not follow the health worker's recommendation to seek medical treatment for symptoms of pneumonia (44).

6. Fear of "high" costs deters the poor from obtaining urgently needed health services

Fear of high costs deters women and their families from accepting referral for emergency obstetric services (10).

7. Urban slum communities have special needs

Urban slum dwellers consider problems of water supply, garbage disposal, and drainage as high priority (15). The contraceptive prevalence rate in the urban slums is lower than in other urban areas (4). The use of government health services by urban slum dwellers with serious medical problems is less than the use of NGO services because the price of the government services is higher (6).

III THE PROBLEM OF HEALTH AND DEVELOPMENT

These findings from ASCON V are overwhelming, depressing, exciting, and challenging-all at the same time. They point to some of the key issues of health and development faced by the poor around the world.

The fundamental problem is poverty and lack of education. Well more than 1 billion people around the world live in a state of absolute poverty, "a condition of life so limited by malnutrition, disease, illiteracy, low life expectancy, and high infant mortality as to be beneath any rational definition of human decency" (45).

In its seminal 1993 report on global health problems, the World Bank concluded:

> "If death rates among children in poor countries were reduced to those prevailing in the rich countries, 11 million fewer children would die each year. Almost half of these preventable deaths are a result of diarrhoeal and respiratory illness, exacerbated by malnutrition. In addition, every year 7 million adults die of conditions that could be inexpensively prevented or cured; tuberculosis alone causes 2 million of these deaths. About 400,000 women die from the direct complications of pregnancy and childbirth. Maternal mortality ratios are, on average, thirty times as high in developing countries as in high-income countries" (46).

This tragic situation, as we all know very well, is aggravated by the closely related problem of poverty. Through many complex and interacting influences, poverty is responsible for ill health, and ill health aggravates poverty. Then, of course, rapid population growth aggravates both poverty and ill health. And

increasingly, environmental problems due to over-population are contributing to ill health as well. Thus, we have before us today what UNICEF has referred to as the PPE (poverty, population growth, and environmental degradation) spiral of influences on ill health (Fig. 1).

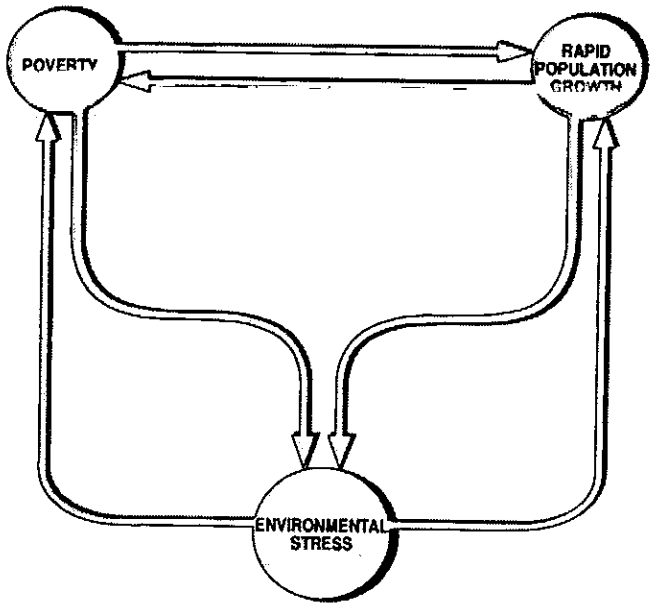


Fig. 1. The PPE spiral *(Source: Ref. 47)*

Definitions of Development

Increasingly, development is being considered just as much a process of improvement in the capability of persons to improve their own well-being as it is a process of economic development. "...[P]eople (and not things) are the purpose of development and at the same time its most critical resource" (45). "Empowerment is development: To be empowered is to increase your capacity to define, analyze and act on your own problems" (48).

The development philosophy of BRAC, the largest NGO in Bangladesh, is very much people-centred. As Mr. FH Abed, BRAC's founder and Executive Director, has said:

> "Development, quintessentially, is action by people.... Creating this enabling environment [for individual and societal change] is the responsibility of a development manager. His/her prime concern is how to elicit and ensure participation" (51).

IV UNDERLYING SOCIAL CAUSES OF MORTALITY

Some of the many social influences on mortality and morbidity are described in Fig. 2. While the strength of these relationships may change from one setting to another, there is a little doubt that all of the socio-economic and behavioural factors shown in Fig. 2 are highly correlated with one another. Determining the root causes, the direction of causation, and entry points in the cycle for improvement in health and well-being – these are the challenges which we face here in Bangladesh and elsewhere.

