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PREFACE

The Programme of Action adopted at the International Conference on Population and Development, held in Cairo in 1994, emphasized that valid, reliable, timely, culturally relevant and internationally comparable data form the basis for policy and programme development, implementation, monitoring and evaluation. While there have been marked improvements in the availability of population and related development data following important advances made during the past two decades in the methodologies and technology for data collection and analysis, many gaps remain with regard to the quality and coverage of baseline information.

The Programme of Action recommended that governments set up national databases to provide necessary baseline data and information that may be used to monitor the progress of ICPD goals that, *inter alia*, include reproductive health and family planning.

In order to address the above issues, a regional project was implemented by ESCAP in six countries, namely Bangladesh, Islamic Republic of Iran, Myanmar, Nepal, Pakistan and Viet Nam. The project was funded by the United Nations Population Fund and implemented by the Population and Rural and Urban Development Division. The major objectives of this project were to strengthen existing monitoring and evaluation systems for measuring the progress of reproductive health and family planning programmes, including the quality of services, and to improve and institutionalize the monitoring and evaluation systems for effective and better programme performance and management.

The present publication is based on the final reports prepared by six participating countries. The report also includes a detailed summary of discussions and recommendations of the expert group meeting held in Bangkok from 10 to 13 March 1997, and the proceedings and recommendations of the regional seminar organized in Bangkok from 28 September to 1 October 1999, at which the major findings of the country studies were presented.

It is hoped that the results of this project and the recommendations will be useful for planners and policy makers.

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Chapter IX

EXECUTIVE SUMMARY

The Programme of Action of the International Conference on Population and Development (ICPD-POA) recommends that governments set up national databases to provide necessary baseline data and information that may be used to measure the progress of ICPD goals that, *inter alia*, include reproductive health and family planning (RH/FP). Moreover, in the light of ICPD-POA, the expanded role of family planning covers a more complex and broader area than was previously the case where existing data systems had provided inadequate information for RH/FP monitoring and evaluation of programme performance and the quality of care services. Thus, there is a clear need to establish an RH/FP information base and collect a minimum set of RH/FP status and programme indicators in a timely and cost-effective way, so that programme performance may be monitored and evaluated properly and quickly. The RH/FP information base should cover such areas as: basic indicators of family planning; maternal health and maternal care; accessibility and acceptability of RH/FP services; quality of care; reproductive tract infections (RTIs) and sexually transmitted diseases (STDs); and infertility.

Keeping in view the above objectives, a regional project entitled "Strengthening performance monitoring and evaluation systems for measuring the progress of reproductive health and family planning programmes (RAS/96/P08)" was implemented by ESCAP in six countries, namely Bangladesh, the Islamic Republic of Iran, Myanmar, Nepal, Pakistan and Viet Nam. The regional project was aimed at assisting those countries to develop and strengthen performance indicators for their monitoring and evaluation systems.

The long-term objectives of the project were to help countries of the region to: improve and strengthen their national capacities to plan, formulate, monitor and evaluate the progress of national RH/FP programmes, including the quality of care services; and improve and institutionalize the monitoring and evaluation system necessary for more effective programme performance and management.

The project under which this publication has been issued was implemented with financial support from the United Nations Population Fund (UNFPA). Various activities were carried out under a collaborative effort by Population and Rural and Urban Development Division of the ESCAP secretariat and the six participating countries, with the project being implemented from 1997 to 1999.

Several major activities were accomplished during the project duration. An expert group meeting, organized at Bangkok from 10 to 13 March 1997, discussed the existing issues concerning the information base related to the monitoring and evaluation of RH/FP programmes, and it provided guidelines on modalities and methodologies for the implementation of country studies. The expert group meeting also discussed various topics, such as existing management information systems (MIS), RH/FP indicators, concepts, measurement and methodological tools, training needs, changes and/or development of operational manuals, recording and reporting formats etc.

Immediately after the expert group meeting, a Study Directors Meeting for the participating countries was held at Bangkok on 14 and 15 March 1997 to further discuss the modalities and resolve various issues related to project implementation. The meeting agreed to the work plan and related activities for implementation during the project period.

The project activities also included human capacity-building in the data collection, processing and analysis. Two regional training workshops were organized on human resources

development in the participating countries. The main objective of the first two-day workshop, which was held at Bangkok immediately after the Study Directors Meeting, was to train master trainers in data collection, processing and analysis to enable them to conduct similar workshops in their respective countries. The participating countries organized in-country training workshops, during which training was provided to 25-30 participants from the national and subnational levels in each country. The second workshop, attended by six participating countries, was held at Chiang Mai, Thailand, from 3 to 8 May 1999. The purpose of the latter workshop was to provide participants with an understanding of the objectives, purpose and importance of the data they had collected, the emerging issues and concepts in data collection, the basic methods of analysis and the interpretation of various key indicators.

The final major activity under the project was a regional seminar on "Strengthening monitoring and evaluation for the progress of reproductive health and family planning programmes". The main purpose of the seminar, which was organized at Bangkok from 28 September to 1 October 1999, was to discuss the major findings of the countries that had participated in the project. The objective was to highlight priority issues, constraints, policy recommendations and future directions that would help to devise a sustainable and cost-effective information base for strengthening monitoring and evaluation systems, and thus enable better management of RH/FP programmes. Seventeen countries participated in the seminar.

For the purpose of the project, a study area (one urban and one rural) was selected in each of the participating countries and the project was implemented for about 18 months to collect data on RH/FP indicators. The data obtained from the field were analysed and their interpretation and the findings were presented.

During the course of the study, which also involved a review of the existing MIS in RH/FP, most countries made the following observations:

(a) There were too many forms and reports to be completed, and duplication of effort existed as a result of the non-integrated and vertical nature of existing systems;

(b) Little or no coordination of data collection and utilization was undertaken between governments, non-governmental organizations (NGOs) and the private sector;

(c) The meagre amounts of data that were collected were rarely utilized and, in many cases, did not respond to the needs for quality of care data and programme planning; and

(d) The feedback mechanism was very weak.

The long-term objective of improving and strengthening national capacity to plan, formulate, monitor and evaluate the progress of RH/FP programme capabilities was partially achieved through the identification of indicators, training and guidance, together with a review of the system that brought out the strengths and weaknesses. However, some institutional and bureaucratic bottlenecks remained, such as vertical programmes, non-integrated services and little coordination with the private sector, thus necessitating policy decisions.

On the basis of the experience gained from the project, several lessons were learned and the following recommendations were adopted for improving the RH/FP MIS:

- The selection of indicators should be based on the policy needs, goals, priorities and resources of individual countries. The indicators should be sustainable and replicable.
- Existing MIS should pay attention to emerging issues such as RTIs, STDs and the human

immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), adolescent health and abortion.

- Efforts should be made to integrate MIS with all existing systems in order to ensure sustainability, and MIS should be strengthened and optimally utilized.
- Duplication of service and work should be avoided, thus improving efficiency and decreasing workloads.
- The number of recording/reporting forms needs to be minimized.
- The data collection process should be standardized and regularly monitored to ensure quality.
- Built-in refresher courses and on-the-job training should be introduced for all cadres in data collection, processing, analysis and interpretation.
- Clear guidelines for data utilization by different levels of programme managers should be introduced and followed.
- Teamwork among service providers, producers and decision makers should be ensured.
- Close liaison and cooperation with NGOs and the private sector at all levels and in all efforts should be promoted. NGOs and the private sector should be brought under the umbrella of the new MIS.
- Analyses should use simple techniques and the results presented in non-technical language.
- Feedback should be an integral part of MIS, including the dissemination of findings and regular feedback at all levels. Maximum and timely dissemination of information should be made to all levels, both vertically and horizontally, and should be carried out according to the requirements and capacity to understand at each level.
- A sense of ownership should be created among those who generate data at the grass-roots level by involving them in data processing, interpretation and analysis.
- Efforts should be made to develop and strengthen cooperation and collaboration in the implementation of MIS at the intraministerial and interministerial, departmental and organization levels. Coordination and collaboration are crucial and need to be institutionalized where vertical health and family planning programmes are operating concurrently.
- MIS should be cost-effective and sustainable. In that regard, the experiences in data collection should be replicated. If that cannot be done in one step, it should be undertaken in phases with necessary changes and modifications being made to suit the needs and capabilities of individual countries.

PART ONE

I. BACKGROUND

Over the past 20 years, a number of countries in the Asian and Pacific region have expanded the availability and accessibility of family planning services. Such efforts have made a significant contribution to increased contraceptive prevalence rates and a decline in fertility levels in several countries and areas in the region. However, in many countries and areas in the region, demographic goals have yet to be met. In the light of the recommendations of the Bali Declaration on Population and Sustainable Development in 1992[1] and the Programme of Action (POA) of the International Conference on Population and Development (ICPD) in 1994,[2] greater emphasis needs to be placed not only on maintaining the momentum of achievements in successful countries but also on helping other countries to achieve their national population and development objectives through new concepts and shifts in reproductive health and family planning (RH/FP) programme interventions. The aim of such interventions, *inter alia*, would be to improve the health of the people and to stabilize population growth rates. This could be achieved through eradicating diseases and malnutrition, increased quality of care services, family planning, child survival and safe motherhood.

In the 1960s and 1970s, routine service statistics were the major source of data for programme monitoring and evaluation. Their prime purpose was to monitor the performance of workers, and progress was assessed largely by the number of new family planning acceptors. However, the elaborate, overloaded systems that developed were seldom used for programme management purposes. Further, the quality of data was often questionable and those employed to keep the records spent considerable time in maintaining them. In addition, most of the workers responsible for maintaining the records had not been trained for that purpose, nor did they know why they were collecting so much information. Efficient methods were devised to collect and process the information related to the number of acceptors and their characteristics.

As programmes matured, the adequacy and relevance of data traditionally recorded and reported as part of the normal service statistics were brought into question. Planners and programme managers required more information for their decision-making and planning than just the number of new acceptors. It made little sense to measure programme performance and effectiveness entirely in terms of the number of acceptors of contraceptive methods. Service statistics and management information systems (MIS) were seen as important decision-making tools, and it became more and more obvious that policy makers would increasingly depend on them to monitor programme performance and develop intervention strategies.

By the early 1990s, a large majority of married couples in many Asian countries had used at least one modern method of contraception and substantial numbers were current users. In these circumstances, acceptor statistics were still useful for monitoring the relative acceptance of specific methods; however, they provided a totally inadequate basis for estimating overall programme performance and effectiveness, including areal performance or differences in contraceptive behaviour between population subgroups.

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[1] United Nations Economic and Social Commission for Asia and the Pacific, *Bali Declaration on Population and Sustainable Development, Fourth Asian and Pacific Population Conference, Bali, 19-27 August 1992* (Bangkok, 1993).

[2] United Nations Department for Economic and Social Information and Policy Analysis, *Population and Development Programme of Action adopted at the International Conference on Population and Development, Cairo, 5-13 September 1994, vol. 1* (New York, 1995).

With large numbers of the young population soon to enter the reproductive age group, demand for RH/FP services will increase further in many countries of the region. Because the Bali Declaration and ICPD-POA place renewed emphasis on family planning issues, the developing countries concerned need assistance in evolving strategies and identifying key indicators needed to ensure effective monitoring and evaluation of expanded family planning programmes in the region. To satisfy the varied and expanded needs of such countries in their efforts to become more efficient, it is clear that increased attention needs to be given to the quality and acceptability of RH/FP programme. Thus, there is a need to identify and adopt new performance indicators for monitoring and evaluating such services. In short, the challenge is to identify and adopt strong monitoring and evaluation mechanisms for cost-effective programme interventions, as was called for at the above-mentioned conferences and other meetings organized by ESCAP during the past decade.

A. National database for expanded RH/FP programmes

The ICPD-POA reflects the evolution in the perception of population issues over the past two decades. It provides the basis on which discussion can be pursued on a number of key issues related to population and development. RH/FP issues, *inter alia*, were the centre of discussion at ICPD. As a result, the programme of action that emerged from ICPD looked beyond family planning and fertility. It took a comprehensive view in which family planning was part of a wider context of reproductive health and reproductive health was seen as an essential part of primary health care. The ICPD-POA[3] on reproductive health care within the context of primary health care stated that:

> "All countries should strive to make accessible through the primary health care system, reproductive health to all individuals of appropriate ages as soon as possible and no later than the year 2015. Reproductive health care in the context of primary health care should, *inter alia*, include: family-planning counselling, information, education, communication and services; education and services for prenatal care, safe delivery and post-natal care, especially breast-feeding, infant and women's health care; prevention and appropriate treatment of infertility; prevention of abortion and the management of the consequences of abortion; treatment of reproductive tract infections; sexually transmitted diseases and other reproductive health conditions; and information, education and counselling, as appropriate, on human sexuality, reproductive health and responsible parenthood. Referral for family planning services.....should also be an integral component of primary health care, including reproductive health-care programmes" (paragraph 7.6).

The ICPD-POA calls attention to the need to address the health concerns of women at different stages of their lifecycle, rather than limit women's health issues to pregnancy, prenatal and post-partum care, to ensure continuity of care from birth through childhood, adolescence, and reproductive and post-reproductive ages. Thus, there is a need to consider programme performance within the broader framework of reproductive health rather than limit it to family planning only. Strengthening performance indicators for their utilization in an effective monitoring and evaluation system will therefore require a careful overhaul of the current system, ensuring the effective use of very scarce human and financial resources, and consideration of the implications for making necessary changes in programme strategy. The ICPD-POA proposes the instituting of monitoring and evaluation

[3] All references to ICPD-POA in this paper are taken from the document referred to in footnote 2.

systems for the purposes of detecting, preventing and controlling abuses by family planning programme managers and providers as well as ensuring continuing improvement of the quality of services (paragraph 7.17). It further emphasizes that valid, reliable, timely, culturally relevant and internationally comparable data form the basis for policy and programme development, implementation, monitoring and evaluation (paragraph 12.1). Therefore, the objective is "to establish a factual basis for understanding and anticipating the interrelationships of population and socio-economic (including environmental) variables and for improving programme development, implementation, monitoring and evaluation" (paragraph 12.2a).

It further emphasizes that for optimum results, such data should be disaggregated by age, sex, geographical location and ethnicity according to intended use. The ICPD-POA also urges that data collection be undertaken in partnership with the communities to be studied, and in accordance with international ethical standards. Special emphasis is placed on optimum utilization of such data, particularly by policy makers and programme managers.

The ICPD-POA recommends that governments set up national databases to provide necessary baseline data and information that may be used to measure the progress of ICPD goals that, *inter alia*, include RH/FP. Therefore, a sound information base for RH/FP should be given priority for monitoring and evaluating the programme on a permanent basis. In order to introduce a sound monitoring and evaluation system, it is essential that all the countries in the region that have not done so establish baseline indicators for monitoring and evaluating RH/FP programmes at the national and subnational levels. Monitoring and assessing programme activities through qualitative analysis should form a regular activity, as that would keep programme managers informed of the progress in achieving ICPD-POA goals and objectives.

B. Emphasis on quality of care services

The Bali and Cairo conferences also emphasized the quality of care services. They indicated that couples should be able to choose the methods of contraception that best suited them. The desired methods should be made available and accessible and should be safe, healthwise, for the users. While the demographic impact of the prevalent method mix is still of concern to programme planners, the recommendations strongly stressed that programmes should provide a wide range of methods and not just promote those methods that might have the greatest demographic impact. Instead, government goals should be defined in terms of unmet needs for information and services to enable couples to achieve their reproductive goals. With that shift in emphasis, the quality of services has emerged as one of the central concerns of RH/FP programmes. Thus, because an assessment of unmet needs rather than the establishment of demographic targets is called for under this new paradigm, governments need to be able to provide such assessments and user preferences as the basis for programme development and performance, a requirement that is clearly mandated in the ICPD-POA recommendation:

> "...In addition to quantitative measures of performance, give more emphasis to qualitative ones that take into account the perspectives of current and potential users of services through such means as effective management information systems and survey techniques for the timely evaluation of services" (paragraph 7.23g).

In an effort to expand RH/FP services in poor as well as remote areas, the greatest attention has generally been focused on issues of quantity, accessibility, availability and distribution of services. To satisfy the varied needs of the recipients, it has become apparent in recent years that the quality and acceptability

of care are also of crucial importance and deserve increased attention. This recognition and the focus of ICPD-POA has given rise to new indicators of the quality of care services. In that regard, the following four factors are considered critical in the establishment of new indicators of quality of care services: (a) provider-client exchanges of information; (b) provider competence; (c) interpersonal relations; and (d) mechanisms to encourage continuity in medical care.

Hence, the aim of every RH/FP programme, even those with limited resources and staff, should be to provide high-quality services as well as kind and respectful treatment of clients, as this is what matters most. It has been noted that training family planning workers in interpersonal relations and counselling leads to increased client satisfaction and a higher opinion of the quality of care provided. Recent research has shown that the long-term demographic benefits of recruiting and servicing a smaller pool of well-satisfied regular users are greater than those gained by recruiting a large number of one-time users. International literature strongly suggests that improvements in the quality of care lead to an increase in contraceptive use and a decrease in fertility. In order to raise the levels of contraceptive use over time, it will be necessary to improve the quality of services so that the programmes are made sustainable, with current users being retained and new users attracted and enrolled.

Various efforts have been made by some countries in the region to assess selected aspects of the quality of RH/FP programmes. A few examples of such efforts may be found in the series of surveys on accessibility, surveys of the knowledge and attitudes among grass-roots family planning workers regarding contraceptive methods, and studies on the impact and efficiency of family planning programmes and improvement of family planning MIS, which were conducted by the ESCAP secretariat between the mid-1980s and the early 1990s. In addition, national-level surveys such as contraceptive prevalence surveys and demographic and health surveys provide some indication of programme accessibility. However, it should be noted that the above-mentioned efforts provide useful but limited information on several elements that are now considered central to programme quality. Such surveys also have several other limitations, in terms of cost and timely availability of results for programme monitoring, evaluation and improvement. Furthermore, they cannot provide data and estimates for small geographical areas such as districts/counties. Thus, they can never become a satisfactory replacement for programme information systems that provide timely reports on a regular basis to programme managers/administrators, especially in the case of small geographical areas.