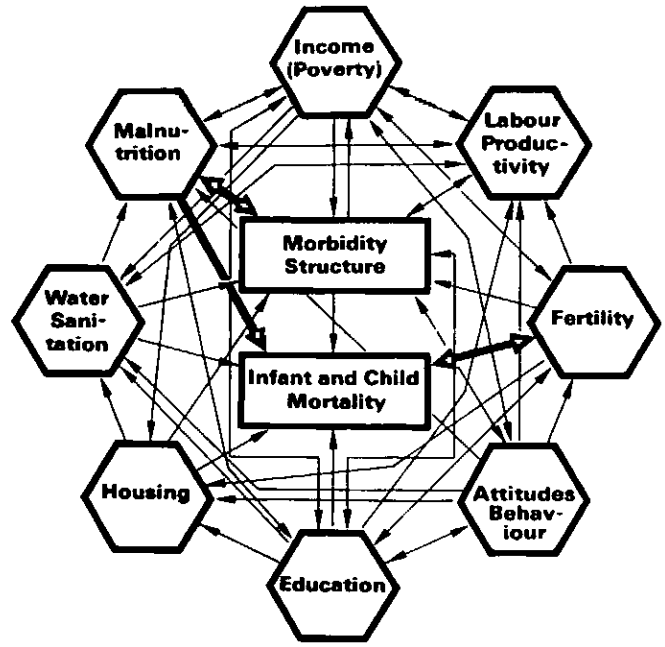


Fig. 2. The Poverty - Morbidity - Mortality - System *(Source: Ref.45)*

Unfortunately, too many of our efforts have centred on the biomedical causes and treatments of ill health, and too little on the social, economic, political, psychological, and behavioural causes and treatments. While some may consider the biomedical and social science approaches to be antagonistic, they are, in fact, complementary and mutually supportive. The experience at the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) in incorporating social science approaches in the design and evaluation of community-based health programmes is a case in point (50. Fig. 3 demonstrates the mutual complementarity of these two approaches.

On the basis of an extensive review of studies pertaining to the social influences on mortality in developing countries, Caldwell concluded that social characteristics, such as educational level or use of family planning methods, are usually more influential in determining mortality levels than access to medical services (52). He goes on to state that:

> "...the various social mechanisms identified as playing a role in reducing mortality are really different facets of the same phenomenon, which might be called social modernization, or the rise of individualism or Westernization .... It is the move toward a system where individuals have options and can exercise choices- and realize that they can do so and act on that realization" (52).

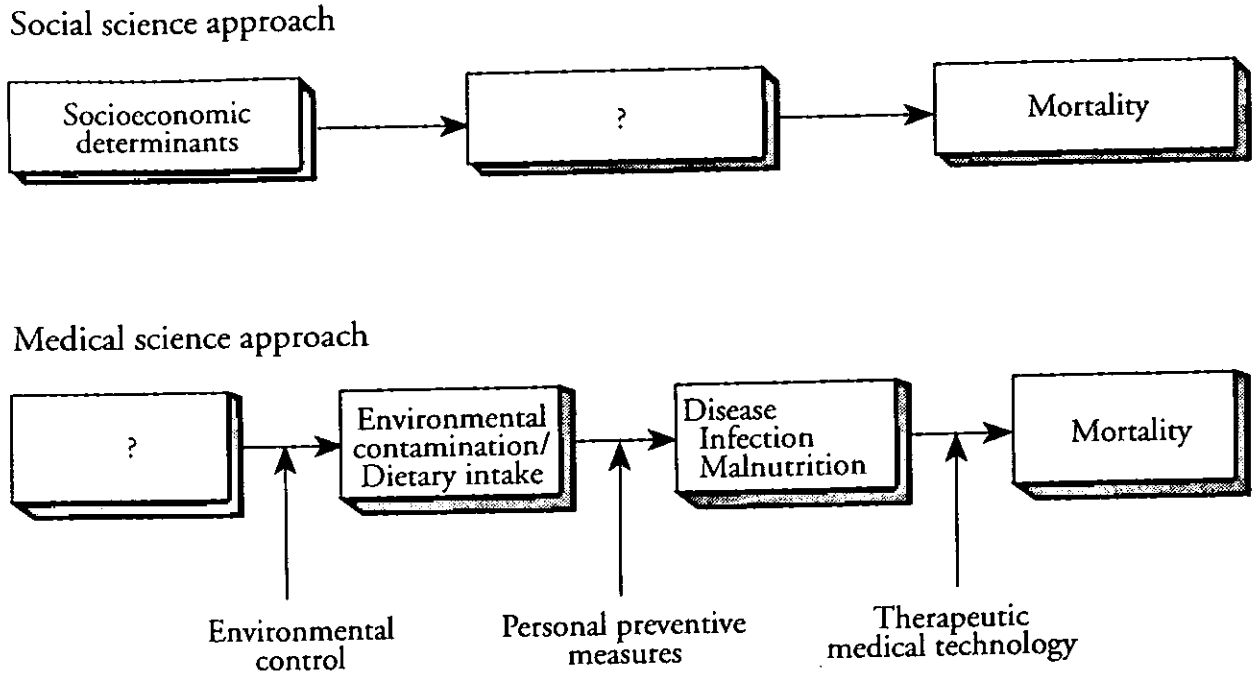


Fig. 3. Conceptual models of social science and medical science approaches to research on child survival *(Source: Ref. 51)*