C. Challenges to establishing a sound database for monitoring and evaluating RH/FP programmes

In order to meet the diverse local needs of the various countries and areas of the region, a sound and effective RH/FP monitoring and evaluation system needs to be established or strengthened where such a system does not exist. A strong database is one of the prerequisites for such a system. A good database and monitoring and evaluation system should be based on the following essential requirements and principles:

(a) The system should be simple to understand, easy to implement and functional;

(b) The system should be designed to serve programme needs, and emphasis should be on grass-roots performance evaluation and accountability;

(c) The system should be relevant to RH/FP policies, providing basic information to policy makers and programme managers;

(d) Although the system should be flexible enough to adjust to programme changes, it should also be robust enough to generate quality statistics;

(e) In addition to serving as a viable check-and-balance system, it should help to develop an environment that is conducive to programme personnel commitment and motivation; and

(f) The system should produce timely outputs on a regular basis.

The organization of programmes for maternal and child health (MCH) care and family planning services has been an accepted policy in the region for some time. Initially, such programmes were confined to preventive and curative health care in relation to pregnancy, childbirth, and the health of infants and mothers, with limited accessibility and availability. However, recent years have seen the growth of a better understanding and appreciation of the magnitude of what is encompassed by reproductive health and family planning, which focuses, among other aspects, on women's health.

Unlike MIS established for FP/MCH in a few selected countries to enable them to formulate policies, develop plans and programmes, and implement, monitor and evaluate RH/FP efforts, many other countries have only partial health information systems in which data are seldom systematically processed and used either for programme monitoring and evaluation or programme impact assessment. Existing national health-related data collection systems, as well as the processing and analysis of such data, suffer in quality and coverage in many of the developing countries. Therefore, efforts should be devoted to assisting those countries to improve and strengthen their capacity to process data so that monitoring and evaluation of reproductive health programme performance can be achieved as set out in the ICPD-POA.

Moreover, in the light of ICPD-POA, the expanded role of family planning covers a more complex and broader area than was previously the case where existing data systems had provided inadequate information for RH/FP monitoring and evaluation of programme performance and the quality of care services. Thus, there is a clear need to establish an RH/FP information base and collect a minimum set of RH/FP status and programme indicators in a timely and cost-effective way, so that programme performance may be monitored and evaluated properly and quickly. The RH/FP information base should cover:

(a) Basic indicators of family planning (counselling; information, education and communication; and services);

(b) Maternal health and child health;

(c) Accessibility and acceptability of RH/FP services;

(d) Quality of care;

(e) Reproductive tract infections and sexually transmitted diseases; and

(f) Infertility and selected demographic and socio-economic variables that depict the household status and well-being of the population at large.

The regional project being implemented by ESCAP aims to assist selected countries in the region to develop and strengthen performance monitoring and evaluation system. Well-designed systems will improve the capabilities and capacity of workers and supervisors to plan, organize and monitor their work performance. Such systems will also provide rapid feedback to management for use in regular monitoring as well as effective and timely interventions. A strong information base is therefore essential to the establishment of an

effective monitoring and evaluation system for RH/FP and it needs to incorporate the following components:

(a) Clearly defined goals and objectives of the indicators to be used in monitoring and evaluating the programme;

(b) A well-designed strategy and plan that can aid monitoring and impact assessment;

(c) Improved timeliness, availability and quality of statistics that are relevant to monitoring and evaluation systems;

(d) The identification, refinement and adoption of existing methodologies for improving the quality of statistics;

(e) Training of workers and supervisors in data collection, processing and analysis;

(f) The integration of operations research into programme performance;

(g) Simple cost-effective approaches to conduct less time-consuming or mini-surveys;

(h) A well-developed and functional reporting/feedback system at all levels; and

(i) Improved understanding among programme managers/administrators and policy makers of the use of statistics and indicators for programme performance and continuous programme monitoring and evaluation.

Keeping in view the socio-cultural milieu and administrative manpower and financial constraints, developing countries are unlikely to be able to collect all the data and information necessary for the complete monitoring and evaluation of an RH/FP programme. In the light of individual programme priorities, each country will need to define its data needs. Data availability should be considered in terms of quality, coverage and utilization in monitoring and evaluating the various programme components, feedback, the impact on programme management etc. In considering the methodology and approach to be followed, a conceptual framework should be identified that would clearly indicate the desired objectives, interventions and results. To that end, developing countries should seek assistance from ESCAP as well as the United Nations Population Fund (UNFPA) Country Support Team in their region in prioritizing their data needs, bearing in mind the necessity for ensuring regional and global comparability.

Given the broad scope of RH/FP services proposed by ICPD-POA and the need for improving the quality of care and services, there is an urgent need to broaden the base of training to include all emerging issues and concepts. In addition, it is essential to provide adequate training before implementing a new system and, if possible, to involve the managers and field workers in designing such a system as that will help to ensure effective local-level implementation.

Moreover, in order to improve service statistics and MIS for programme planning and monitoring at the local level, the developing countries concerned will need technical inputs. Such inputs will require the development of manuals and data-processing systems, the standardization of concepts and definitions, the improvement of local survey capabilities, and the training of local staff in data analysis skills as well as the use of data in programme management and policy formulation. At the same time, input and process indicators and measures, particularly those related to the quality of care services, will need to be developed.

II. PURPOSE, OBJECTIVES AND STRUCTURE OF THE STUDY

A. Purpose

In accordance with the recommendations of the Bali Declaration on Population and Sustainable Development and ICPD-POA, there is a need to refine, improve, identify and adopt clear-cut and well-defined procedures and methodologies for monitoring and evaluating RH/FP programmes. Therefore, the establishment of an RH/FP information base and the collection of a minimum set of RH/FP programme indicators in a timely and cost-effective way is critical to carrying out prompt and accurate planning, implementation, monitoring and evaluation of the programmes. In doing so, it will be necessary to design simple, efficient and user-friendly monitoring and evaluation systems that can be undertaken by field workers who may have a low level of education. This strategy must include the creation of much greater awareness among senior decision-makers of the usefulness of key indicators for monitoring and evaluating programme performance.

In many countries, a wide range of data are collected from different sources including programme operations. However, because of non-systematic analysis and inadequately defined variables, the data and the statistics computed from them are not particularly useful in monitoring and evaluating programme performance. In addition, a lack of proper planning, clearly defined objectives and goals further limits the usefulness of such data for programme monitoring and evaluation purposes. Therefore, a project entitled "Strengthening performance monitoring and evaluation systems for measuring the progress of reproductive health and family planning programmes (RAS/96/P08)" was formulated to enable developing countries to make improvements to their monitoring and evaluation systems and the quality of care services offered by family planning programmes. The objectives of the project are detailed below.

B. Objectives

1. Main objectives

The main objectives of the project are to improve existing efforts in a more systematic way through:

(a) The standardization of concepts and definitions;

(b) The simplification and rationalization of data collection and reporting procedures;

(c) The improvement of RH/FP data utilization;

(d) The integration of the results of action-oriented and operations research findings for use in programme interventions; and

(e) The improvement of existing methodologies for measuring programme performance and improving the efficiency and effectiveness of the overall family planning services delivery system.

2. Long-term objectives

The long-term objectives of the project are to help countries of the region:

(a) Improve and strengthen their national capacities to plan, formulate, monitor and evaluate the progress of national RH/FP programme, including the quality of care services, in accordance with ICPD-POA; and

(b) Improve and institutionalize the monitoring and evaluation system necessary for effective and better programme performance and management.

3. Immediate objectives

The immediate objectives are to assist selected developing countries to:

(a) Identify and use appropriate, standardized indicators for programme performance and monitoring and evaluation systems at the national, subnational and local levels;

(b) Strengthen and improve data availability and their timely utilization for programme monitoring and evaluation at the national, subnational and local levels;

(c) Develop appropriate feedback mechanisms for effective programme monitoring and evaluation; and

(d) Develop national capacity for the proper management, utilization and dissemination of RH/FP performance indicators and other related data to ensure better monitoring and evaluation.

C. Structure of the study

The ICPD-POA entails meeting new information needs that require valid, reliable and timely data in terms of quantity, quality and coverage. This information will constitute critical inputs for the planning, implementation, monitoring and evaluation of RH/FP programmes in each country.

The existing information systems in many developing countries of the region usually comprise service statistics and other reporting methods as well as sample surveys. However, such systems may not be fully equipped or effective enough to cope with the new levels of information required for RH/FP. In addition to the usual problems of coverage, frequency, timeliness, disaggregation and consistency of available data, a major deficiency lies in system design. The current MIS is mainly designed to collect, collate and report service statistics such as the number of clients served and their selected characteristics, types of services provided etc. However, it is not designed to monitor the health of the target population. That would require the systematic rethinking about the capability of a future MIS to meet the changing nature of demand for data as well as the increasing cost of data collection, analyses and dissemination.

Before taking into consideration the expanded contents of RH/FP components and the identification of various indicators, it is essential to learn to what extent:

(a) The existing information system is capable of assisting in planning, monitoring and evaluation of RH/FP programmes;

(b) The system provides the necessary indicators for measuring RH/FP performance and monitoring the country's progress towards achieving ICPD-POA goals; and

(c) The system is able to operate efficiently and effectively.

Therefore, the assessment of an existing information system needs to include an inventory of available information and data on reproductive health, an appraisal of their quality and the possibility of linkage for utilization in the timely and effective introduction of the required performance indicators. The purpose is to identify the major deficiencies and gaps that need bridging in the short and long term in order to establish a reliable RH/FP information base that can enable the necessary core indicator

system to be created in the shortest possible time.

It should be stressed that in most developing countries in the region only partial and fragmented information on reproductive health is collected by line ministries (such as health), population and family planning agencies, and maternal and child health centres/institutes. Careful assessment of various data sources, their coverage, consistency of definition, periodicity, completeness and quality will indicate to what extent those sources can be integrated into an effective and efficient national information system that facilitates the output of time-series data for monitoring and evaluating RH/FP programmes.

The project was designed with the following objectives:

(a) To examine the pre-project situation regarding the RH/FP information base, various data sources, issues and constraints;

(b) To review and/or to develop concepts, definitions and measurement used in the collection of data on various RH/FP indicators, including programme inputs, costs, demand, quality and output for effective and better programme performance and management;

(c) To develop and/or to modify reporting and recording formats and manuals for data collection; and

(d) To give particular attention on: training imparted for data collection; mechanisms for monitoring and supervision; feedback in data collection process; workload and capacity of the staff for data gathering; and assessment of reliability, validity and completeness of data.

For the purpose of the project, a study area (one urban and one rural) was selected in each of the participating countries and the project implemented for about 18 months to collect data on RH/FP indicators. The data obtained from the field were analysed and their interpretation and the findings were presented. The lessons learned, the utilization of data in monitoring and evaluation of the RH/FP programme at different levels, the feedback mechanism and the dissemination of the findings were clearly spelled out, with a view to raising awareness among policy makers and programme managers concerning the need of such indicators for programme performance and management purposes. Finally, the project was expected to highlight the scope of expansion, replicability, sustainability and cost-effectiveness at the national and subnational levels.

D. Major activities of the project

The project under which this publication has been issued was implemented with the financial support from UNFPA. Various activities were carried out under a collaborative effort of the Population and Rural and Urban Development Division of the ESCAP secretariat and the six participating countries (Bangladesh, the Islamic Republic of Iran, Myanmar, Nepal, Pakistan, and Viet Nam) in which the project was implemented from 1997 to 1999. The studies in four countries (Bangladesh, Nepal, Pakistan, and Viet Nam) were financed by UNFPA through the Asia-Pacific Regional Population Programme, while in two countries (the Islamic Republic of Iran and Myanmar), they were financed from UNFPA country funds.

The project activities commenced in late 1996 and several major activities were accomplished during the project duration. An expert group meeting, entitled "Strengthening performance monitoring and evaluation systems for measuring the progress of reproductive health and family planning programmes", was

organized in Bangkok from 10 to 13 March 1997. The expert group meeting discussed the existing issues concerning the information base related to the monitoring and evaluation of RH/FP programmes, and it provided guidelines on modalities and methodologies for the implementation of country studies. The expert group meeting also discussed various topics, such as the existing MIS situation, RH/FP indicators, concepts, measurement and methodological tools, training needs, changes and/or development of operational manuals, recording and reporting formats etc. The detailed discussions and recommendations of the expert group meeting are given in chapter X.

Immediately after the expert group meeting, a Study Directors Meeting of the six participating countries was held in Bangkok on 14 and 15 March 1997 to further discuss the modalities and resolve various issues related to project implementation. The meeting agreed to the work plan and related activities for implementation during the project period.

The project activities also included human capacity-building in data collection, processing and analysis. Two regional training workshops were organized on human resources development in the participating countries. The main objective of the first two-day workshop, which was held in Bangkok immediately after the Study Directors Meeting, was to train master trainers in data collection, processing and analysis to enable them to conduct similar workshops in their respective countries. Master trainers from the six participating countries received training. The six countries then organized in-country training workshops, during which training was provided for 25-30 participants from the national and subnational levels in each country. The second workshop, on "Improving national capacity in the interpretation and analysis of data for the key indicators for monitoring and evaluation of reproductive health and family planning", was held at Chiang Mai, Thailand, from 3 to 8 May 1999. The purpose of the second workshop was to provide participants with an understanding of the objectives, purpose and importance of the data they collected, the emerging issues and concepts in data collection, the basic methods of analysis and the interpretation of various key indicators. Participants from the six countries attended the workshop.

The final major activity under the project was a regional seminar on "Strengthening monitoring and evaluation for the progress of reproductive health and family planning programmes". The main purpose of the seminar, which was organized in Bangkok from 28 September to 1 October 1999, was to discuss the major findings of the six countries that had participated in the project. The objective was to highlight priority issues, constraints, policy recommendations and future directions that would help to devise a sustainable and cost-effective information base for strengthening monitoring and evaluation systems to enable better management of RH/FP programmes. Seventeen countries participated in the seminar, the proceedings and recommendations of which are given in chapter XI.

PART TWO

III. OVERVIEW AND REGIONAL SYNTHESIS

A. Background

Family planning programmes in most developing countries of the Asian and Pacific region have achieved considerable success in increasing contraceptive prevalence rates and reducing fertility over the past two decades. However, in many countries and areas of the region such demographic goals have yet to be met. For example, the family planning programme in Pakistan has not been able to achieve the desired level of success, while in Nepal fertility has shown some decline and Bangladesh has attained remarkable success in reducing fertility. However, in those countries, the infant, child and maternal mortality levels are still very high and much remains to be achieved in reproductive health and family planning.

The Bali Declaration on Population and Sustainable Development and ICPD-POA addressed the issue of reproductive health, including family planning. They called for the strengthening of programmes in order to maintain existing momentum in the successful countries as well as enable those countries that have not yet done so to achieve their national population objectives. In the Islamic Republic of Iran and Viet Nam, a reduction in the growth rate has been brought about by a fall in fertility; however, because of declining mortality the rate of growth is still considered to be high. The Islamic Republic of Iran also considers that there are areas in the health sector that need attention in order to improve overall health conditions. In Viet Nam, there is a strong commitment at all levels of government to reducing population growth and achieving small family size. Myanmar has addressed the issue of the health status of mothers and children by encouraging spacing between births.

In the light of the new paradigm shift of ICPD-POA, it was proposed that a health management information systems be established in order to provide a minimum set of indicators on reproductive health and family planning, covering such areas as quality of care, unmet need, information, education and communication, counselling services, and coverage and access to RH/FP services. Such data need to be provided in a timely and cost-effective way so that programmes can be planned, implemented, monitored and evaluated promptly and accurately. Considerable emphasis was placed on strengthening programme effectiveness and efficiency through improved training of mid-level staff in programme planning, monitoring and evaluation in order to produce good quality data and ensure self-reliance and sustainability.

Thus, there is a need to identify and adopt key performance indicators for strengthening the monitoring and evaluation of such services. In the past, efforts were made to collect basic work performance indicators. However, as programmes matured, more detailed and extensive statistics became necessary, involving consideration of cost as well as the time and efficiency of service providers. It was also necessary to identify indicators and adopt standardized forms and concepts, including training manuals, for defining simple monitoring and evaluation tools. Hence, this project was implemented to identify and adopt simple and viable methodologies for programme monitoring and evaluation.

B. Objectives of the project

The project comprised both long-term and immediate objectives. These objectives are detailed below.

1. Long-term objectives

There were two long-term objectives:

(a) To improve and strengthen national capacity to plan, formulate, monitor

and evaluate the progress of RH/FP programme capabilities, including the quality of care services;

(b) To improve and institutionalize the monitoring and evaluation systems necessary for effective and better programme performance and management.

2. Immediate objectives

The immediate objectives of the project were to assist selected countries in:

(a) Identifying and using appropriate standardized indicators for programme performance and monitoring and evaluation systems at the national, subnational and local levels;

(b) Strengthening and improving data availability and their timely utilization for programme management and evaluation at the national, subnational and local levels;

(c) Developing appropriate feedback mechanisms for effective programme monitoring and evaluation; and

(d) Developing national capacity for the proper management, utilization and dissemination of RH/FP performance indicators and other related data in order to ensure better monitoring and evaluation.

The project was implemented in six countries, namely Bangladesh, the Islamic Republic of Iran, Myanmar, Nepal, Pakistan and Viet Nam for a period of 30 months. The specific objectives of the project were to: (a) review the existing information base, and identify issues, problems, gaps and weaknesses; (b) select appropriate indicators; (c) standardize concepts and definitions; (d) simplify and rationalize data collection tools; (e) carry out a pilot study to assess the current situation with regard to the RH/FP management information systems (MIS) as well as improve service statistics utilization; (f) use the findings to measure programme performance; and (g) improve and strengthen the efficiency and effectiveness of overall RH/FP service delivery systems. The project was then extended by a further year to address the need for human resource development in the participating countries.

Although the long-term and immediate objectives were more or less the same in all the participating countries, there were some variations that reflected the specific needs and situations in each of those countries. For example, in the long-term objectives, Myanmar emphasized morbidity and mortality of mothers and children, and quality of care services, while Nepal and Pakistan stressed quality of care in RH/FP services.

Similarly, in the immediate objectives some countries focused on specific areas of great concern. For example, the Islamic Republic of Iran considered the project as an opportunity to develop generic guidelines for strengthening the monitoring and evaluation mechanism of maternal care and family planning programmes, to be implemented through a chain model consisting of three stages: understanding, assessment and strengthening. Myanmar felt that such experience could be utilized in expanding birth spacing townships in a phased manner as well as in conducting workshops and operational research on reproductive health. Nepal took the opportunity to test the existing recording and reporting systems in RH/FP services by selecting one area of the *Terai*, where a safe motherhood programme was being implemented by the Department of Health Services. Most of the countries, however, were of the opinion that the project would enable them to review existing RH/FP management information systems, identify gaps and weaknesses, and test

additional recording and reporting forms for collecting RH/FP indicators that had not been included in the existing data collection systems.

C. Implementation and major activities of the project

The project was implemented in order to assist the participating countries to identify and integrate better quality and more relevant indicators of programme monitoring and evaluation. The aim was to improve programme management and make it more effective, specifically at the subnational and community levels, with the involvement of local expertise. Particular emphasis was placed on the establishment of a feedback mechanism for information flow and proper utilization of data.

As a result of the diverse national experiences, it was felt that an integrated list of key indicators supported by a conceptual framework would serve as a reference for planning country-specific studies. Therefore, an expert group meeting was organized to discuss the existing monitoring and evaluation mechanisms, and to produce a set of valid, reliable, timely, culturally relevant, flexible and internationally comparable indicators for use in policy and programme development, implementation, monitoring and evaluation. The meeting provided guidelines for appraising data gathering systems, identifying their strengths and weaknesses, and determining how they could best meet the changing needs of the participating countries. The meeting also focused on the importance of identifying relevant quantitative and qualitative indicators for the development of a sound information base for RH/FP programmes.

It was recognized that a minimum set of key indicators with programme relevance needed to be developed for better programme performance and monitoring. In view of the country needs, some additional indicators were identified and included in the list (table 1). There are several indicators that all countries agreed to collect; however, some countries expressed reservation with regard to the collection of a specific indicator. From the list of indicators given in table 1, it can be seen that all the six participating countries agreed to collect a total of 16 indicators listed below.

- Indicator 1.1. Percentage of service delivery points (SDPs) at the primary health-care level offering a full range of RH services either directly or through referrals.
- Indicator 1.2. Contraceptive prevalence rate (by method).
- Indicator 1.3. Percentage of births attended by trained health personnel.
- Indicator 1.4. Percentage of population with access to basic health services.
- Indicator 1.5. Infant mortality rate.
- Indicator 1.6. Under-5 mortality rate.
- Indicator 1.7. Maternal mortality ratio.
- Indicator 2.3. National policy for the provision of contraceptives at nominal cost or without charge.
- Indicator 2.5. National strategic plan to control RTIs and STDs, including HIV/AIDS.
- Indicator 3.1. Percentage of sexually active women of reproductive age who want to postpone or stop childbearing and who are not currently using any contraceptive method.
- Indicator 3.2. Adolescent (age <20) fertility rate.
- Indicator 3.6. Number of contraceptive methods available at family health-care centres.
- Indicator 3.10. Percentage of SDPs with a 3-month supply of contraceptives in stock.

- Indicator 4.2. Percentage of pregnant women attended at least once by trained health personnel.
- Indicator 4.4. Number of district hospitals per 500,000 population able to provide C-section and blood transfusions on 24-hour basis.
- Indicator 4.5. Percentage of deliveries that are C-section.

It should also be noted that the selection of indicators reflects the concerns of countries with regard to the provision and quality of basic care services in achieving their development objectives, keeping in view the needs and constraints in terms of available human and material resources. Inclusion or exclusion from the long list of indicators is also governed by the relevance, utility and feasibility/practicality within the existing infrastructure, as well as suitability with regard to social, cultural, legal and other specific situations of countries.

Following the completion of the expert group meeting, a Study Directors Meeting was held in order to discuss the major issues concerning programme monitoring and evaluation methodology, and to review and finalize the methodology. The meeting recommended ways of institutionalizing the indicators agreed upon at the expert group meeting in the routine collection of data from RH/FP programme activities.

A major focus of the project was human resources development and national capacity building for the proper management, utilization and dissemination of RH/FP performance indicators and other related data, in order to ensure better monitoring and evaluation. The project strategy involved assisting the participating countries to build national capacity through regional and in-country training workshops. The aim was to train a pool of technical personnel capable of data collection, processing and analysis. Manuals and other instructional materials were prepared as part of the training programme so that those trained would be self-reliant in formulating, monitoring and evaluating RH/FP programmes.

Keeping in view the broad scope of RH/FP services proposed in the ICPD-POA as well as the necessity for improving the quality of care services, the training needed to be broad-based and to include all emerging issues and concepts in respect of the expanded RH/FP programme activities. Therefore, technical inputs were required for improving the service statistics system for programme planning and monitoring at the local level, which would require the development of manuals, data processing systems, standardization of concepts and definitions, and improved capability for conducting local surveys. In addition, it was necessary to train local staff in data analysis as well as the utilization of data in programme management and policy formulation.

A regional training workshop was held that primarily focused on interpreting and analysing data and discussing the findings and experiences of the field studies in order to finalize the country reports. A final regional seminar was then organized for study directors and policy and programme managers, not only from the project countries but also from other countries in the region, to discuss the findings of the country studies and share experiences with the objective of improving the country findings. The thrust of the regional workshops and seminars was to strengthen national capacity to interpret and analyse data for monitoring and evaluation of RH/FP programmes. They were also aimed at enabling the participants to gain greater understanding of the objective, purpose and importance of the data, as well as the emerging issues and concepts in data collection, the basic methods of analysis and the interpretation of various key indicators.

Table 1. List of indicators for monitoring and evaluation of reproductive health and family planning programmes that the participating countries agreed to collect

Indicator No.	Major programme components/areas and indicators	Bangladesh	Islamic Republic of Iran	Myanmar	Nepal	Pakistan	Viet Nam
	1. Indicators for monitoring ICPD goals						
(a)	*Reproductive health*						
1.1	Percentage of SDPs at primary health care level offering a full range of RH services either directly or through referrals	X	X	X	X	X	X
1.2	Contraceptive prevalence rate (by method)	X	X	X	X	X	X
1.3	Percentage of births attended by trained health personnel	X	X	X	X	X	X
1.4	Percentage of population with access to basic health services	X	X	X	X	X	X
(b)	*Mortality reduction*						
1.5	Infant mortality rate (by sex)	X	X	X	X	X	X
1.6	Under 5 mortality rate (by sex)	X	X	X	X	X	X
1.7	Maternal mortality ratio: Determine causes of maternal death	X	X	X	X	X	X
1.8	Life expectancy at birth (by sex)	X	X		X		X
(c)	*Social*						
1.9	Gross primary school enrolment ratio (by sex)		X	X	X		X
1.10	Adult literacy rate (by sex)		X		X	X	X
	2. Legislative and administrative policies related to reproductive health						
(a)	*Policies and administrative procedures*						
2.1	National policy specifying in writing standards of quality of care for:						
	(i) Family planning information and services	X	X		X	X	X
	(ii) Maternal care	X	X		X	X	X
	(iii) Prevention and management of RTIs and STDs	X	X		X		X
	(iv) Abortion care				X		X
	(v) Treatment of abortion complications		X		X		X
	(vi) Provision of post-abortion family planning counselling and services	X					X
2.2	Legislative policy that prohibits provision of family planning to persons who are:				X		
	(i) Unmarried						
	(ii) Below a given age						
2.3	National policy for the provision of contraceptives at nominal cost or without charge	X	X	X	X	X	X
2.4	Provisions for:						
	(i) Enquiries/audits into maternal deaths	X	X		X		X
	(ii) Special measure(s) to reduce maternal mortality	X	X		X		X
2.5	National strategic plan to control RTIs and STDs, including HIV/AIDS	X	X	X	X	X	X

Table 1. *(continued)*

Indicator No.	Major programme components/areas and indicators	Bangladesh	Islamic Republic of Iran	Myanmar	Nepal	Pakistan	Viet Nam
2.6	Provisions to protect the basic rights of HIV-positive individuals, with reference to:		X		X		X
	(i) Employment		X				X
	(ii) Marriage		X				
	(iii) Travel		X				
	3. Family planning indicators						
(a)	*Unmet need*						
3.1	Percentage of sexually active women of reproductive age who want to postpone or stop childbearing and who are not currently using any contraceptive method	X	X	X	X	X	X
3.2	Adolescent (age < 20) fertility rate	X	X	X	X	X	X
(b)	*Coverage and access*						
3.3	Percentage of population within two hours walk of RH/FP service delivery points		X		X	X	
3.4	Percentage of RH/FP clients who are adolescents (male and female)	X	X				X
3.5	Percentage of FP/SDPs with provision for RTI/STD services	X	X				X
(c)	*Quality of care*						
3.6	Number of contraceptive methods available at family health-care centres	X	X	X	X	X	X
3.7	Percentage of SDPs having available:						
	(i) Equipment for high-level disinfection/sterilization	X	X		X	X	X
	(ii) Piped water	X	X		X	X	X
3.8	Percentage of postpartum women (six weeks after delivery) offered FP services/methods	X	X			X	X
3.9	Percentage of clients asked about their:						
	(i) Reproductive intentions	X	X		X	X	X
	(ii) Concerns about contraceptive methods	X	X		X	X	X
(d)	*Management*						
3.10	Percentage of SDPs with three-month supply of contraceptives in stock	X	X	X	X	X	X
	4. Maternal health indicators						
(a)	*Unmet need*						
4.1	Percentage of delivering women who developed obstetric complications and received emergency obstetric care	X	X		X	X	X
4.2	Percentage of pregnant women attended at least once by trained health personnel	X	X	X	X	X	X
4.3	Number of SDPs per 500,000 population able to provide basic EOC on a 24-hour basis		X	X	X	X	X

Table 1. *(continued)*

Indicator No.	Major programme components/areas and indicators	Bangladesh	Islamic Republic of Iran	Myanmar	Nepal	Pakistan	Viet Nam
4.4	Number of district hospitals per 500,000 population able to provide C-section and blood transfusions on 24-hour basis	X	X	X	X	X	X
(b)	*Quality of care*						
4.5	Percentage of deliveries that are C-section	X	X	X	X	X	X
4.6	Percentage of pregnant women attending antenatal services who received:						
	(i) Iron/foliate	X	X		X	X	X
	(ii) Tetanus immunization	X	X		X	X	X
4.7	Percentage of pregnant women receiving maternal services expressing satisfaction with:						
	(i) Prenatal care	X	X		X	X	X
	(ii) Delivery services	X	X		X	X	X
	(iii) Post-natal care	X	X			X	X
(c)	*Management*						
4.8	Availability of in-service training programmes on life-saving skills for midwives, nurses and paramedics		X	X	X	X	X
	5. Reproductive tract infections (RTIs) and sexually transmitted diseases (STDs)						
(a)	*Unmet need*						
5.1	Estimated prevalence of syphilis and/or gonorrhoea (by sex)	X	X				X
5.2	Estimated prevalence of HIV among adolescents, men and women	X	X				X
5.3	Ectopic pregnancy rate	X	X	X			X
(b)	*Coverage and access*						
5.4	Percentage of SDPs offering condoms for the prevention of STDs				X		X
5.5	Number of SDPs offering diagnosis and treatment of:						
	(i) Syphilis		X		X	X	X
	(ii) Gonorrhoea		X		X	X	X
	(iii) Chlamydia		X		X		X
5.6	Percentage of SDPs:						
	(i) Offering PAP smear testing	X	X		X		X
	(ii) With microscopes						
(c)	*Quality of care*						
5.7	Availability of counselling services for discussing sexual health		X	X			X
5.8	Percentage of SDPs following standard guidelines on sterilizations and high-level disinfection methods to prevent introgenic infections including RTIs	X	X				X
5.9	Percentage of clients expressing satisfaction with RTI services	X					X

Table 1. *(continued)*

Indicator No.	Major programme components/areas and indicators	Bangladesh	Islamic Republic of Iran	Myanmar	Nepal	Pakistan	Viet Nam
	6. Abortion and post-abortion care						
(a)	*Incidence of abortion*						
6.1	Annual number of						
	(i) Legal abortions			X		X	X
	(ii) Estimated illegal abortions	X	X				X
(b)	*Coverage and access*						
6.2	Percentage of obstetric and gynaecological admittances/outpatients due to abortion complications	X	X	X	X		X
(c)	*Quality of care*						
6.3	Percentage of women						
	(i) Having a legal abortion who are referred for post-abortion family planning counselling and services						X
	(ii) Treated for abortion complications referred for post-abortion family planning counselling and services		X				X
(d)	*Management*						
6.4	Availability of in-service training on post-abortion family planning counselling for health providers		X				X
	7. Infertility						
(a)	*Unmet need*						
7.1	Percentage of women aged 20-44 who want to become pregnant, are not using contraception and have not been pregnant during previous two years	X	X		X	X	
	8. Harmful practice						
(a)	*Incidence*						
8.1	Estimated prevalence of women who have been genitally mutilated						X
8.2	Sex ratio of births	X	X		X	X	X
(b)	*Management*						
8.3	Implementation of policy measure to:						
	(i) Eliminate female genital mutilation						
	(ii) Eliminate prenatal sex selection and sex-selective abortion	X					

D. Country case studies

The six participating countries implemented the project by collecting data on identified indicators through existing MIS and also by conducting a small-scale survey in at least one rural and one urban area of each country. The indicators were for monitoring and evaluation purposes, and making recommendations for their adoption.

An important objective of the study was to review the existing MIS in RH/FP, both at the national level and in the project area, and introduce necessary modifications and changes into the system. It involved a review of the existing recording and reporting forms and other data collection instruments. Countries such as Bangladesh, Nepal, Pakistan and Viet Nam carried out surveys to collect additional data on RH indicators from the project areas. Myanmar collected the data from an ongoing project. The Islamic Republic of Iran, while not specifically collecting new data, made use of the data from the existing system and then suggested improvements. The Islamic Republic of Iran is also planning to conduct a survey and collect additional data after the study of the existing system has been completed.

In the course of the study, special emphasis was placed on training local personnel, covering various aspects of RH/FP MIS, data analysis and interpretation. In addition to the training, continuous monitoring and supervision was carried out, during which guidance for the field-level personnel in collecting and compiling data played a significant role. That activity was especially aimed at not only improving data coverage and quality but also the upgrading of human resources.

E. Findings of the country case studies

1. Review of existing management information systems on reproductive health and family planning

One of the objectives of the study was to provide a comprehensive review of the type of system for data collection. In Bangladesh, for example, RH/FP information was generated by the Health Directorate and Family Planning Directorate under the Ministry of Health and Family Welfare. The two directorates had established a hierarchical reporting system from the field to the district level and up to the national level. The service delivery system comprised two categories of staff belonging, respectively, to the two directorates. There was little coordination, with services and work often being duplicated. However, a recently established unified and integrated health and family planning MIS is expected to avoid unnecessary duplication and improve the RH/FP MIS.

The information system of the health network in the Islamic Republic of Iran is mainly based on data gathered from a defined population covered by the health facilities. The main strength is that the existing system is based on active delivery of services to a defined population, with linkages to routine activities. The system is user-friendly and follows clear standards. However, a few weaknesses exist such that the information is not stratified and is of poor analytical value. Hence, it cannot be used in decision-making, thus adversely affecting the validity, reliability and representativeness of the indicators.

Prior to 1995, the health information system in Myanmar was constructed vertically

from several sources, with the data collection system extending incrementally following the emergence of newly prioritized health programmes in the national health plans. The system evolved from a structure characterized by a series of vertical programmes to an integrated system with user-based information for management, monitoring and evaluation in support of policy analysis and planning. Hence, the national HMIS was developed with the use of minimum essential data sets and has been implemented throughout the country since 1995.

In Nepal, with the integration of the public health and family planning programme, an integrated MIS was implemented in 1994 with the objectives of avoiding duplication of effort and making recording and reporting less cumbersome by only retaining information that would be used for planning, monitoring and evaluation purposes.

In Pakistan, the current MIS is operated under the vertical programmes of the Ministry of Population Welfare and the Ministry of Health, and is designed mainly to collect and report fragmented service statistics. The system is not designed to provide comprehensive and integrated RH/FP services to the target population. Consequently, a shift from merely monitoring the service to meeting clients' needs would require a systematic redesigning of the information base.

In Viet Nam, while the General Statistical Office is responsible for the measurement of the overall progress in RH/FP programmes, other organizations such as the Ministry of Health, National Committee for Population and Family Planning, and the Committee for Child Protection and Care have their own reporting systems that rely on grass-roots data collection. That approach places an unnecessary burden on health workers at the commune level. The different systems sometimes yield data with huge discrepancies, mostly due to definitional and conceptual differences. However, obtaining comprehensive data on RH/FP services requires the integration of data from a variety of sources. Hence, the need for an integrated system for evaluating and monitoring RH/FP programmes is highlighted.

2. Review of data collection mechanisms

Another major activity of the study was a comprehensive review of the existing RH/FP data collection mechanism. Several interesting and important findings were reported. A common observation was that too many forms, registers and reports needed to be prepared, imposing a heavy burden on the health staff and adversely affecting the quality and quantity of service provided. Despite the plethora of forms and registers used for recording information, it was observed that the existing instruments were inadequate for collecting some vital data. In Bangladesh, for example, an assessment of the types of services provided under RH/FP as well as the existing recording and reporting tools showed that there were 145 types of services covering such areas as MCH/FP and reproductive health for which data were being collected. The information was being collected through 45 registers, 17 cards and 26 reporting forms used by various offices and SDPs operated by the public and private sectors and NGOs.