In societies in which women's autonomy is severely restricted, there is also a restriction in the ability of mothers to take quick and effective action when it is necessary to protect the health of their children. In such societies, there is also a restriction in the ability of the mother to provide optimal nutritional support to her child. In social settings in which women have greater autonomy and education, they have greater opportunities for using family and community resources for the benefit of their children and themselves (52).

Mosley argues, "child survival is primarily determined by the social and economic resources of the child's family, and these can be effectively determined by knowing the mother's educational level and the family's economic conditions" (53). In a similar vein, Kent (48) suggests:

> "Health status is not determined primarily by health systems but by wealth and power. Widespread malnutrition and disease are due to poverty, but even more fundamentally to powerlessness. Women and children are relatively powerless within the household."

Education is one of the most important means of empowerment, particularly for women living in societies where their status is substantially inferior to the status of men. Empowerment of mothers is a critical pathway for improving the survival of children. As Major General Choudhury and Major Matiur Rahman told us on the previous day, "It's education, education, and education!"

V DIFFICULTIES IN THE APPLICATION OF HEALTH AND DEVELOPMENT KNOWLEDGE

The biomedical discoveries of the past 100 years have indeed been spectacular and brilliant, as Rex Fendall reminded his audience in 1972. But the application of that knowledge has been notably less spectacular and less brilliant.

Sir Ronald Ross, who discovered the mosquito transmission of malaria, lamented many years ago:

> "Do not think that when you have made your discovery you have finished the matter.... [T]he discovery is only half way up the mountain, and beyond it extends the arduous summit of the practical application" (54).

In the 1960s, a worldwide series of surveys showed that hospital-oriented services were not exerting any impact on health in the surrounding population. A survey of households at various distances from hospitals demonstrated that those who had easy access to and used the hospital regularly were no healthier than those who did not (55).

More recently, Bob Black and Ken Hill of the Johns Hopkins University participated in an extensive review of the existing evidence regarding the influence of modern health services on child survival in Africa. This review resulted in the following conclusion:

> "It is difficult to believe that increasing the availability of modern health services provided at hospitals, at

health centers, and through integrated health programs has not played some role in the long-term decline in infant and child mortality in sub-Saharan Africa. However, there is very little evidence to help us determine whether their contributions have been trivial or substantial" (56).

The mechanisms through which clearly effective health technologies lose their effectiveness in field situations need to be more clearly understood, so that efforts can be targeted toward overcoming the most critical barriers to the effective application of basic knowledge and technology. As Gadomski *et al.* have observed:

> "It appears that simply providing these technologies [growth monitoring, breast feeding promotion, ORT, immunizations] to developing countries is not the solution toward 'health for all' because a variety of socio-political and economic factors modifies the potential impact of these interventions" (57).

Cooptation of the Poorest of the Poor by the Better-off: A Quiet Violence

The social sciences have a long and rich history of analyzing the processes through which marginalized and less powerful members of the society become and remain that way. For example, one sociologist made the following observation concerning developing societies:

> "There is much evidence that those social groups who are already better-off see opportunities earlier, react faster and make better use of the advantages offered. The lower 40-60% of the population tend to be left out, as opportunities are either not seen at all, or not perceived to be desirable, or seen and positively perceived but not taken advantage of" (45).

Two keen observers, Raj and Mabelle Arole, who have spent three decades working with villagers in India to help them improve their own health, have concluded, "... unless poor people were involved in the planning and implementation, their needs would be overshadowed by those of the elite" (58). BRAC's targeting of its activities to those who sell their labour or who are essentially landless is one notable effort to address this problem of cooptation and one of the reasons for the BRAC's success (49).

The "Disempowerment" Produced by Modern Medicine

While there is no question that modern biomedical science has been a powerful force for health improvement around the world, one of its "down-sides" has been too little recognized: it produces dependence on those with formal professional training.

> "Western biomedical care, which has proved its popular appeal in most non-Western societies, undermines self-reliance. Almost everywhere Western medicine seems to succeed in displacing local medical traditions based on self-help and to make people dependent on highly specialized knowledge" (59).