In Nepal, the current HMIS incorporated most of the RH/FP information. However, additional forms and registers were needed to collect information on indicators for measuring the incidence of reproductive tract infections (RTIs), sexually transmitted diseases (STDs) and the human immunodeficiency virus/ acquired immunodeficiency syndrome (HIV/ AIDS), and the perception of clients regarding the quality of care in RH/FP service delivery.

Pakistan designed a new reproductive health client card and a quick count survey for obtaining information on RH/FP indicators, including:

(a) The number of living children;

(b) Infant and child mortality;

(c) Family planning use after delivery;

(d) Infertility;

(e) Reproductive intentions;

(f) Pregnancy history;

(g) Knowledge and use of family planning;

(h) Side-effects of contraceptive methods and reasons for non-use;

(i) Prevalence of breast cancer and related issues;

(j) Knowledge about RTIs, STDs, HIV/AIDS and hepatitis, and places for treatment; and

(k) Access to health and family planning facilities, and client perception about the facility and staff.

The Viet Nam study focused on the priority components of the national reproductive health programme. It developed a new form incorporating information on safe motherhood and women's health, family planning, child health and quality of care services.

3. Results of field data collection

As envisaged, each country conducted a comprehensive review of the existing RH/FP MIS. Bangladesh, Nepal, Pakistan and Viet Nam carried out small-scale surveys to obtain additional information. For the purpose of the study, Myanmar selected some specific areas that were already covered by an ongoing UNFPA project.

In Bangladesh, the multiple round survey was carried out for more than one year. It obtained information based not only on a special questionnaire but also from existing data sources on a set of 45 RH/FP indicators covering demographic/population, reproductive health, maternal and child health, and quality of care services. Myanmar collected data from five townships in addition to presenting some data from the 72 townships where a UNFPA project was underway, and a set of 48 indicators was prepared. Nepal presented a set of 50 indicators based on a survey of the project area as well as from other sources.

Pakistan presented a set of 17 RH/FP indicators obtained through the reproductive health client card, together with another set of 44 indicators based on a quick count survey pertaining to fertility/infertility, mother and child health, abortion, RTIs and STDs; family planning methods, and quality and coverage of services.

Viet Nam presented basic information from the study areas such as: (a) population by age groups; (b) women in the reproductive age group; (c) live births by age of women; (d) maternal and neonatal deaths; (e) contraceptive prevalence rate; (f) family planning methods available at SDPs; (g) the number of abortions, male clients, cancer cases (breast, cervix and uterus), and RTI, STD and HIV cases; (h) obstetrical complications; and (i) malnutrition in children aged under 5 years.

Although the Islamic Republic of Iran did not conduct a survey to collect data, a set of 23 relevant RH/FP indicators was compiled on a national scale, covering demographic and socio-economic data, reproductive health, maternal and child health-care service, and quality of care.

The results of the study carried out under this project are given in the individual country reports (chapters IV to IX). However, in order to provide a comprehensive and comparative picture of the six participating countries, national data on 25 indicators are presented in table 2, covering such areas as population, reproductive health and family planning.

The table reveals that the annual rate of population growth is quite high in Nepal and Pakistan, reflecting high fertility regimes, while the growth rate has been declining in

Table 2. Selected indicators and their values by country in recent period

No.	Indicator	Bangladesh	Islamic Republic of Iran	Myanmar	Nepal	Pakistan	Viet Nam
1	Median age	20.9	20.7	25.5	19.1	19.0	23.1
2	Annual population growth rate (%)	1.7	1.5	1.8	2.4	2.6	1.4
3	Rural population (%)	75	38	72	88	63	76
4	Crude birth rate (per 1,000)	27.0	21.6	22.4	33.3	34.5	20.9
5	Crude death rate (per 1,000)	9.1	5.3	5.8	9.8	7.3	6.5
6	Infant mortality rate (per 1,000)	73	32	71	77	70	35
7	Under five mortality rate (per 1,000)	102	47	101	108	99	50
8	Life expectancy at birth: Male	59	69	60	58	64	66
	Female	60	71	63	58	66	71
9	Total fertility rate	3.0	2.6	2.8	4.2	4.8	2.4
10	Adolescent (15-19 years) fertility rate (per 1,000)	104	26	30	113	87	24
11	Contraceptive prevalence rate (%)	50.9	72.9	32.7	31.3	23.9	57.9
12	Unmet need for FP (%)	16.0	7.7	..	72.0	37.5	18.4
13	Maternal mortality ratio (per 100,000 live births)	300	36	150	539	450	110
14	Sex ratio at birth	106	103	102	104	108	107
15	Mean age at marriage: Male	27.8	25.0	27.6 [a]	21.0	26.5	24.5
	Female	20.2	22.0	..	18.1	23.0	23.2
16	% Immunization: Child	68.7	89.7	80.8	88.5	54.0	95.5
	Pregnant women (TT)	67.0	76.2	90.5	37.3	24.0	82.8
17	% of population within two-hour walk of RH/FP service delivery points	..	95.3	71.0	32.6	56.0	..
18	% of women receiving antenatal care	23.2	64.0	73.7	47.4	34.0	..
19	% of births attended by trained health personnel	8	86	56	9	18	77
20	% of population with access to basic health services	40.0	94.0	78.9	33.4	45.0	..
21	% of SDPs with three-month supply of contraceptives in stock	100.0	..	92.3	48.0	90.0	..
22	% of population with access to safe drinking water	97	90	67	47	71	..
23	% of SDPs at PHC level offering a full range of RH services either directly or through referrals	..	94.0	100.0	33.3	..	..
24	National policy for the provision of contraceptives at nominal cost or without charge	Yes	Yes	Yes	Yes	Yes	Yes
25	National strategic plan to control RTIs and STDs, including HIV/AIDs	Yes	Yes	Yes	Yes	Yes	Yes

Sources: Indicators 1-10 refer to the year 2000 and are derived from the database maintained at the Population and Rural and Urban Development Division, ESCAP, Bangkok.

Indicators 11-25 are based on individual country reports presented in chapters IV to IX.

Notes: [a] refers to both sexes combined; (..) indicates data not available.

Bangladesh, the Islamic Republic of Iran, Myanmar and Viet Nam. With the exception of the Islamic Republic of Iran, most countries are predominantly rural. Fertility is high in Nepal and Pakistan, while it has been declining in Bangladesh, the Islamic Republic of Iran, Myanmar and Viet Nam; this is reflected in the level of the total fertility rate and the crude birth rate. Infant mortality rate (IMR) and child mortality rate are high in these countries except the Islamic Republic of Iran and Viet Nam. Similarly, except for the Islamic Republic of Iran and Viet Nam, life expectancy at birth is low. The maternal mortality ratio is exceedingly high in Bangladesh, Nepal and Pakistan, while in the Islamic Republic of Iran it is very low, at 36.5 per 100,000 live births.

In general, the adolescent fertility rate (fertility rate for women aged 15-19) has declined remarkably in low fertility countries such as the Islamic Republic of Iran, Myanmar and Viet Nam. The only exception is Bangladesh where, despite the decline in total fertility, adolescent fertility is still very high, necessitating further research. Furthermore, the decline in fertility is associated with the higher level of contraceptive use reported in those countries, with the exception of Myanmar, where the total fertility rate of 2.8 does not appear to correspond with the lower contraceptive use of 33 per cent. This calls for further study to identify the role of other proximate determinants of fertility, such as the prevalence of abortion.

A higher coverage of child immunization was reported in the Islamic Republic of Iran, Myanmar, Nepal and Viet Nam. Those countries also reported a higher coverage of women receiving tetanus immunization, with the exception of Nepal, which reported a lower coverage of tetanus immunization. The extremely low level of births attended by trained health personnel in Bangladesh, Nepal and Pakistan requires urgent attention and remedial action to improve the health of mothers and children and reduce morbidity and mortality. Safe drinking water is another important indicator of health and living conditions, and the low percentage with access to it in Myanmar and Nepal points to the need for policy and programmes attuned to raising living standards. All six countries have national policies for the provision of contraceptives at nominal costs or without charge, and have national strategic plans to control RTIs and STDs, including HIV/AIDS.

4. Observations on some indicators

As indicated above, several indicators were collected by the countries that participated in the project. While examining the values of some of the indicators, some observations were made on certain indicators, which are discussed below as they may be of general interest.

The infant mortality rate and child mortality (under five) rate are two indicators that all the countries included in the list of indicators. IMR is considered to be a barometer of living and health conditions in a society and is a good indicator for measuring general health and well-being of a population. However, direct measurement of IMR is faced with several problems, such as reporting and recording errors and biases. It is suggested that under five mortality may be a better indicator especially as several instances have been observed where infant deaths are reported as child deaths. In view of this, it may be preferable to use under five mortality as a measure of health conditions.

Adolescent fertility, another indicator of reproductive health, was selected by all participating countries and is measured as the proportion of births to women under age 20 (usually aged 15-19) to births occurring among women of all ages. In situations where overall fertility has declined sharply and the age distribution is such that there are more women in the adolescent age group, this measure may not be considered adequate for cross-country comparisons. Hence, the fertility rate of women aged 15-19 may be a better indicator for measuring adolescent fertility.

Another indicator was chosen by all countries for measuring maternal mortality, which can be measured in two ways. First, the maternal mortality rate, which is defined as the number of maternal deaths per 100,000 women in the reproductive age group. The second way is the maternal mortality ratio, defined as the number of maternal deaths per 100,000 live births. Some countries presented the maternal mortality as rate, while others presented the maternal mortality as ratio. For the sake of standardization, the maternal mortality ratio is recommended as the best indicator for measuring maternal mortality.

IV. BANGLADESH

*Tofayel Ahmed**

A. Background

The 1991 census in Bangladesh indicated that the population had reached 111.5 million and was increasing at an average growth rate of 2.2 per cent per annum. The population is very young and has a significantly large proportion of women in the reproductive age group of 15-49 years. Its current growth rate and growth potential present a formidable challenge to policy makers. However, the country has attained some successes in population control and family planning through an increase in the contraceptive prevalence rate.

Some success has also been achieved in terms of health indicators, mainly through improved public health measures, but much remains to be done. To ensure rapid fertility decline and achieve the replacement level of fertility, top priority must be given to improving the health and nutritional status of mothers and children as well as the status of women. Therefore, in the interest of sustainable development as well as ensuring supportive measures for fertility reduction, top priority should be given to achieving significant reductions in infant, child and maternal mortality and improvements in reproductive health (RH) care. At the same time, efforts must be made to improve the quality and coverage of health-care services for all, while consideration should be given to programme performance within the broader framework of RH rather than family planning only.

To address these issues and implement a mechanism for assessing, evaluating and monitoring the health and family planning (FP) situation in Bangladesh, access to reliable, continuous, timely, culturally relevant and internationally comparable data and information on health and FP is crucial.

B. Health and family welfare management information systems

The management information systems (MIS) of the Family Planning Directorate and the Health Directorate within the Ministry of Health and Family Welfare have established a hierarchical reporting system that starts in the field and runs through the district level up to the national level. In the service delivery system there are two categories of personnel: health staff and family planning staff who, in addition to providing services, also collect key information on RH/FP.

Health and family planning services in each of the five administrative divisions of the country, covering 64 districts, and 460 thana and union levels, are provided through district hospitals, thana health complexes (THC), and maternal and child health-family planning (MCH-FP) centres. These outlets provide primary and curative health care, family planning and MCH services. The most peripheral service providers and data collectors are the Health Assistants in the Health Directorate and Family Welfare Assistants in the Family Planning Directorate. There are approximately 46,000 Health Assistants and Family Welfare Assistants throughout the country. Family Welfare Assistants mainly provide family planning and maternal health services while Health Assistants provide immunization services, health education and other services related to vertical programmes on diarrhoeal diseases, acute respiratory infection, malaria and other infectious diseases.

The next two tiers of service delivery are the satellite clinics at unit/ward level and the

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family welfare centres at union level. These service delivery points are staffed by Family Welfare Visitors who provide antenatal care and clinical contraceptive services. At the satellite clinics, Health Assistants also provide immunization, while at family welfare centres (FWCs) the Medical Assistants provide curative services for common ailments.

1. Data collection system under health and family planning

Efforts have been made during the past few years to establish a regular system of data collection and reporting through both directorates. Under the system, different types of recording and reporting tools have been designed to meet data and information requirements. A hierarchical system of reporting and recording has been established. The data originate from field workers at the grass-roots level up to the national level. The various tools that have been designed under the current vertical programmes of MIS are detailed below.

(a) Management information systems under family planning

Under the Family Planning Directorate, several registers, rosters, cards and forms are utilized at various service delivery levels to record data and information pertaining to maternal and child health and RH/FP.

Registers are maintained by the Family Welfare Assistants as a daily diary of information collected on eligible couples. The information listed includes family planning method used, the status and number of living children, children aged under two years, births and deaths, a record of family planning acceptors, a list of injectable contraceptive users, monthly stocks and distribution of commodities, and household and village population record sheets.

A patient register is also maintained for clients who visit family welfare centres (FWCs) for general treatment. A child register is used for recording physical examination results for children's illnesses such as jaundice and anaemia, as well as pulse rate, lung, heart and liver condition etc. A register is kept of clients receiving contraceptive pills and condoms. Antenatal and post-natal care registers maintain records of pregnancy history, last menstrual period, expected date of delivery, blood pressure, weight, oedema, haemoglobin, urine analysis, foetal pulse rate, and post-delivery condition of mother and newborn child. A menstrual regulation register records various particulars of the menstrual regulation history of each client, problems encountered by the provider during menstrual regulation as well as post-menstrual regulation complications etc. An injectable forward register records the identity of each client and the type of injection provided.

In the case of IUDs, a follow-up and removal register is used to record the causes for IUD removal and the status of post-removal contraception usage. An IUD payment register details information on each referral, transportation costs, performer fees etc. A stock register maintains information on the quantity of medicine and contraceptives received from the Thana Family Planning Officer (TFPO) and amounts disbursed, supplemented by an inventory control register including all assets at FWCs. A birth register is maintained for all newborn babies brought to the service delivery points, including information on parents, birth weight, sex and name of birth attendants. A satellite clinic register is used for recording information about clients who visit satellite clinics for services.

Several cards are used to record detailed information on the various activities and services rendered. An IUD acceptor card collects information on client's identity, address and age of last child as well as the type of IUD inserted and the date of insertion. An injectable contraceptive card is issued that contains client's identity, type and date of contraceptive provided, and date of next visit. A tetanus

toxoid card is provided for women aged 15-49 years with particular focus on pregnant women receiving tetanus toxoid immunization. The card includes client's identity, pregnancy status and due date for next visit. An expanded programme on immunization card is maintained for children aged under 12 months, containing data on date of birth, antigen provided and due date for next visit. A child health card records date of birth and address of child, immunization status, status of Vitamin A supplementation, and diagnosis and treatment offered in the event of a child's illness. A growth monitoring graph and pictorial guideline on the preparation of oral rehydration solution (ORS) is also included on the card.

Many forms are also utilized for data collection. The IUD client history and consent form is used for screening IUD clients when seeking consent as well as for recording the referee's name. The card is filed at the clinic for future reference. A sterilization client information form is kept at the clinic for reference. It is used for screening sterilization cases and recording obstetrical history, physical examination information, menstrual history and a client's consent. In addition, Family Welfare Visitors prepare a monthly report using FP MIS form 3 to report on all services provided, that is, immunization, family planning, maternal and child health, contraceptive side-effect management and general treatment.

(b) Management information systems under health

The health MIS includes the following activities under different recording and reporting tools:

A general register is used by the Health Assistant to record daily activities including information on diseases, treatment given and other action taken during daily visits. An expanded programme on immunization register for children aged less than one year contains their immunization status. The 15-49 year women's age group register is used to determine target numbers for tetanus immunization. An expanded programme on immunization tally sheet is used to record children and pregnant women receiving antigens, vaccinations, vitamin supplement and other related services.

Several forms are also used for recording various types of information. A daily disease record form records information on six specified diseases for weekly compilation. An oral rehydration therapy (ORT) communication campaign form records the number and attendance of ORT communication meetings held by Health Assistants. An acute respiratory infection (ARI) case record and referral form records and reports on the diagnosis and treatment of ARI patients aged under five years, while an ARI referral slip is used to refer such patients to THCs. Birth and death lists, which are maintained during regular visits, contain important information like sex, age at death and cause of death. A geographical reconnaissance form is used during reconnaissance rounds to collect information on individual households and public utilities such as educational and religious institutions, markets etc. The daily geographical reconnaissance form is used to consolidate data during the annual updating round by date and area. A daily primary health care (PHC) activities compilation form is used to record all PHC-related activities of Health Assistants.

Many reports are also prepared, such as the blood-slide collection report on identified fever cases. In addition, monthly reports on drug distribution, ORT and results, sanitation and the expanded programme on immunization are prepared.

The main MIS function is to collect, collate and analyse RH/FP programme performance data. The data, which originate from grass-roots field workers up to the national level, are used to generate a variety of input, process and output indicators. Different monthly and annual publications are produced

on performance data and sent to district-level managers as a part of the feedback process, as well as to the national-level managers concerned and donor agencies. MIS reports are used mainly by the Ministry of Health and Family Welfare, the directorates and the donor agencies. However, MIS data are underutilized at the local level owing to a lack of knowledge of, and skills in, the interpretation and use of data and information for management decisions.

During a survey carried out by MIS professionals in one of the districts, an assessment was made of the types of services provided under RH/FP as well as the existing recording and reporting tools. The findings indicated that data were being collected in the field from 145 types of MCH-FP and RH care services. The information was gleaned from 45 registers, 17 cards and 26 types of reporting forms currently being used by the different offices and service delivery points in the public, NGO and private sectors. The data made it possible to generate indicators such as the contraceptive acceptance rate, the method-mix of contraceptive acceptors, percentages of births attended by trained health personnel, pregnant women receiving antenatal and post-natal care, and service delivery points (SDPs) with a three-month supply of contraceptives.

2. Limitations of data

As indicated above, a large number of tools and instruments are used to collect and compile data for the MIS of the Directorates of Health and Family Planning. In addition, coordination between the various agencies involved in data collection is lacking, which often leads to limited use of the data in programme planning and monitoring, and duplication of MCH services by the Directorates of Health and Family Planning. Thus, it is clear that the health and family planning service providers carry a huge burden, not only in providing the services but also in completing and maintaining the enormous quantities and varieties of forms. The result is a reduction of efficiency in service provision and data collection. The situation is compounded by the fact that there is very little feedback from the centre to the peripheral areas with regard to the implications of the data collected. In addition, the providers are not involved in the interpretation and utilization of the results of the data that they have collected. Therefore, not much benefit accrues to the grass-roots level personnel who provide the information. Consequently, the objectives of data collection are not met.

3. Other sources of data

In addition to the data produced by the Directorates of Health and Family Planning, a series of national surveys have been undertaken, including contraceptive prevalence surveys, Bangladesh Demographic and Health Surveys (BDHS), and health and demographic surveys in addition to the decennial censuses. These surveys have provided additional RH/FP data and, more specifically, the denominator required for calculating rates, ratios etc. for the monitoring and evaluation of programme activities.

C. Broadening service delivery and data collection under the unified management information systems

The importance of health, especially of children and mothers, in operating a successful family planning and health programme is well recognized. Therefore, during the past few years the government has been implementing measures in the health and population sector aimed at reducing infant, child and maternal mortality, lowering fertility and improving RH care services. The sectoral reform also addresses the issues of accessibility, coverage and quality of essential health services. The major areas of change include: a shift to an essential service package, unification of the service delivery mechanism, initiation of a fixed-site service delivery in place of the earlier doorstep service, development of 'one-stop'

service centres, the establishment of community clinics as the first level of health care for communities, programme operation decentralization and the adoption of a sector-wide management approach. These changes have also necessitated the remodelling of MIS activities of the health and population sector programme.

In July 1998, as a consequence of the reform and remodelling of MIS activities, a Unified Management Information Systems (UMIS) was established. A national consensus-building workshop was conducted for the development of UMIS. One of the major areas of discussion was finalization of a nationally agreed set of indicators. The findings, knowledge and experiences of the ESCAP study proved to be highly useful in designing the newly developed UMIS in Bangladesh.

The set of indicators proposed by the ESCAP project was given due consideration in finalizing the set of indicators for UMIS. In addition, a set of new performance indicators was agreed on that covered the components of an essential service package with key recording and reporting instruments to be used at the community, union, thana and district service delivery facilities. Various modes of data collection were considered, such as service statistics, community censuses and surveys, and sentinel reports etc. The integrated system is expected to avoid duplication and wastage of time, effort and cost.

D. Performance indicators under the health and population sector programme, 1998-2003

Under the Bangladesh health and population sector programme, 1998-2003, a set of performance indicators covering components of the essential service package has been developed. It includes various indicators in major programme areas/components such as family planning services, maternal and child care, communicable diseases control, limited curative care, selected home visits, public health care, demographic and disease profiles, and hospital statistics. It also identifies the level of data generation, source and periodicity of collecting these indicators.

To collect the above information, a set of revised forms and formats has been designed for use by community, union, thana and district service delivery facilities. The changes will improve the situation regarding the existing overloaded data collection system as well as reduce the number of recording instruments required. Essentially, the proposed data collection system is expected to comprise a set of nine types of forms, registers, slips or cards. The forms that will be used at various service delivery points and levels are given below.

(a) Annual updating of household listing form

(b) Annual geographical reconnaissance status form

(c) Daily clinic register for community clinics, union health centres, family welfare centres and thana health centres

(d) Follow-up register

(e) Monthly performance reporting form for community clinics, unions, thanas, and districts

(f) Referral slip

(g) Family health card

(h) Weekly epidemiological report

(i) Logistics and supply recording form for community clinics, union health centres, family welfare centres and thana health centres

Thus, it is clear that the number of data collection registers has been minimized. However, the service delivery outlets are still considered to be heavily burdened with data collection as their primary duty that, *inter alia*,

will be affecting the services to the clients. Moreover, the issues and problems of the structural arrangement of two vertical MIS into a unified MIS for collection of information from grass-roots service delivery points to a unit established for this system may have to be kept in mind. So also does the question of the operational methodology for the collection and transmission of data that needs to be elaborated.

E. Reproductive health and family planning indicators

1. Objectives and purpose of the study

The overall objective of the study was to strengthen and institutionalize the existing monitoring and evaluation system for measuring the progress of national RH/FP programme capabilities, including the quality of services, to ensure effective and improved programme performance and management. The specific objectives are:

(a) To study the current situation regarding the RH/FP information base;

(b) To identify the sources of information under the existing data collection systems;

(c) To review the current recording and reporting systems in relation to:

  (i) The generation of indicators;

  (ii) Aggregation, consolidation and analysis;

  (iii) Information flow;

  (iv) Feedback;

  (v) Utilization.

(d) To develop new recording and reporting instruments;

(e) To develop a new methodology for improving and strengthening the current information system;

(f) To select and test for suitability of some of the indicators identified by the expert group meeting held in March 1997 and the regional workshop held in July 1997; and

(g) To identify any strengths and weaknesses, and recommend future action on the RH/FP information base.

2. Reproductive health and family planning indicators identified and selected

The current situation regarding RH/FP information has been presented above. Considerable innovative thinking was required to identify and select an appropriate set of quantitative and qualitative indicators within the context of a comprehensive statistical system, and involved a number of consultations among professionals in Bangladesh. Many local agencies showed keen interest in the process of monitoring and evaluating the RH/FP programme.

Details of the indicators as agreed on at the ESCAP training workshop held from 15 to 18 July 1997 are given in table 1.

To meet the objectives of the study, different data sources were utilized in generating the indicators listed in table 1. The sources of information included national population censuses, MIS reporting and recording tools, large- and small-scale sample surveys, multi-round household surveys and the sample registration system.

Table 1. Selected indicators by source, year, value and level

No.	Indicator	Source/year	Value/level
1	Contraceptive prevalence rate (%)	HDS (1997)	50.9
	Contraceptive prevalence rate (%)	MRS (1998)	57.8
	Any modern method		54.7
	Oral pill		31.2
	Condom		3.1
	Injectables		6.7
	IUD		1.8
	Sterilization		11.6
	Norplant		0.3
	Any traditional method		3.1
2	Number of contraceptive methods available at family health-care centres	FWCs: four methods, THCs, MCWCs and district hospitals: six methods	
3	Percentage of births attended by trained health personnel	BDHS (1996-1997)	7.5
4	Percentage of sexually active women of reproductive age who want to postpone or stop childbearing and who are not currently using any contraceptive method	BDHS (1996-1997)	16.0
5	Percentage of clients asked about their:		
	(a) Reproductive intentions	BDHS (1996-1997)	28.0
	(b) Concerns about contraceptive methods	BDHS (1996-1997)	24.4
6	Percentage of pregnant women attending antenatal services who received tetanus immunization	BDHS (1996-1997)	59.4
7	Percentage of pregnant women receiving maternal care services expressing satisfaction	CIET (Canada, 1999)	95.0
8	Percentage of pregnant women attended at least once by trained health personnel	BDHS (1996-1997)	Urban: 58.0 Rural: 23.0
9	Percentage of children with ARI in preceding two weeks who were seen by medical personnel	BDHS (1996-1997)	32.9
10	Percentage of children 12-23 months fully vaccinated		54.1
11	Percentage of population with access to basic health services	MOH-FW (1998)	40.0
12	Percentage of households with access to safe drinking water	BDHS (1996-1997)	96.5
13	Percentage of SDPs with a three-month supply of contraceptives in stock		100.0
14	Percentage of SDPs:		
	(a) Offering PAP smear testing		Not available at selected SDPs
	(b) With microscopes		
15	Percentage of SDPs having available:		100.0
	(a) Equipment for high-level disinfection/sterilization		
	(b) Piped water		
16	Percentage of SDPs following standard guidelines and high-level disinfection methods including RTIs		100.0
17	Total population (million)	BBS (1997)	123.8
18	Median age of population (years)	BDHS (1996-1997)	18.8

Table 1. *(continued)*

No.	Indicator	Source/year	Value/level
19	Percentage of rural population	BBS (1997)	79.8
20	Annual change (%)	BBS (1997)	1.6
21	Growth rate (%)	MRS (1998)	1.2
22	Crude birth rate (per 1,000)	BBS (1997)	23.6
		MRS (1998)	21.0
23	Crude death rate (per 1,000)	BBS (1997)	8.0
		MRS (1998)	8.6
24	Total fertility rate	BDHS (1996-1997)	3.3
		MRS (1998)	3.5
25	Percentage of births within 24 months of previous birth (birth spacing)	BDHS (1996-1997)	17.7
26	Percentage of births (age <20) to total births	MRS (1998)	24.7
27	Percentage of deliveries that are C-section	MRS (1998)	Service not available in SDP owing to lack of trained doctors
28	Annual number of legal abortions	BAPSA (1998)	262 130
29	Estimated number of illegal abortions		Unethical in country context
30	Ectopic pregnancy rate	MRS (1998)	No cases reported
31	Age-specific fertility rate (per 1,000)	MRS (1998)	
	15-19		147
	20-24		192
	25-29		150
	30-34		96
	35-39		44
	40-44		18
	45-49		6
32	Infant mortality rate (per 1,000)	MRS (1998)	82
33	Under-5 mortality rate (per 1,000)	MRS (1998)	116
34	Maternal mortality ratio (per 100,000 live births)	HDS (1997)	420
35	Expectation of life at birth	"	59
36	Sex ratio at birth	BBS (1997)	105
		MRS (1998)	105
37	Average number of children desired	BDHS (1996-1997)	2.6
38	Proportion of total population by sex	MRS (1998)	M: 0.51, F: 0.49
39	Proportion of total population married by sex	MRS (1998)	M: 0.56, F: 0.62
40	National policy specifying in writing standards of quality of care for:		
	(a) Family planning information and services (b) Maternal care (c) Prevention and management of RTIs and STDs (d) Abortion care (e) Treatment of abortion complications (f) Provision of post-abortion family planning counselling and services		National policies are in place to support (a) to (f)
41	National policy for the provision of contraceptives at nominal cost or without charge		National policy exists

Table 1. *(continued)*

No.	Indicator	Source/year	Value/level
42	Provisions for:		
	(a) Inquiries/audits into maternal deaths		Policy exists for
	(b) Special measure(s) to reduce maternal mortality		(a) and (b)
43	National strategic plan to control RTIs including HIV/AIDS		Policy exists
44	Age at first marriage by sex:		
	(a) Does a legal minimum age exist?		Yes
	(b) What is the legal minimum age?		Male: 21 Female: 18
	(c) Is the legal minimum age endorsed?		Yes
45	Implementation of policy measures to:		
	(a) Eliminate female genital mutilation		Policy does not exist and is not relevant
	(b) Eliminate prenatal sex selection		Policy does not exist

Note: BAPSA: Bangladesh Association for Prevention of Septic Abortion;
BBS: Bangladesh Bureau of Statistics;
BDHS: Bangladesh Demographic and Health Survey;
FWC: Family Welfare Centre;
HDS: Health and Demographic Survey;
MCWC: Maternal and Child Welfare Centre;
MRS: Multi-round Survey;
MOH-FW: Ministry of Health Family Welfare;
SDP: Service Delivery Points;
THC: Thana Health Centre; and
CIET: Community Information Epidemiological Technique.

F. Methods and materials

In addition to the existing data sources, a multi-round household survey (MRS) was conducted in 1998 to generate some of the indices. The survey used a standardized format to collect data from selected households regarding name, relationship to household head, sex, age, marital status, spouse number, events within the household during visits by date of event, reproductive status of currently married women (including use of FP methods). In addition to the multi-round survey, three FWCs, one MCWC and the district hospital of Manikganj were included in the study as service delivery points.

1. Development of auxiliary data collection tools

In order to collect data from the field, a household census and visitation form was developed by the study team with assistance from various experts. The form was pre-tested in one union of the study area for applicability and modifications made where needed. An instruction manual was developed, which contained information on the background and objective of the study, definitions of various terms, baseline data collection techniques and coding techniques. Field workers were recruited, taking into consideration their past experience and willingness to live and work in the field. They were given a two-day training by the study director and MIS professionals on baseline data collection before posting to the study area.

2. Study area selection

The selection of the study area was made on the basis of accessibility, the existence of different types of service delivery points, the range of services available, urban-rural

characteristics, proximity to headquarters, ease of communication, and cooperation and willingness of the local manager and staff to undertake the study.

Three unions in Manikganj district, Betilametora, Nabgram and Gharpara under Manikganj Sadar thana, were selected. They comprised a rural and urban total of 10,500 households with a population of 46,292.

3. Training at the district and subdistrict levels

A two-day training session with all managers, comprising seven thana FP officers and seven medical officers under the chairmanship of the district deputy director of FP, was conducted by the study team. The main aim was to brief and orient the managers with regard to RH/FP programme performance monitoring and evaluation, including:

(a) The existing recording and reporting systems in the different facilities;

(b) The existing record book and daily tally sheet form at household level;

(c) New formats for collecting, compiling and analysing current MCH-FP services;

(d) The development of new data collection tools;

(e) Information flow, feedback and utilization of MCH-FP data;

(f) Concepts and definition of input, process and output indicators;

(g) The identification of indicators under the existing system; and

(h) The identification of gaps and weaknesses of MIS.

4. Review of fieldwork and supervision of quality control

The performance of field workers was reviewed periodically. In the weekly reviews, it was found that work was progressing very slowly, partly because of external factors such as political disturbances, weather conditions and religious functions. After the collection of baseline data, the original team of data collectors was withdrawn in consultation with local managers and 19 field workers and three supervisors were selected with the help of the thana managers. Field training was conducted by MIS professionals for the new team and local managers.

From the beginning of the study, MIS personnel were engaged in assisting with its implementation. MIS professionals regularly visited the study area and supervised the fieldwork. An orientation programme was conducted for supervisors and thana managers by the study director with the assistance of the local MIS consultant. Quality control was carried out on a random basis in selected households, and briefing sessions were organized for field workers in order to solve their problems.

5. Data management

Initially, the collected data were manually checked at the field level for anomalies or inconsistencies. The household census and visitation forms were then sent to the central office of MIS. The data processing operation consisted of office editing, data entry and editing of inconsistencies. Data were entered on microcomputers, using data entry and editing programmes written in the Integrated System for Survey Analysis software.

The data were tabulated and processed by computer. The tabulation plan, which was initially developed by MIS professionals in consultation with the project consultant, involved conducting validation and revalidation checks as well as the production of required tables.

6. Results of the study

The results of this study are presented in table 1. A large number of indicators were

obtained from existing sources. However, data collected by multi-round household surveys provided some important indicators. For example, the crude birth rate was at 21.0 per 1,000 while the crude death rate was 8.6 per 1,000. The total fertility rate was 3.5, with a sex ratio at birth of 105 males per 100 females. About one quarter of births occurred to women aged less than 20 years. The overall contraceptive prevalence rate was 57.8 per cent with 54.7 per cent using modern methods. A major share of the modern methods was pill (31.2 per cent) followed by sterilization (11.6 per cent) and injectables (6.7 per cent).

The set of RH/FP indicators presented is suitable for use in RH/FP programmes and is essential for monitoring progress and evaluating the programme impact. However, since some of the indicators are new, experience in studying their advantages and limitations is inadequate. A review has been made in this paper in order to find out the sources and estimated values of the indicators.

Bangladesh is now moving towards the implementation of RH/FP programmes in an integrated service delivery mechanism that is expected to be more effective than the current separate and fragmented service delivery systems. While most of the RH/FP indicators have existed in the programme for many years, a standardized set of indicators for tracking the performance of integrated RH/FP programmes has not been established.

G. Conclusions and recommendations

1. Issues and lessons learned

Several issues and lessons emerged from the study. The most important issues and some proposed solutions are listed in table 2.

Table 2. Issues and lessons learned, and proposed solutions

Issues and lessons learned	Proposed solutions
Under-reporting and recording of events, especially deaths.	Sensitize field workers/local managers and provide training.
Too many records/reports and too much paperwork hampering service provision.	Introduce a minimum number of recording/reporting tools without loss of vital information required for monitoring.
Periodicity of reporting.	An appropriate frequency of data collection for each indicator is necessary.
Tendency for manipulation of data to show better performance.	Set realistic programme goals based on local conditions and strengthen data verification.
Lack of feedback mechanism. Data suppliers not given results and interpretation of data analysis and findings.	Institute a regular feedback mechanism and routine dissemination of findings.
Inconsistencies in performance reports from local level to thana/subdistrict level.	Organize skill development training for functionaries in recording/reporting.
Local field workers not trained for simple analysis and manipulation of data resulting in inaccuracies/ inconsistencies.	Organize/continue on-the-job/refresher training on data collection and elementary analysis.
Lack of understanding about concepts and definitions of indicators by local level managers.	Organize and strengthen basic/refresher training and provide manuals and other materials.
Existence of vertical data collection system.	Integrate the systems and rationalize data collection.
Lack of coordination between users and data collection agencies.	Strengthen and institutionalize the coordination mechanism.
Little or no use of MIS data for planning and monitoring of programmes at local level.	Provide training to functionaries about how effectively utilize data for better monitoring.

Since its inception, the monitoring and evaluation system has undergone several changes and modifications over the past 20 years. It is now apparently in better shape to cater to the needs of policy makers and programme managers. The study indicated that in Bangladesh the monitoring and evaluation system had both strengths and weaknesses, and that it also suffers from certain constraints. For example, the data collection and reporting systems are not completely free from inaccuracies in terms of coverage, recording and reporting, while timeliness and non-recognition of the importance of information are other problems that need to be resolved.