The Difficulties of Providing Appropriate Services to Those in the Greatest Need

A fundamental issue related to applying knowledge is that of determining those who are at the greatest risk of serious illness and death and, of course, reaching them with appropriate preventive and curative services.

> "Unless services reach those in need, even the best-conceived primary health and nutrition care programs can obviously have little impact on mortality. Thus, ... the development of plans for getting services to the people is as important as are decisions concerning which services should be offered" (60).

Recent community-based social science research in the Punjab of India has identified that 13% of the mothers have more than one child that dies, and the children of these mothers account for 62% of the childhood deaths in the population. The reasons given by the author for this finding were as follows:

> "...women who had experienced multiple child deaths were often less resourceful and organized in caring for the currently living children and running the household. Moreover, they were far less able than other women to describe the circumstances and the causes of their children's deaths. This suggested that they were poor at making effective home diagnoses of their children's symptoms and at taking active steps to help them" (61).

On a much vaster scale, it has been observed that one-third of the one million deaths occurring every year in China are concentrated among 12% of China's population. This segment of the population is composed of minority ethnic groups who live in remote areas of the country (62).

Such observations are critical if efforts that are designed to improve mortality are actually to succeed, for they enable us to begin to understand who is at risk, what are some of the root causes of ill health, and how improvements in health can be sustained in the long-run (63).

VI ON THE VERGE OF A NEW PARADIGM FOR HEALTH AND DEVELOPMENT

Quantum leaps of progress in the biomedical sciences and in public health have occurred as pioneering new concepts and discoveries stimulated new ideas and further research which later could be applied to the benefit of societies around the world. These major shifts in thinking, research, and practice have been described as paradigm shifts. Some of the notable paradigm shifts that occurred in the 19th and 20th centuries and later led to many of the brilliant discoveries which Rex Fendall was referring to included the following:

1. John Snow's taking the handle off the Broad Street pump in London in 1854 to stop the spread of a cholera epidemic which had arisen because of contamination of water coming from the pump (before

the microbial basis of cholera and its route of transmission had been identified);

2. the discovery of antisepsis and the microbial causes of infectious disease;
3. the discovery of anesthesia;
4. the discovery of antibiotics;
5. the discovery of the principle of immunization against infectious diseases; and
6. the eradication of smallpox through containment of new cases, by vaccinating the population surrounding new cases to contain an incipient epidemic (as opposed to the previous strategy of vaccinating the entire population).

The 1994 International Conference on Population and Development held in Cairo was a major step forward in recognizing women as a key resource for development and also in recognizing the empowerment of women as one of the cornerstones of sustainable development (64,65). This major shift in perspective on development has benefitted from social science approaches which have documented the problems which women in developing societies face and their repercussions on the health and well-being of their families.

Thus, the Cairo Conference represents an important point in the emergence of a new paradigm for improving the health and development of the poorest of the world's poor-by recognizing the importance of empowerment of the disadvantaged for improved health and well-being. The collection of scientific information based on community-based social science methodologies has played a major role in helping to alter the paradigm of health and development.

The newly emerging paradigm of health and development will certainly continue to promote the special needs of women. However, the new paradigm will be more broad-based and will focus on ensuring that efforts to improve the health and well-being of any population – whether a small rural village, a city, a region, or a nation – give special attention to the most disadvantaged members of that population and that improvements be objectively verifiable. The social sciences will continue to play an integral role in moving this paradigm shift toward its proper conclusion.

During ASCON V, we have heard about the results of using social science strategies for identifying the needs of communities, for designing programmes for the improvement of health and well-being at the local level, and for assessing progress in the effectiveness of such programmes. Mr. FH Abed mentioned that such community-based strategies should also include local vital events registration and other surveillance systems which were established at the beginning of this century in the developed world but which still remain virtually unknown in the developing world.

New approaches to community health and development need to be rigorously evaluated. In the process of the accumulation of scientific knowledge, just as much (and in some cases more) can be learned from a carefully documented and carefully analyzed failure as from a success. Too many times, unsuccessful efforts to promote the health and well-being of people in developing societies have not been carefully documented or analyzed because of fear of negative repercussions.

However, it is in analyzing the reasons for failure (and in adopting new strategies designed to avoid the problems which had been identified) that success will eventually be achieved. Two of the biomedical papers presented at this conference have dealt with failures. In one (66), the drug cefixime was used for the treatment of shigellosis (a form of dysentery) and found to be ineffective. In another study, the characteristics of children who died at the ICDDR,B Cholera Hospital were carefully reviewed (67). As these examples indicate, analyses of "failures" continue to be important building blocks for the biomedical sciences. They need to become important building blocks for the social sciences as well. As Mr. Abed informed us in his Annual Lecture, BRAC recognized the failure of its community health programme to reach those in greatest need and then later incorporated the lessons learned from this failure, thereby strengthening subsequent programme activities.