Many unanticipated lessons were learned and issues raised during the project. The project helped to rationalize the current monitoring systems. It also contributed a great deal to bridging the gap between indicators at various levels and their use in strengthening the monitoring and evaluation systems for measuring the progress of RH/FP programmes in keeping with the firm commitment by Bangladesh to the ICPD goals. The indicators identified are expected largely to meet the requirements for monitoring and evaluating the progress of RH/FP programmes that were recently remodelled under the national health and population sector programme for 1998-2003.

2. Scope for expansion: sustainability and replicability

As UMIS is now an integral part of the ministry set-up, with its own budget and other provisions, there will be no problem in collecting data and generating some of the RH/FP indicators on a regular basis. The indicators selected appear to be satisfactory with regard to current needs; however, as some of these indicators come from sources other than MIS (for example, through surveys), the question of replicability and sustainability arises due to the fact that large-scale surveys are very expensive. Expanding the scope of the indicators will depend upon the experience of UMIS and the emerging needs for monitoring and evaluation tools. Strengthening the vital registration and sample registration systems will go far in ensuring quality data on a regular basis.

REFERENCES

Bangladesh Bureau of Statistics, 1997a. *Statistical Yearbook 1997.* Dhaka: Ministry of Planning.

Bangladesh Bureau of Statistics, 1997b. *Health and Demographic Survey.* Dhaka: Ministry of Planning.

Community Information Epidemiological Technique (CIET) International, 1999. *Baseline Service Delivery Survey: Preliminary Report of Main Quantitative Findings.*

Kamal, Begum A. and G.M. Kamal, 1998. *Hospital-Based Descriptive Study on Illegally Induced Abortion-Related Mortality and Morbidity, and its Cost on Health Services.* Dhaka: Bangladesh Association for Prevention of Septic Abortion (BAPSA) Report Number 5.

Ministry of Health and Family Welfare, 1998. *Health and Population Sector Programme, 1998-2003, Programme Implementation Plan – Part I.* Dhaka.

Mitra and others, 1997. *Bangladesh Demographic and Health Survey, 1996-97.* Dhaka: National Institute of Population Research and Training and Mitra and Associates; Calverton, Maryland, Macro International.

V. ISLAMIC REPUBLIC OF IRAN

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A. Background

According to the 1996 census, the population of the Islamic Republic of Iran was just over 60 million, of which some 51 per cent comprised people aged less than 20 years. The average annual rate of population growth between 1986 and 1996 was estimated at 1.8 per cent. In spite of a substantial fall in mortality, the reduction in the growth rate has been brought about by a drastic reduction in fertility. However, the growth rate is still considered high and recent indications are that in 1997 it was about 1.4 per cent while the estimated crude birth and death rates were 18 and 4 per 1,000, respectively. Expectation of life at birth is also high compared with other developing countries. However, there are areas in the health sector that still need attention in order to accelerate improvements in living conditions.

The Islamic Republic of Iran is divided into 28 provinces (*ostans*), which are further divided into more than 250 subprovinces (*shahrestans*). Almost three fifths of the population live in urban areas.

B. Health service network

The health service network of the Islamic Republic of Iran is an integrated health-care delivery system. Following the Islamic revolution, the Ministry of Health and Medical Education attempted to reform the health system in order to provide a more equitable allocation of health resources based on primary health care. The basic policies were declared as:

(a) Priority of prevention as a long-term investment;

(b) Priority of rural and underprivileged areas in resource allocation; and

(c) Priority of ambulatory care to hospitalization.

The directors of the district health network, under the Ministry of Health and Medical Education, are responsible for the District Health Centres (DHCs) and the district general hospitals. DHCs operate on a managerial scale and are responsible for logistics and administrative affairs of the district health network. The directorate of the district health network coordinates all activities and health programmes at the district level.

The next level down from the DHCs comprises the rural and urban health centres. Rural Health Centres (RHCs) are attached to delivery facilities. Each RHC, staffed by a general practitioner, several health technicians and administrative personnel, is a village-based facility that has one to five health houses under its supervision. The health houses are the basic service delivery points in the network, each covering an average of 1,500 people in one or more villages. A male and a female villager, known as *behvarz*, are selected from young and interested local residents to staff the health houses, after undergoing a two-year training course at the *behvarz* training centre. *Behvarzes* are multi-potential health workers who have acquired sufficient skills to fulfil their responsibility to deliver primary health-care services including Reproductive Health and Family Planning (RH/FP) care. At present, nearly 15,000 health houses are operating throughout the country, providing coverage for 85 per cent of the rural population.

Each Urban Health Centre (UHC) is responsible for delivering primary health care to about 12,000 urban residents together with

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ambulatory curative services. Urban coverage is gradually being expanded.

C. Health network information system

The information system of the health network is mainly based on data gathered from defined populations covered by the health facilities. In some urban areas, health centres directly cover a defined population and use the same tools and forms as health houses and other health posts for data gathering and processing. Through annual censuses, these facilities update their information on the population living within their catchment areas. In addition to annual censuses, routine data are gathered using special tools that are reviewed below. Because it is not possible to gather all the required data through a registration system, periodic surveys are also conducted throughout the country, mainly to gather data related to coverage, household effects and outcomes of health programmes.

1. Reproductive health and family planning information base sources

(a) Household folders

Household folders are used to collect details from each household and they include all health-related information on all household members. The folder contains several forms that cover health education subjects, prenatal, antenatal and post-natal care, physical and laboratory test results during antenatal and post-natal care, care of children aged under six years, records of visits of healthy children aged up to two years as well as two to six years, a growth monitoring chart, child spacing, visits of sick children and those requiring special care, environmental conditions of dwellings and patient follow-up information. Other information collected on all household members includes name, relationship to household head, date of birth, sex and age, marital status, occupation, literacy and education status. Prenatal care information includes age at first marriage and first pregnancy, date of first delivery, number of previous pregnancies and/or abortions, number of live births and stillbirths, and number and health status of living children. Additional prenatal data include blood group, RH factor, consanguinity of spouses and mother's condition, history of major diseases, patients requiring long-term care, births and deaths, and information on health education.

(b) Vital horoscope

A large wall chart is maintained in each health facility that displays a current account of vital statistics including births, deaths and family planning activities in the catchment area. Conspicuous, concentrically coloured circles at the centre of the sheet represent live births, infant deaths, and deaths among those aged five years and above. Each circle is divided into 12 segments, each one representing one month. A summary of the information on live births and stillbirths by sex, type of birth attendant, birth weight, mother's age at delivery and her delivery condition is given at the top of the chart. Information on mortality by age and sex are presented at the bottom of the chart. On either side of the main chart are tables providing information on population by age and sex from the census of the current year. Maternal mortality information is given on the left-hand side, while family planning and causes of death in children aged under five years is given on the right-hand side.

(c) Follow-up logbooks

Health personnel record their daily activities in specifically designed logbooks in addition to the household folders. Each logbook covers a specific programme or activity such as family planning, immunization and the prescription of medicine.

(d) Monthly report forms

All facilities in the district health network prepare monthly reports on their activities for

submission to the DHC. Data are compiled on a daily basis and updated tables are displayed.

2. Strengths and weaknesses of the health information system

The main strengths of the existing registration system are: (a) active delivery to a defined population; (b) being up-to-date through linkages to routine activities; (c) the user friendliness of the data-gathering tools; and (e) the clear standards and guidelines for data gathering that are taught during training courses for health personnel, especially *behvarzes*.

The main weak points of the current information system are poor analytical capability and stratification. These weaknesses have resulted in the information system not being used in decision-making because the validity, reliability and representativeness of indicators have been considered as inadequate and unreliable. In view of the resources allocated, the information system has played a weak role in the continuous evaluation and improvement of the health system.

3. Other sources

In addition to the above sources, RH/FP data are also gathered through periodic surveys, exit interviews, focus group discussions and the population censuses. The 1996 population census collected information on, *inter alia,* maternal mortality.

D. Reproductive health and family planning indicators

1. Objectives and purpose of the project

The overall objectives of the study were to strengthen and institutionalize the monitoring and evaluation systems used to measure the progress of the national RH/FP programme, including the quality of services, as well as ensure effective and improved programme performance and management. The specific objectives were to:

(a) Study and review the current situation regarding the RH/FP information base in relation to the generation of indicators for analysis, interpretation and utilization;

(b) Identify the sources of information under the existing data collection systems;

(c) Develop new recording and reporting instruments;

(d) Develop new methodology to improve and strengthen the current information system; and

(e) Identify strengths and weaknesses and recommend future actions of the RH/FP information base.

The other objective was to participate in the regional project of ESCAP, so that the countries of the region could benefit from the experiences of the RH/FP system in the Islamic Republic of Iran.

2. Some major national reproductive health and family planning indicators for the Islamic Republic of Iran

The study was carried out in the selected project area in Karaj district to collect data on several indicators. Table 1 presents the available values of some major reproductive health indicators.

3. Reproductive health and family planning indicators identified and selected

The identification and selection of a set of indicators for family planning and maternal health care was based on an understanding of the programme using a chain model concept, the existing monitoring and evaluation system as well as indicators suggested by different agencies and working groups. It was felt that the definition, selection and development of indicators depended on the nature and depth of knowledge of the programme as well as

Table 1. Major reproductive health indicators for the Islamic Republic of Iran, 1996

Total population		60 055 488
Urban population		36 817 789
Rural population		23 237 699
Population growth rate (%)		1.41[a]
Crude birth rate (per 1,000)		17.7[a]
Crude death rate (per 1,000)		3.6[a]
Life expectancy at birth (years):	Male	66
	Female	68
Infant mortality rate (per 1,000)		26
Under 5 mortality rate (per 1,000)		33
Maternal mortality rate (per 100,000)		36.4
Literacy rate of population aged 10 years and above (%):	Male	89.5
	Female	83.9
Gross primary school enrolment (%):	Male	92.0
	Female	88.4
Percentage of population with access to safe drinking water		90.2
Percentage of population with access to basic health services		94.0
Percentage of births taking place at hospitals/health centres		81.2
Percentage of births attended by trained health personnel		84.0
Mean age at marriage for female (years)		20
Age-specific fertility rate aged 15-19 years (per 1,000)		26
Total fertility rate		2.6
Percentage of births to mothers aged <20 to total births		19.2
Unmet need for contraceptives (%)		7.7[a]
Percentage of pregnant women receiving ANC		58.1[a]
Contraceptive prevalence rate (%)		72.9[a]
Traditional methods		16.9
Modern methods		56.0
Condom		5.4
Pills		20.9
IUD		8.3
Male sterilization		1.9
Female sterilization		15.5
Injectables and norplant		2.9
Others		1.1
Percentage of SDPs at primary health care level providing a full range of RH services directly or through referrals		94.0

[a] Refers to 1997.

available resources (manpower, technology and funds) for data gathering and processing, analysis and decision-making. Therefore, any change in, or better understanding of, the programme or improved availability of resources could lead to a change in the cluster of adopted indicators.

It was also felt that the indicators should be analysable and should, therefore, be defined for monitoring as well as measuring the effects, outcome and impact of the programme. The indicators should be such that they help in the decision-making process at all levels. That would ensure that the development of indicators was an ongoing and continuous process.

Based on the above premises and the experience gained from the study it was decided to restrict the list mainly to those indicators that could be obtained from current data gathering forms. Indicators excluded from the list were those that were mainly defined for international comparisons by international agencies. Table 2 presents the selected set of indicators.

Table 2 indicates that at the district level and service delivery points where a catchment area is more probable and the indicators are more action-oriented, registration is the preferred source of data. Table 2 also indicates that at the provincial and national levels, surveys are more often considered as the source of data because they contain population-related information that is not provided by service delivery points, but which is required for policy formulation. However, the interval between consecutive measurements of indicators could be longer.

The periodicity of measuring indicators would be determined by available resources,

Table 2. Indicators by source, level, periodicity and availability

Indicator	Data source	Level of access	Periodicity	Availability of data
Percentage of pregnant women having access to a public health centre providing maternal care services	C	N P	Annually	+
Percentage of pregnant women who make their first visit for prenatal care before 15th week of pregnancy	R	SDP D	Annually	+
Percentage of women attended at least once during pregnancy for reasons related to pregnancy	R	SDP D	Annually	+
Percentage of women attended at least once during pregnancy for reasons related to pregnancy	S	P N	2-3 years	+
Percentage of pregnant women who received iron tablets during prenatal care	S	P N	2-3 years	*
Percentage of pregnant women who have received tetanus immunization during prenatal care	R	SDP D	Annually	+
Percentage of pregnant women who have received tetanus immunization during prenatal care	S	P N	2-3 years	*
Percentage of births attended by trained health personnel	R	SDP D	Annually	+
Percentage of births attended by trained health personnel	S	P N	2-3 years	*
Percentage of deliveries by place of delivery	R	SDP D	Annually	+
Percentage of deliveries by place of delivery	S	P N	2-3 years	*
Percentage of deliveries done by Caesarean section	R	SDP D	Annually	+
Percentage of deliveries done by Caesarean section	S	P N	2-3 years	*
Percentage of postpartum women who have received postpartum care at day 10 and day 40 after delivery	R	SDP D	Annually	+
Percentage of postpartum women who have been offered family planning counselling	R	SDP D	Annually	+
Percentage of pregnant women who have been completely covered (at least six prenatal visits) by a public health centre	R	SDP D	Annually	+
Percentage of pregnant women who have been completely covered (at least six prenatal visits) by a public health centre	S	P N	2-3 years	*
Percentage of pregnant women who developed major obstetric complications by cause	R	SDP D	Annually	+
Percentage of pregnant women who developed major obstetric complications by cause	S	P N	2-3 years	*
Percentage of pregnant women who developed sequels of complications of pregnancy and childbirth	R	SDP D	Annually	+
Percentage of pregnant women who developed sequels of complications of pregnancy and childbirth	S	P N	2-3 years	*
Effectiveness of special care for high-risk pregnant women	SS	N	As needed	–

Table 2. *(continued)*

Indicator	Data source	Level of access	Periodicity	Availability of data
Effectiveness of special care for pregnant women who developed major complications	SS	N	As needed	–
Maternal failure rate[a]	R	SDP	Annually	+
Maternal failure rate by cause	R	D P	Annually	+
Maternal mortality ratio	S	P N	3-5 years	*
Age specific maternal mortality rate	S	P N	3-5 years	*
Percentage of maternal death contributed by specific cause	S	P N	3-5 years	*
Case fatality rate in complicated pregnant women	R	N	Annually	+
Perinatal mortality rate	R	SDP D	Annually	+
Perinatal mortality rate	S	P N	2-3 years	*
Percentage of perinatal death contributed by stillbirth (early neonatal death)	R	SDP D	Annually	+
Percentage of perinatal death contributed by stillbirth (early neonatal death)	S	P N	2-3 years	*
Premature birth rate	R	SDP D	Annually	+
Premature birth rate	S	P N	2-3 years	*
Low birth weight rate	R	SDP D	Annually	+
Low birth weight rate	S	P N	2-3 years	*
Percentage of low birth weight contributed by prematurity	R	SDP D	Annually	+
Percentage of low birth weight contributed by prematurity	S	P N	2-3 years	*
Percentage of iron deficiency anaemia in pregnant women (late prenatal and post-natal)	R	SDP D	Annually	+
Percentage of iron deficiency anemia in pregnant women (late prenatal and post-natal)	S	P N	2-3 years	*
Neonatal tetanus mortality rate	R	N	Annually	+

Notes: + shows the indicator is available at the specified level and periodicity; – shows the indicator is unavailable.

* indicates that relevant data could be made available through an appropriate study.

C: census; R: registry; SS: special study; S: survey; RSS: repeated small sampling; N: national; P: provincial; D: district; SDP: service delivery points.

[a] Composite indicator defined for measuring the outcome of maternal care at the service delivery points and the district level.

and would depend on both the probability of significant changes over time and the component of the programme being measured. Process and output indicators should be calculated frequently, but evaluation indicators could be measured less frequently.

Data needed for calculating a majority of indicators are available from the registration forms, but related indicators are seldom calculated. Therefore, at present, it is not considered judicious to add any new data gathering forms to the system. The only step currently necessary is to design forms for intermediate data processing. It is suggested that in order to derive valid and action-oriented indicators, wherever possible, the forms should be designed to enable indicators to be calculated using data of cohorts.

E. Methods and materials

1. Study area

In order to study the functioning of the system in terms of service delivery, data collection and utilization, a small study was carried out in Karaj district. The Karaj district health network was selected as the study area because of the district manager's enthusiasm and cooperation, hard working staff, the dominant urban network and the short distance from Tehran. The population of the district totals 1,160,000, of whom 51,000 are rural residents. The health facilities of the district comprise 29 UHCs, seven RHCs, 23 health posts and 25 health houses.

In Iran, the urban health network is not as well developed as its rural counterpart. Therefore, as policy makers pay more attention to endeavours to improve the urban health network, the sustainability and replicability of such initiatives is expected to increase. Consequently, Karaj could prove to be a very suitable pilot area, considering its dominant urban population.

Another objective of the project was to develop generic guidelines for strengthening the monitoring and evaluation mechanism of the maternal care and family planning programmes in Karaj district. The project was implemented through a three-stage model of understanding, assessment and strengthening.

The four steps within the understanding stage comprised: (a) reviewing programme documents, including for relevance, goals, standards, tools and techniques, and the information system; (b) establishing the programme standards including the type of activities by level, method, types of resources and relationship between the various activities encompassing both services and logistics; (c) constructing a conceptual framework through measurable indicators (effects, outcome and output); and (d) constructing an operating framework that demonstrates the relationship between the main processes by clarifying the procedure from client entrance to exit from the programme.

The assessment stage envisaged understanding the present situation of monitoring and evaluation activities in terms of achievements, costs, strengths and weaknesses, and degree of sustainability.

Strengthening the system is thus based on an understanding and assessment of the situation. The strengthening process includes the definition, adoption and adaptation of indicators; designing tools and techniques for data gathering; analysis and implementation.