In the 1920s and the 1930s, John Grant, father of the late UNICEF Director James Grant, was working in China with the Rockefeller Foundation. He and his colleague CC Chen were able to show that poor communities could markedly improve their health conditions by increasing their awareness and knowledge about simple health measures. As Arole *et al.* (55) have observed, this appears to have been the first project in the world demonstrating the potential of what we now refer to as primary health care.

It is interesting to note that, during the following decades, John Grant, in his published works, referred to the need to strengthen both social science and public health science approaches to the improvement of health and well-being at the community level. For instance, in 1940, he wrote:

> "The social sciences have the responsibility to devise practical methods, hitherto lacking, for using the knowledge developed through the natural sciences for human welfare" (68).
>
> "Public health is the science and art of social utilization of scientific knowledge for medical protection by maintaining health, preventing disease, and curing disease through organized community efforts" (68).

> "The failure to establish scientific methodology in determining tools for community welfare is one of the chief factors responsible for the present social lag throughout the world" (68).

Again in 1953, he wrote:

> "Emphasis has been given to the necessity of building from the bottom up. Thus, the village itself has been taken as the starting point for observing village improvement, rather than working from the central administration down to smaller units" (69).

Thus, John Grant was keenly aware of the need for strengthening approaches which are both science-based and community-based to more effectively assess the root causes of the problems of health and well-being at the community level, to design programmes to address the problems, and to assess progress. John Grant was truly a pioneer in recognizing this need and in making a strong contribution to strengthening the community-based approaches to health and development. It is on this early foundation that today's paradigm shift is now (finally) taking place.

Both the social as well as the biomedical sciences have a critical role to play in improving the health and the well-being of the poorest of the poor, but without effective partnerships between local communities and those with technical, political, and financial resources, the application gap will remain. Thus, the new paradigm will involve partnerships for social development. "What works are partnerships, and not just governmental-community partnerships, but broad partnerships involving non-governmental and multi-governmental agencies, private enterprise, and people who can provide science-based information in a way that communities can use effectively for their own priorities" (70).

VII WHAT IS THE ROLE OF THE SOCIAL SCIENCES IN THE FORMULATION OF THE NEW PARADIGM FOR HEALTH AND DEVELOPMENT?

What roles can the social sciences play in empowering the poor to improve their health? One prominent social scientist has conceptualized five key roles for the social sciences in the broad area of health and social policy (71). These are:

1. framing the issues,
2. anticipating emerging trends and future problems,
3. monitoring,
4. evaluating and assessing the results of programmes and policies, and
5. understanding the process of implementation.

It is the process of application of health-related knowledge in developing countries, as we have observed, that has become so problematic. In this respect, Mechanic sees that the social sciences have a crucial role to play in improving the implementation process and the policies which influence it.

> "In designing good policies one must make assumptions of what motivates people and the incentives that will induce individuals to implement them. Such policy assumptions are often simplistic and naive about the influences that motivate cooperation and resistance. They often fail to achieve their objectives because they have neglected to think through the steps necessary. Implementation studies help close this gap and sharpen the sophistication of policy-making" (71).

Jim Ross reminded us that policy-makers have a limited personal understanding of client needs or of what it means to be marginal or disenfranchised. The social sciences can help narrow this knowledge gap. As Patrick Vaughn said, the social sciences can help us get a GRIP (Getting Research Into Practice).

The key questions which social science approaches can help answer in getting a GRIP on things are the following:

1. Does it work? (and if not, why not?)
2. How can it be applied?
3. What are the policy implications?

The research findings presented in ASCON V have shown us that the methods for the evaluation of community-based health development programmes are improving. There are now better operational definitions of key, but nonetheless amorphous concepts, such as well-being, empowerment, and quality of life. There are better methods of measurement, and it is becoming increasingly feasible to promptly incorporate evaluation findings into the next planning and implementation cycle of health and development programmes.

The research experiences at BRAC and at other grassroots-linked organizations working with local communities to help them improve their own health and development are creating a new paradigm for the future. Working with the local people to help them identify their needs, to help them develop programmes to meet those needs, and to help them determine whether progress is being made depends upon social science methodologies.

Through the use of community-based social science approaches such as focus group discussions, participatory appraisal, participatory planning, social mapping and other similar techniques, it is possible for grassroots-level people to collaborate with health and development professionals to improve the understanding of the problems to be addressed, to improve the planning process, to improve the process of implementation, and to improve the process of evaluation and incorporation of evaluation results into programme operations. Through the accumulation of knowledge based on these experiences, a new

paradigm is now emerging which will greatly strengthen the effectiveness of partnerships for promoting health and development.

In his Annual Lecture, Mr. Abed gave strong support to the role of research in strengthening community-based programme activities for health and development. "Research," he said, "helps us to focus on high-priority problems, [thereby] saving money and making action cost-effective."

One might interpret ICDDR,B's Mission Statement* as describing a vision in which biomedical technology will solve the major health and population problems facing the world. However, this mission statement, in fact, fully supports a broader perspective which includes developing and disseminating approaches for empowering communities to use existing knowledge for the improvement of their own health.

It is increasingly obvious that biomedical and technological solutions by themselves are insufficient without a practical and effective means of applying these solutions. Furthermore, in many cases the root problem is a social problem rather than a biomedical or technological one. Thus, as Mr. Abed said:

> ".... the technocratic approach to health will not do. We have to organize our communities to take care of their problems."

VIII TOWARD A HOLISTIC FRAMEWORK FOR COMMUNITY-BASED HEALTH AND DEVELOPMENT

The new paradigm for improving the health and development of the poorest and the most marginalized members of the global human family will involve community-oriented approaches responsive to local community needs. Social science methodologies will play an increasingly important role in the further development of these community-oriented approaches, in the determination of what local community needs really are, and in strengthening of efforts to promote health and development.

Fig. 4 and 5 portray a conceptualization of the broad range of health and development activities as they are generally practised today in the developing countries around the world. For most of this century, health and development efforts have concentrated at the left and right sides of the figures on specialized curative health care services, on disease-oriented public health activities (Fig. 4), and on centralized, "top-down" and sector-specific approaches to development (Fig. 5). The new paradigm for health and development recognizes the importance of the activities at the sides of the two figures, but focuses on the centre – on decentralized, grassroots, community-oriented approaches which are responsive to the needs of the community as the community perceives them.

The Jamkhed Model

There are, no doubt, many examples of grassroots activities in Bangladesh in which the new paradigm for health and development is currently being implemented. Another pioneering effort which I think will increasingly serve as a guide for the further refinement of this new paradigm is the Jamkhed Comprehensive Rural Health Project in Jamkhed, India (58).

This project is located in one of the most isolated and poorest areas of Maharashtra State. Like BRAC, the project, at its initial stage, learned from a failure of programme effectiveness. By analyzing the root cause of the failure and making appropriate adjustments, the project gradually developed remarkable effectiveness. Early on, the project leaders recognized that they had made a fundamental mistake by deploying auxiliary nurse-midwives from outside the project area to serve as the basic local health worker. Later, illiterate female villagers were recruited to become the foundation upon which the health project was built. Most often, these women who became village health workers had previously been marginalized in their own local communities because of their caste, because they had been abandoned by their husbands, because of chronic illnesses (such as tuberculosis), and so forth. By empowering these marginalized members of the community, and by helping them to assist the community in working together toward the improvement of local needs, these poor and illiterate people have been able not only to achieve remarkable progress in improving the health and development of their own communities, but also they are now passing on their knowledge and skills to others in distant parts of India and beyond.

The Jamkhed Comprehensive Rural Health Project, with minimal outside financial assistance, has grown from an initial coverage of 60,000 to more than 250,000 people as a result of the community people themselves sharing what they have learned with their neighbors. In addition to their health activities, the community members themselves have planted 5 million trees, built dams, improved their water supply, developed women's income-generating projects, established literacy programmes, and carried out many other activities geared toward the improvement of the health and well-being of the entire community. Today, these female illiterate village health workers are teaching this methodology of empowerment for community self-help to people who come to Jamkhed from all over the world.

* "The fundamental mission of the Centre is to develop and disseminate solutions to major health and population problems facing the world, with emphasis on simple and inexpensive methods of prevention and management" (72).