2. Data collection methodology and instruments

Before using existing data gathering forms for calculating indicators, it was felt necessary to assess the capability of service delivery points to follow standards of service delivery and data recording activities. In order to carry out the assessment and improve skills in designing data processing forms, a

questionnaire was designed for collecting data from existing household folders and family planning logbooks. The specific objectives of the experiment were:

(a) To determine the degree of completeness of the data in household folders;

(b) To determine the internal consistency of gathered data through a comparison of the household folder with the family planning logbook;

(c) To calculate a group of indicators, including (i) the percentage of non-reasonable method changes, (ii) the percentage of non-complaint users, (iii) the continuation rate of specific contraceptive methods, and (iv) the survival time in the family planning programme, that, despite the availability of data, had never been calculated;

(d) To determine the appropriate level of access to indicators;

(e) To prepare a few simple guidelines for analysing the indicators; and

(f) To identify the main characteristics of a data processing form.

3. Training, data collection and compilation

A sample of 2,003 household folders from 47 service delivery points was selected by systematic random sampling. The number of folders selected from each service delivery point was proportional to the number of couples covered by the programme, ranging from five to 304. The selected folders belonged to clients who had utilized the programme from March 1995 to July 1999.

Two training courses were held for personnel involved in data-gathering and the questionnaires were pretested using 30 folders.

4. Results and discussions on data quality

Among the women studied, the mean age was 29.6 years and the mean number of children was 2.2. More than one third of the women used a method of contraception with one third each of that group using either oral pills or IUD. The degree of completeness of household folder data compared with the family planning logbooks was approximately 70 per cent. Only 6 per cent had more than four non-conformities, indicating that the results of periodic visits according to the logbooks had been recorded in their folders. A considerable amount of the required data did not exist in the folders mainly because of the poor performance of specific activities rather than poor recording. However, the incompleteness of reproductive information appeared to be attributable to poor recording because the first family planning visit required the completion of the child spacing form. The high degree of incompleteness of the folders was found to be a major obstacle to using the existing forms for calculating the indicators.

With regard to the degree of success among service delivery points in keeping clients from leaving the programme, four indicators were collected. The first indicator on the causes of method change indicated that more than 30 per cent of the causes were either unknown or non-registered. Therefore, an accurate percentage of unreasonable method changes could not be obtained.

To understand the performance of the system regarding specific methods, the continuation rate of any specific method was utilized as it could be calculated from existing data. The study indicated that the median continuation rate was highest for IUD use at more than two years, with other methods including oral pills, norplant, condoms and DMPA recording about nine months. About one sixth of users left the programme during the course of the study, and from the data available it was noted that a large proportion (more than

55 per cent) left for unknown causes. Therefore, the data were of little value in calculating the indicator. Another indicator studied was the survival time in the programme, which was shown by available data to be quite high at up to three or even four years.

F. Study of family planning and maternal care programmes

1. Review of programmes and documents

In studying the FP programme documents, it was found that as a comprehensive document covering all aspects of the programme was unavailable the focus was placed on processing standards.

A review of the maternal and child health-care programme documentation revealed that the main documents comprised minutes of maternal health council meetings, periodic performance reports, reports of surveys, and occasional reports and papers based on registered data. A comprehensive document covering all aspects of the programme, especially the monitoring and evaluation system, was not found.

To assess the programme standards, teams consisting of health workers, supervisors and programme experts were formed and a flow chart of service processes was produced. The exercise brought to light many points and problems that had not previously been taken into account. The attention of programme experts was drawn to these findings and this encouraged them to seek appropriate solutions. It was felt that this type of flow chart could be used as an educational and monitoring tool and offered a powerful means of consensus building among health workers, supervisors and experts on the various aspects of the programme.

2. Assessment of existing monitoring and evaluation activities

The collection of data on family planning involved the utilization of the household folder, family planning logbook, vital horoscope and a report form. The completed report form is forwarded to the DHC each month and from there to the provincial health centre. The monthly forms are collated and submitted each quarter to the national-level authorities concerned. Because budget allocation is contingent on the prompt receipt of the quarterly reports, they are forwarded on time. The family planning data contained in the reports appeared to be acceptable and timely. The quality of data has been enhanced by training courses for health personnel. In addition to registration, annual family planning surveys have been conducted since 1989. Because of an informal obligation to present the results of the studies on Annual Population Day, the Population Department of the Ministry of Health and Medical Education is committed to producing them on a yearly basis.

A data collection form has been developed for monitoring FP services at the service delivery points. The form has been well designed and covers almost all monitoring activities. This tool is undergoing field-testing and it is expected to be introduced into the monitoring process in the near future.

The household folder, maternal care logbook, vital horoscope and a report form comprise the data collection tools of the maternal health-care programme. The completed report form is submitted to the DHC each month and from there to the provincial health centre for summarizing and submission every six months to the national-level authorities concerned.

Three well-designed data collection tools have also been developed for monitoring prenatal, delivery and post-natal services. Covering almost all monitoring activities, these tools are undergoing field-testing and are expected to be used for monitoring the service delivery points in the near future. A sampling tool proposed for prenatal care comprises a check list covering: information on the health facility, service provider, observer, supervisor and date; questions to be asked by the service provider in respect of the reproductive history of the client; preventive services; physical examination; referral; counselling; supply folders, forms and logbooks; and interviews with pregnant women and the service provider.

3. Comprehensiveness and quality of indicators

The comprehensiveness of some FP indicators used in decision-making was studied. As shown in table 3, output indicators such as the contraceptive prevalence rate and method that were obtained through the registration system were the only ones used at all levels. An additional national-level indicator such as the IUD expulsion rate was also used, together with indicators pertaining to output, effect and outcome data obtained from surveys. In the case of maternal care, only indicator 16 in table 3 was used at all levels. At the national level, all the indicators from registration and surveys were used.

Comprehensive use of indicators in decision-making was weak at all levels in terms of logistics, service, effect and outcome indicators. Therefore, additional monitoring and evaluation indicators should be developed for all levels of decision-making. Problems of validity and reliability of registration data were also apparent, perhaps owing to the inappropriate design of the forms.

4. Analysis and dissemination of results

Another perceived weakness was the analysis and interpretation of results and their use in decision-making. Although national reports of surveys on family planning are distributed to provinces, and despite well-developed questionnaires and data-collecting methodology, a consistent and structured analytical framework was not present in the reports. The style and content of the reports change from year to year, mainly because of movements of personnel. In maternal care, selected indicators were compared between provinces but the methodology for interpreting the differences was not clear. Consequently, the feedback of the indicators to the provincial level was not associated with appropriate analysis.

The values of the indicators were also compared over time, but again the methodology for decision-making and planning on the basis of such comparisons was unclear. Survey results were not being analysed and feedback containing useful and action-oriented interpretation of the results was not apparent. In general, the surveys lacked an appropriate analysis framework and their role as a policy-making tool was therefore negligible.

Table 3. Assessment of the quality of family planning and maternal care indicators

No.	Indicator	Source	Validity	Reliability	Represent-ativeness	Feasibility
	Family planning indicators					
1	Contraceptive prevalence rate	R	+/–	+	–	+
2	Contraceptive prevalence rate by method	R	+/–	+	–	+
3	IUD expulsion rate	R	–	+		
4	Contraceptive prevalence rate	S	+	+	+	+
5	Contraceptive prevalence rate by method	S	+	+	+	+
6	Reason for not using contraceptive method	S	+	+	+	+
7	Method used when pregnancy occurred	S	+	+	+	+
8	Percentage of correct consumption of oral contraceptive	S	+	+	+	+
9	Unwanted pregnancy rate	S	+	+	+	+
10	Mean age at first pregnancy	S	+	+	+	+
11	Crude birth rate	S	+	+	+	+
12	Total fertility rate	S	+	+	+	+
13	General fertility rate	S	+	+	+	+
14	Population growth rate	S	+	+	+	+
15	Age-specific fertility rate	S	+	+	+	+
	Maternal care indicators					
16	Proportion of women attended at least six times by health personnel during pregnancy for reasons related to that pregnancy	R	–			
17	Percentage of pregnant women receiving critical care	R		–		
18	Percentage of births attended by skilled health personnel	R	+	+	+[a]	+
19	Percentage of births by place of delivery	R	–	+	+[a]	+
20	Percentage of postpartum women receiving care on day 10 and day 40 after delivery	R	–	+		
21	Low birth weight	R				
22	Still birth rate	R	–	+		
23	Proportion of women attended at least 6 times during pregnancy by health personnel for reasons related to pregnancy	S	+	+	+	+
24	Percentage of births attended by skilled health personnel	S	+	+	+	+
25	Percentage of births by place of delivery	S	+	+	+	+
26	Proportion of women immunized against tetanus	S	+	+	+	+
27	Percentage of deliveries done by Caesarean section	S	+	+	+	+
28	Maternal mortality rate	C	+	+	+	+

Notes: R: registration; S: survey; C: census (RAMOS); + indicates acceptable and – indicates unacceptable.

[a] These two indicators are representative of women covered by public service delivery points.

G. Conclusions and recommendations

Based on the study, certain conclusions and recommendations were reached with regard to the information systems of the family planning and maternal health-care programmes. These conclusions and recommendations are detailed below.

1. Strengths

The strengths of the programmes include:

(a) Relevant and acceptable national-level indicators for family planning, and well-developed indicators for maternal health care;

(b) National family planning surveys that are valid, reliable, representative, feasible and replicable;

(c) An acceptable family planning registration system in terms of completeness and timeliness;

(d) Household folders that contain valuable data on maternal health care, and which can provide the required information if an appropriate plan is available for processing and using that data; and

(e) Availability of the values of some important maternal health-care indicators through surveys.

2. Weaknesses

The weakness of the programmes include:

(a) No definition of monitoring indicators for family planning;

(b) Inadequate monitoring indicators, especially at the peripheral level of the maternal health-care programme;

(c) An unstratified information system in the family planning programme and poor development of the role of the peripheral level in the calculation of indicators, analysis, decision-making and intervention;

(d) A lack of a clear methodology for data analysis and feedback in the maternal health-care programme;

(e) Low quality registration-based indicators for family planning, which makes them less useful at the national level;

(f) The low validity and reliability of the registration system in respect of maternal health-care data owing to the inappropriate design of reporting forms;

(g) The lack of a consistent and structured analysis framework for national family planning surveys; and

(h) The dissemination of a uniform feedback from national surveys to all provinces instead of tailoring the feedback to conform to regional problems.

3. Scope for expanding or modifying the system for sustainability

The study on strengthening monitoring and evaluation system envisages further consideration being given to the level of access to indicators, analysis guidelines, suitable forms for data processing, experimental implementation of the improved system, and finalization and establishment of the strengthened system. These steps will be taken in the coming months and will form the basis for any modification to the existing system.

Data needed for the calculation of a majority of indicators are available from existing registers but related indicators are not being calculated. Therefore, for the time being, it will not be judicious to add any new data collection forms to the system. In order to

change existing data into indicators, the only step needed is to design intermediate data processing forms. The forms should be designed in such a way that calculations can be made by using the data of client cohorts, if the nature of the indicators necessitates such action, otherwise the production of valid and action-oriented indicators will not be possible.

A review of the periodicity of existing survey-based family planning indicators showed that certain indicators did not vary much over time and therefore did not need to be obtained every year.

The strong infrastructure and well-developed data collection tools, particularly the household folder, will enable the expansion of the system and guarantee its sustainability.

4. Lessons learned

A profound understanding of a programme is an absolute prerequisite for strengthening the monitoring and evaluation of that programme. It is impossible to understand a programme without using a well-structured conceptual framework. A chain model can provide a powerful basis for establishing such a framework.

Appropriate field tests should be conducted in order to finalize indicators and produce analysis guidelines for routine usage in the system. The adoption of indicators is an ongoing process and should follow the formulation of clear analysis models. The design of data collection and processing forms should be compatible with analysis models.

The health system of the Islamic Republic of Iran is one of the best in the region. Through a powerful infrastructure (health network), primary health-care services are delivered equitably to the rural and urban populations. Primary health care comprises a well-developed package of health programmes including maternal health care and family planning. The present study indicated that the data collection forms used in these programmes are well designed and that health personnel have been adequately trained in how to use them. Interviews with programme managers at different levels of the system indicated that they were enthusiastic about improving health programmes through a more judicious and action-oriented information system. However, the main problems of the existing monitoring and evaluation system are as follows:

(a) There are no appropriate indicators for many components of the programme or for peripheral-level decision-making. A lack of monitoring tools and indicators is one of the main weaknesses of the existing system.

(b) The data are incomplete, unreliable and invalid. Decision-making that is not based on reliable, valid and comprehensive information results in managers becoming indifferent to data quality. Even where data are available, they are not used for any action programmes.

(c) The system suffers from the burden of duplicated surveys that are carried out almost every year.

VI. MYANMAR

*Htay Htay Aye**

A. Background

The 1983 census in Myanmar showed that the population was 34.1 million, of which more than 75 per cent was located in rural areas. In mid-1997, the population was estimated by the Central Statistical Organization (CSO) to be around 47.3 million with an annual growth rate of 1.8 per cent. The population has a young age structure with a high proportion of women falling within the reproductive age group. With a land area of 676,578 square kilometres, the population density is less than 70 persons per square kilometre.

The government is striving to raise the health status of the population. It has laid down political, economic and social objectives for the building of a modern, developed nation. Reflecting the changing social, economic and political situation in the country, a National Health Committee was established and it has laid down a national health policy with the guidance of the State Peace and Development Council. The national health policy aims to achieve national development in living conditions, particularly with regard to health, in the context of all-round development of the country.

Under the guidance of the National Health Committee, the Ministry of Health has taken the responsibility of raising the health status of the people through the provision of promotional, preventive, curative and rehabilitative measures. The Ministry has set two main objectives:

(a) To enable every citizen to attain a longer life expectancy; and

(b) To ensure that every citizen is free from disease.

Three strategies have been formulated for implementing the above objectives:

(a) Widespread dissemination of health information and education in order to reach the rural areas;

(b) Enhancing disease prevention measures; and

(c) The provision of effective treatment for prevailing diseases.

Reforms in the health-care delivery system have been instituted in line with the open market economy reforms adopted by the government. Necessary acts, laws, by-laws, rules and regulations pertaining to health have been issued as required. With the primary health-care approach, Myanmar has implemented a series of National Health Plans over the past two decades. The current National Health Plan (1996-2001) is being implemented in the context of the second five-year, short-term economic plan for the country. Significant reforms have been carried out in the health sector, with the aim of making it more effective and efficient and ensuring universal access (including indigenous people residing in the border areas) to primary health-care services.

Close cooperation and coordination between health and health-related departments, non-governmental organizations (NGOs), the private sector and international agencies have been strengthened. In addition, new partnerships have been formed in order to enhance programme implementation and expand health-care delivery right down to the grass-roots level.

Priority has been given to the mobilization of community participation,

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especially in preventive and health promotion activities. Widespread dissemination of health information and education has been carried out down to the village level, and measures have been taken to empower the communities to adopt healthy lifestyles and take control over their own health-care.

The draft National Population Policy highlighted the need for birth spacing as an important issue for a "Happy Healthy Family" on health grounds. The policy aims to improve the health status of women and children by ensuring the availability and accessibility of birth spacing services among all married couples who voluntarily seek such services. In other words, all couples and individuals have the basic right to decide freely the number and spacing of their children and to have access to the required information, education and means of doing so.

B. Pre-project situation regarding reproductive health and family planning

In implementing the National Health Plans, priority was given to the Maternal and Child Health (MCH) project under the umbrella of the community health-care programme. In cities and towns, maternal and child health-care was delivered through Urban Health Centres (UHCs), MCH Centres and school health teams. In rural areas, a Rural Health Centre (RHC) and Subhealth Centre scheme was established for providing primary health-care including MCH care. Focusing on the strength of basic health staff in cooperation with various types of voluntary health workers, local administrative authorities, NGOs and the community, the health programme placed greater emphasis on improving quality.

Until 1982, there was no official birth spacing programme, despite a great need for such services. Health providers in and outside the public sector provided contraceptive methods on their own initiatives. Various types of contraceptives were available at local drug stores, but their supply was not regular and the quality was doubtful.

In 1991, the government adopted a policy of making contraceptives available in the public sector. Accordingly, a birth spacing project was started in one township funded by Family Planning International Assistance. In 1992, one township was added, followed annually by one more township in 1993, 1994 and 1995. Coverage with United Nations Population Fund (UNFPA) support was for a total of 72 townships; currently there are 117 project townships involved in strengthening birth spacing. Starting with the 1994-1995 National Health Plan, the antenatal, MCH and birth spacing programmes have been transformed into a reproductive health programme, including adolescent health, in order to provide health-care during every stage of life.

C. Current situation on reproductive health/birth spacing

In urban cities and towns, 462 Lady Health Visitors (LHV) and 1,156 midwives at 84 UHCs and 384 MCH centres have carried out Reproductive Health (RH) care including birth spacing services. In rural areas, MCH and birth spacing services have been carried out by 1,159 LHVs and 7,165 midwives assisted by 24,822 auxiliary midwives of the concerned villages through a total of 650 Station Health Units and Station Hospitals, 1,410 RHCs and 5,720 Subhealth Centres. At the township level, reproductive health and birth spacing services are being provided through strong linkages between the Myanmar Maternal and Child Welfare Association (MMCWA) and its branches, both in urban and rural areas.

UHCs, MCH centres, school health teams and RHCs have been expanded annually as permitted by the national budget. To achieve success in project objectives with limited government financial support, intra- and intersectoral coordination, community

participation and the important role of voluntary NGOs are enhanced and encouraged. For example, the Reproductive Health/Family Planning (RH/FP) project is funded partly by the government and as well as receiving substantial assistance from international agencies and international NGOs.

In Myanmar, the cultural and social system encourages cooperation through community involvement by individuals as well as groups or associations. For instance, in the birth spacing programme, multisectoral, intrasectoral, NGO and community cooperation and coordination have been identified and committees formed at various levels of the health-care infrastructure.