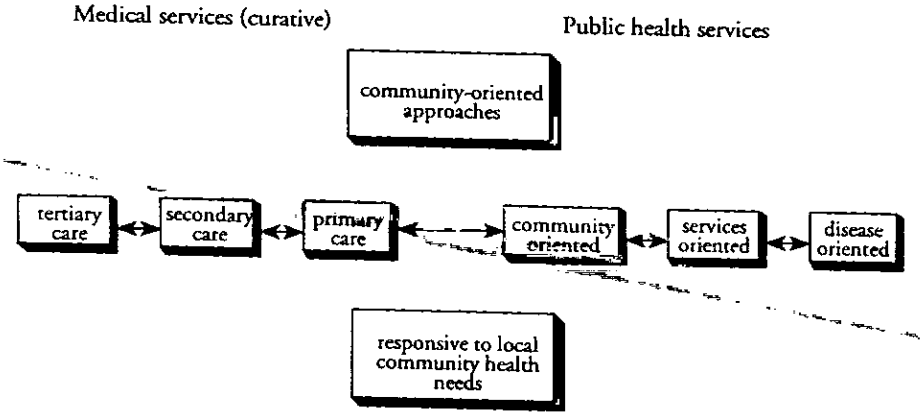


Fig. 4. Health approaches to health improvement

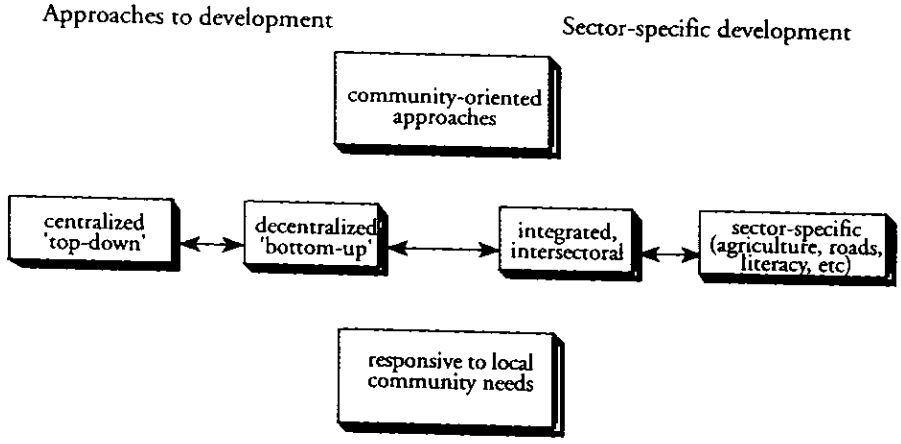


Fig. 5. Development approaches to improved well-being

From the health perspective, perhaps what is most remarkable about the Jamkhed Project are the reductions in infant mortality and crude birth rates that the communities have achieved (Fig. 6). Over a 20-year period between 1972 and 1992, the infant mortality rate declined from 165 to around 20 deaths per 1,000 live-births, and the crude birth rate declined from 40 to less than 20 births per 1,000 population. These are data which the local villagers themselves collected and analyzed as part of their own programme evaluation. These remarkable achievements have been possible because of high immunization coverage rates (92%) and high contraceptive prevalence rates (as high as 70% in some villages), improved nutrition of mothers and children (with birth weights increased by 0.75 kilograms and with the incidence of weight-for-age childhood malnutrition reduced to 5%), and almost 100% of the pregnant women receiving prenatal care and attendance at birth by a trained attendant (58).

The vision for this remarkable and pioneering effort in promoting health and development activities through community empowerment has come from two Indian physicians, Raj and Mabelle Arole, who have lived and worked alongside the people of Jamkhed for more than two decades. A description of the experience at Jamkhed and the lessons learned there are now available in their recently published monograph entitled *Jamkhed: A Comprehensive Rural Health Project* (58).

The lessons from Jamkhed and from other similar grassroots-level health and development projects around the world are too important to be ignored, for they will certainly form much of the foundation for the new paradigm for health and development. Some of these from Jamkhed are as follows:

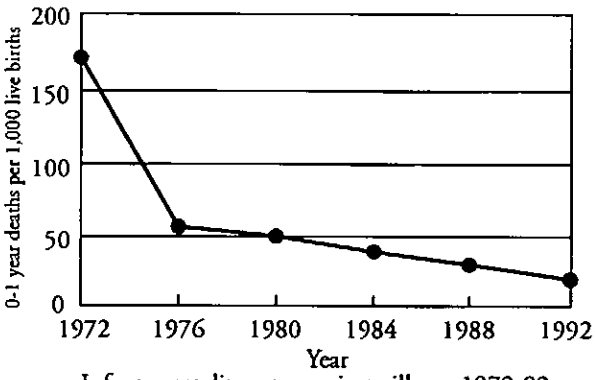
"Health services, no matter how efficient, cannot change the condition of the marginalised people unless they are helped to become self-reliant and the root problems addressed. The traditional role of the people as passive recipients of medical and other help needs to be transformed by involving them in leadership. The liberating effect of education and consciousness-raising of the disenfranchised is well documented. People who are poor and illiterate are like uncut gems hidden under the dirt and stone. Given the opportunity, they can reach their full human potential and live as responsible, sensitive human beings, possessing self-reliance and the liberty to shed those old customs and traditions that impede health and development" (58).

> "Sustainability means empowering communities to choose their own objectives and find their own solutions. It does not mean survival of the institution that enabled the programme" (58).

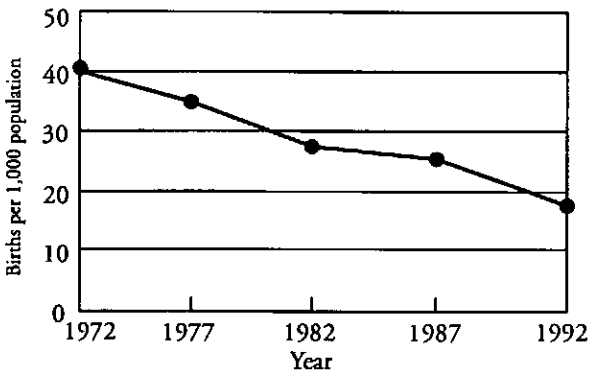
> "Health is not a priority as marginalised people struggle for survival. The basic necessities of life such as food, water and shelter are more important priorities. Lack of these important necessities contributes to more than 50 per cent of the morbidity and mortality in poorer communities. It is necessary for health professionals to acknowledge these needs and convert them into health programmes for nutrition, provision of safe drinking water and clean environment" (58).

> "Medicine needs to be demystified and knowledge should be shared freely with people so they can attain and maintain good health.... Hierarchical attitudes have to be replaced by a team spirit and equality. The realisation that knowledge not only gives power, but that sharing knowledge also increases self esteem is important in the development of a team spirit" (58).

"It is only persons from within the community who can really understand the practices and beliefs that exist within the community. Only a person from the community is readily available and accessible at all times at a cost the community can afford" (58).



Infant mortality rate; project villages 1972-92



Crude birth rate; project villages 1972-92

(Source: Ref. 58)

Fig. 6. Infant mortality and birth rates for the Jamkhed, India, Comprehensive Rural Health Project, 1972-1992
(Sources: Ref. 58)

IX CONCLUSION

Mr. Abed reminded us that the new millennium is only four years away. Before we conclude ASCON V, let us again review what Rex Fendall said to his audience in New York in 1972:

> "If I were asked to compose an epitaph on medicine throughout the 20th century it would read: 'Brilliant in its scientific discoveries, superb in its technological breakthroughs, but woefully inept in its application to those most in need.' Medicine will be judged not on its vast and rapid accumulation of knowledge per se, but on its trusteeship of that knowledge. How has it applied knowledge to benefit humanity?" (1).

No doubt, all of us hope that toward the end of the 21st century it will be possible for someone to be able to say:

> If I were asked to compose an epitaph on improving the health and well-being of the poorest of the poor, I would say: 'remarkably adept in reaching and empowering those in need.' The pioneering partnerships between NGOs, governments, and communities, along with participatory field-based biomedical and social science research carried out in Bangladesh during the latter quarter of the 20th century, have played an important role in reducing the enormous gaps between the world's poor and those who are better-off, between the world's unempowered and the empowered, which existed at the beginning of the 21st century.

Mr. Abed told us that "we must have faith in our people," and because of this he is hopeful about the future of Bangladesh. Patrick Vaughn informed us that BRAC first listens, and then it learns. Being able to listen and then learn will be increasingly valuable capacities for all of us and our organizations during the critical decades ahead. Perhaps our role as social scientists and as professionals who are working to discern and apply knowledge for the benefit of people is to listen to the people themselves, to ask them what they mean, to work with them to design new approaches, and then to facilitate their empowerment so that they themselves can apply useful knowledge for their own benefit. Perhaps our roles as professionals dedicated to improving the plight of the human family are to encourage and support the new paradigm of participatory action research in which the gaining and sharing of knowledge by local people is a central activity. The Aroles themselves have said, "only people empowered and empowering others for the common good can find and keep the respect, cooperation and peace so much needed in this world" (58).

Only a few days before his death early last year, James P Grant, the former Director of UNICEF and one of the strongest supporters the Centre has ever had, wrote the following:

> "More than a half-century ago, thanks to the Industrial Revolution, Arnold Toynbee wrote: `Our age is the first since the dawn of history that has dared dream it practical to make the benefits of civilization available to all. That daring dream is even more practical today.
>
> If, through a failure of nerve, an impulse of selfishness, a confusion of priorities, a loss of self-confidence, we deny that dream and walk into the 21st century looking backward, humankind will pay for its shortsightedness in spades....
>
> Over the years I have seen how governments, opposing political parties, even armed adversaries, as well as the business sector, non-governmental organizations and local communities, can work together for human progress first and foremost for children. Let us all face forward toward the children, our collective future" (73).

The new paradigm of community-oriented and community-responsive approaches to empowerment of local people for improved health and development is only beginning to emerge, but its potential is inescapable.

Consequently, this paradigm will continue to emerge, hopefully at a rapid pace. The social sciences have made and will continue to make a strong contribution to this new paradigm. The social science approaches to problems of health and development which have been presented here at ASCON V constitute an important example of this contribution.

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