In order to achieve "Health for All" by 2000, the community health-care programme is being implemented within the context of primary health-care and also in line with the national health and population policies. MCH, reproductive health, birth spacing and adolescent health are being implemented as part of the community health-care programme of the National Health Plan. The emerging issues of Reproductive Tract Infections (RTIs), Sexually Transmitted Diseases (STDs) and the Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) have been recognized, while the participation of communities and NGOs has been given priority.

RTI and STD case management is primarily focused on the treatment of individual men and women. The 1997 Fertility and Reproductive Health Survey (FRHS) showed that 14 per cent of the women surveyed reported that they were currently suffering from vaginal discharge and that 3 per cent had vaginal irritation. Trichomonas vaginalis with white discharge was noted in 10.5 per cent of women, while 4 per cent of women had gonorrhoea with pelvic pain and 0.8 per cent had non-specific white discharge. Syphilis (VDRL+) was noted in 4.8 per cent of women. Among men, STD with ulceration was found in 30.6 per cent of the cases (women, 11.1 per cent), while another 11.1 per cent had a discharge (women, 12.5 per cent).

HIV/AIDS is appearing in all social classes. While it is most frequently reported among high-risk behaviour groups, it is spreading among low-risk groups. The fight against HIV/AIDS has been given top priority by the government, and the importance of dealing with the problem through a multisectoral approach is well recognized. Participation by NGOs in HIV/AIDS control activities is being encouraged.

D. Development and methodology of management information systems

1. National management information systems

Prior to 1995, the health information system of Myanmar was organized vertically using several sources. The data collection system extended incrementally with the emergence of newly prioritized health programmes in the national health plans. Hence the data collection system was scrutinized at the national level, and trimmed and modified as necessary by the bottom-up decentralized management approach. The system has evolved from that structure characterized by a series of vertical programmes to an integrated system with user-based information for management, monitoring and evaluation in support of policy analysis and planning. Thus, a national Health Management Information Systems (HMIS), developed using Minimum Essential Data Sets, has been in operation nationwide since July 1995.

The national management information systems (MIS) employs basic data recording tools such as a clinical register, a daily diary for field visits, a daily worksheet, vital event register and census register. From those documents, the monthly reporting form 1 is generated by each category of health worker for

his or her specific service. Data consolidation is done at each level of the health infrastructure. Evaluation is carried out by comparison with norms and project targets. Information on MCH, birth spacing and vital statistics (including the abortion rate) is used for RH and birth spacing programme monitoring and evaluation.

The data collected on birth spacing services in the 72 UNFPA-assisted townships is under sentinel surveillance and a minimum set of essential data will be included in the national MIS when it covers all 324 townships in the country. This compares very favourably with the fact that, prior to 1996, there was no proper system for reporting on birth spacing services, although the relevant data collection tools had been developed. In addition to the need for technical and financial assistance, continuous training and inculcation of managerial skills are prerequisites for the effective implementation of a proper information system.

2. Objectives of the management information systems in birth spacing

The general objectives of MIS are:

(a) To improve RH through the provision of management information for the decision-making process;

(b) To increase the opportunities for all couples and individuals to decide freely and responsibly on the number, spacing and timing of their children;

(c) To provide the information and means for them to do so; and

(d) To attain the highest standard of sexual and reproductive health.

The specific objectives of MIS are:

(a) The development of an MIS integrating service delivery, supply logistics, and information, education and communications (IEC) for management of the RH/birth spacing programme; and

(b) The use of MIS as a monitoring and evaluation tool to provide reliable data and useful information on the major health indicators for selected townships as well as for the expansion of RH/birth spacing services to other townships.

The strategy to be adopted includes ensuring political commitment, community and intersectoral participation, capacity-building, service provision, monitoring, evaluation and research. These aims will be achieved through the development of the MIS mechanism as a data collection and reporting tool in sentinel areas in order to strengthen RH and birth spacing and by linking it with the national HMIS. The system will be implemented as a monitoring and evaluation tool with appropriate training; the provision of adequate materials, supplies and equipment; and the establishment of a data bank to generate and disseminate relevant information. In addition, supervisory and monitoring visits will be carried out as necessary to ensure data quality and quantity, collaboration through consensus meetings, advocacy seminars and workshops, and a continuous review and revision of the techniques and tools. The implementation of a regular feedback mechanism is also considered important.

E. Objectives and strategies of the reproductive health project

The general objectives of the project are:

(a) To reduce morbidity and mortality of mothers and children;

(b) To promote MCH/RH care coverage;

(c) To improve the quality of RH care services;

(d) To reduce the abortion rate through the availability of birth spacing services; and

(e) To promote RH education in the community, including among adolescents.

The specific objectives include: the reduction of maternal mortality and infant mortality; the expansion of UHCs and MCH centres; the provision of regular refresher training for medical officers, basic health staff and voluntary health workers; the expansion of birth spacing townships in a phased manner; the organization of workshops; and carrying out operational research on RH.

The strategies formulated for achieving the objectives include: increased heath-care coverage for antenatal care, safe and aseptic delivery, and post-natal care by trained personnel; the provision of antenatal services with emphasis on high-risk screening; the promotion of counselling activities; the provision of IEC to eligible couples regarding birth spacing; education and dissemination of RH knowledge to all, including adolescents; and achieving an optimum contraceptive method mix.

F. Identification and selection of indicators

A list of MIS indicators appropriate for Myanmar was identified according to thematic areas such as RH, population and development, IEC and impact in consultation with responsible project managers. The list was based upon the set of indicators for population and RH/FP programmes prepared by the Technical and Policy Division of UNFPA. The indicators were also discussed during the Expert Group Meeting and the Study Directors Meeting on strengthening performance monitoring and evaluation systems organized by ESCAP at Bangkok in 1997.

The set of indicators was presented and finalized at a national seminar on monitoring and evaluation of health service delivery. The table below provides the list of indicators identified for monitoring and evaluation of the RH/birth spacing project.

G. Methods and materials

1. Selection of study area

With regard to project management, all 72 townships assisted by UNFPA are under supervision; however, for some RH indicators, service coverage extends to all 324 townships through routine HMIS activities. Advocacy and IEC activities cover all those townships with inputs from the government supplemented by assistance from the World Health Organization, UNFPA, the United Nations Children's Fund and other agencies, NGOs and international NGOs (INGOs). Only 26 sentinel sites are under surveillance for indicators on RTIs, STDs and HIV/AIDS. For specific service coverage and supply of contraceptives, five focus townships have been selected according to geographical region and including urban and rural localities representing a range of socio-economic, ethnic and health situations (one from each State/Division). In addition, some indicators are calculated from the focus townships of Nyaungdone in Ayeyarwady, Pyay in Bago, Amarapura in Mandalay, Kyauktan in Yangon and Tachilek in Eastern Shan State.

2. Data collection methodology and instruments

Services data on public health and hospital statistics are collected monthly by health staff and used in monitoring performance. In the sentinel townships assisted by UNFPA, an MIS is being implemented. Annual updating of an Eligible Couple Register (ELCO) is carried out by basic health staff with assistance from health volunteers, local authorities, personnel

Table 1. Values and sources of selected indicators

	Indicator	Value	Year	Source
	1. Indicators for monitoring ICPD goals			
(a)	*Reproductive health*			
	Percentage of service delivery points at the primary health-care level offering a full range of RH services, either directly or through referrals	100	1998	SS; MOH National level
	Contraceptive prevalence rate by method (%)	43.7	1998	ELCO Register in project townships; Sample survey; FRHS, 1997
	Pill	16.3		
	Injectable	19.4		
	IUD	2.3		
	Condom	1.2		
	Others	4.4		
	Percentage of births attended by trained health personnel	55.5	1998	N; HMIS; MOH
	Percentage of population with access to basic health services	79	1998	N; HMIS; MOH
(b)	*Mortality reduction*			
	Infant mortality rate (per 1,000): Urban	47.5	1996	CSO, 1997
	Rural	49.8		
	Under-5 mortality rate (per 1,000)	72.3	1996	CSO, 1997
	Maternal mortality ratio (per 1,000): Urban	1.0	1996	CSO, 1997
	Rural	1.7		
(c)	*Causes of maternal deaths*			
	1. Abortion (missed, incomplete, complete with complications by genital tract and pelvic infection: ICD-10:O02.1,O06.4,O06.5-9)		1992	Krasu, 1992;
	2. Sepsis		1994	Central Women's Hospital (Ba Thike, 1997)
	3. Obstetric bleeding (APH, PPH)			
	4. Hypertension (eclampsia, pre-eclampsia)			
	5. Obstetric trauma			
	Life expectancy at birth (by sex): Urban: Male	60.6	1996	CSO, 1997; N
	Female	64.5		
	Rural: Male	60.1	1996	CSO, 1997; N
	Female	62.2		
(d)	*Social*			
	Gross primary school enrolment rate (%): Male	116	1996	MICS, 1997; S
	Female	109		
	Adult literacy rate (%): Male	82	1983	Census; N
	Female	71		
	2. Legislative and administrative policies related to RH			
(a)	*Policies and administrative procedures*			
	National policy specifying in writing the standards of quality for (i) birth spacing information (IEC) and services, (ii) maternal care, (iii) prevention and management of RTIs and STDs, (iv) treatment of abortion complications, and (v) provision of post-abortion birth spacing counselling and services	Yes	1998	MOH; N

Table 1. *(continued)*

Indicator	Value	Year	Source
National policy for the provision of contraceptives at nominal cost for those who can afford and without charge for the poor	Yes	1998	MOH; N
National strategic plan to control RTIs and STDs, including HIV/AIDS 1. Prevention of sexual transmission of HIV through the provision of information, education and STD control measures 2. Prevention of blood-borne transmission of HIV through the provision of safe blood supply, promoting universal precaution and sterilization practices, reducing narcotic use and through the provision of education programmes including peer education training 3. Prevention of perinatal transmission of sexually transmitted HIV through education and counselling and through the promotion of RH 4. Provision of proper care and management of AIDS cases 5. Provision of counselling services to those who are in need 6. Provision of social and economic support for AIDS patients and families	Yes	1998	MOH; N National Committee on Control and Prevention of AIDS
Provision to protect the basic rights of HIV positive individuals with reference to employment, marriage and travel	Yes	1998	MOH; N
Age at first marriage by sex:			
(i) Does a legal minimum age exist?	Yes	1998	Attorney-General; N
(ii) What is the legal minimum age? Male	16		
Female	18		With parental consent
(iii) Is the legal minimum age endorsed?	Yes		
3. Family planning indicators			
(a) Unmet needs			
Adolescent (15-19 years) fertility rate (per 1,000)	25	1996/1997	FRHS, 1997; S
(b) Coverage and access			
Percentage of the population within a two-hour walk of RH/FP service delivery points	71	1998	Focus township; SS
(c) Quality of care			
No. of contraceptive methods available at family health-care centres	5	1998	Service statistics
Percentage of service delivery points having available equipment for high-level disinfection/sterilization	88.5	1998	Focus township; SS
(d) Management			
Percentage of service delivery points with a 3 months supply of contraceptives in stocks	92.3	1998	Focus township; SS

Table 1. *(continued)*

	Indicator		Value	Year	Source
	4. Maternal health indicators				
(a)	*Unmet needs*				
	Percentage of delivering women who develop obstetric complications and receive emergency obstetric care		4.7	1998	HR; MOH; N
(b)	*Coverage and access*				
	Percentage of pregnant women attended at least once by trained health personnel		73.7	1998	SS; HMIS; N
	No. of service delivery points per 500,000 population able to provide basic EOC on a 24-hour basis		26	1998	Focus township; SS
	No. of district hospitals per 500,000 population able to provide blood transfusions on a 24-hour basis		0.6	1998	Administrative records; MOH; N
(c)	*Quality of care*				
	Percentage of deliveries that are C-section		14.8	1998	HR; MOH; N
	Percentage of pregnant women attending antenatal services who received:				
	(i) Iron/foliate		100	1998	SS; MOH; N
	(ii) Tetanus immunization		90.5	1998	SS; HMIS; N
(d)	*Management*				
	Availability of in-service training programmes on life-saving skills for midwives, nurses and paramedics		Yes	1998	SS; MOH; N
	5. Reproductive tract infections and sexually transmitted diseases				
(a)	*Unmet need*				
	Estimated prevalence of syphilis (%):	Male	3.6	1998	Sentinel; MOH; SS
		Female	4.2		
	Estimated prevalence of gonorrhoea (%):	Male	1.3	1998	Sentinel; MOH; SS
		Female	1.1		
	Ectopic pregnancy rate (%)		0.01	1998	HR; MOH; N
(b)	*Coverage and access*				
	No. of SDPs offering diagnosis and treatment of: (i) syphilis; (ii) gonorrhoea; (iii) chlamydia		456	1998	SS; MOH
(c)	*Quality of care*				
	Availability of counselling services for discussing sexual health		Yes	1998	MOH; N
	Percentage of service delivery points following standard guidelines on sterilization and high-level disinfection methods to prevent introgenic infections including RTIs		3.8	1998	Focus township; SS
	6. Abortion and post-abortion care				
(a)	*Coverage and access*				
	Percentage of obstetric and gynaecological admittances/outpatients due to abortion complication		23.3	1998	HR; MOH; N
	Percentage of women treated for abortion complications referred for post-abortion birth spacing counselling and services		72.3	1998	Focus; SS

Table 1. *(continued)*

	Indicator	Value	Year	Source
(b)	*Management*			
	Availability of in-service training on post-abortion birth spacing counselling for health providers	Yes	1998	MOH; N
	7. Harmful practice			
(a)	*Incidence*			
	Sex ratio of births	102.2	1996/ 1997	FRHS, 1997; S
	8. Population, social and economic indicators			
(a)	*Population*			
	Total (million)	47.2	1998	CSO, 1997; N
	Percentage of rural population	75	1983	Census; N
	Annual rate of population growth (%)	1.8	1996	CSO, 1997; N
(b)	*Demographic*			
	Crude birth rate: Urban	28.1	1996	CSO, 1997; N
	Rural	30		
	Crude death rate: Urban	8.8	1996	CSO, 1997; N
	Rural	9.9		
	Total fertility rate	2.7	1996/ 1997	FRHS, 1997; S
(c)	*Social and administrative*			
	Gross secondary school enrolment (%)	40.5	1996/ 1997	MERB; DBE; N
	Percentage of households without access to safe water: Urban	12	1997	MICS; S
	Rural	40		
	Percentage of households without access to sanitation: Urban	28	1997	MICS; S
	Rural	47		
(d)	*Economic*			
	Gross national product per capita (Kyats)	1 602	1997/ 1998	MONP & ED; N
	Unemployment rate (%): Male	3.7	1996/	DOL; S
	Female	4.8	1997	
	Labour force participation rate (%): Male	79	1996/	DOL; S
	Female	47	1997	

Sources: MOH: Ministry of Health; DBE: Department of Basic Education; DOL: Department of Labour; MONP & ED: Ministry of National Planning and Economic Development: CSO: Central Statistical Organization; MERB: Ministry of Educational Research Bureau; HMIS: Health Management Information Systems; MICS: Multiple Indicator Cluster Surveys; FRHS: Fertility and Reproductive Health Survey; ELCO: Eligible couple register; HR: Hospital records.

Notes: N: National; SS: Service Statistics; S: Survey.

from health-related departments and members of NGOs. Data collection tools are used, such as recording and reporting forms and individual client cards that utilize standardized definitions and methodology. These tools are reviewed and modified as needed. For example, the ELCO reporting format was modified in 1998 in conjunction with responsible personnel based on field experience. Some of the important data collection tools are detailed below.

(a) Eligible couple register for birth spacing

The register contains information that includes the name of the health centre by township, date, name of husband, client's name and age, number of pregnancies, abortions, stillbirths, and living and dead children, contraceptive use by method and source, reasons for non-use and duration of previous use of contraceptives.

(b) Birth spacing programme client register

This register includes information on date, client type (new/old), name, age, contraceptive method and amount supplied.

(c) Drugs/materials logbook

The logbook is used to record details on pills, injectables, IUDs and condoms, including dates, balance at beginning of month, receipts for the month, amount issued during the month, losses, the balance at the end of the month and the quantity required for the following month.

(d) Client card for the birth spacing programme

The card contains: the date (year and month); name of village/health centre of township; name, age, education and occupation of client; age at marriage and at delivery of first child; name, age, education and occupation of husband; number of pregnancies, live births and living children; age of the youngest child; intention concerning future pregnancies; previous use of contraceptives, current use, method and brand of contraceptive, and amount supplied; dates of visits, treatment/counselling; and reason for dropping out.

(e) Client status monthly report

The report includes the date, name of health centre, type of contraceptive used, number of users (new/old), switches in method of use and number, dropouts by reason and referrals by type.

(f) Drugs status monthly report

This report is prepared by each health facility and lists the types of contraceptives provided, balance on hand, receipts during month, amount used, end of month balance and quantity required.

(g) Annual reporting form for eligible couples

The form includes health facility by township, the number of registered eligible couples, number of pregnancies by pregnancy order, abortions, stillbirths, children aged under five years, living children, number of former, current and non-users of contraceptives by method, source of service, reasons for non-use, and potential/non-potential users.

Data are also collected from several other sources. For example, some process and impact indicators are obtained from data collected by national surveys such as FRHS, the Multiple Indicator Cluster Survey (MICS), and sample surveys using questionnaires and tools. Other data are drawn from the civil registration system implemented by the Central Statistical Organization of the Ministry of National Planning and Economic Development, which provides the vital statistics that are published annually.

3. Training

To ensure that data quality and quantity are satisfactory, it was considered very

important for personnel carrying out data collection and compilation to receive adequate training and exposure to the objectives of the study as well as the types and varieties of data to be obtained. The in-country RH/birth spacing training programme was carried out at three levels with multiplier courses. Training materials were prepared and provided as detailed below.

(a) First-level training

The first level was the training of trainers for the 72 townships, conducted at the central level as well as in each state and division. Participants were responsible in-service personnel of State and Division Health Departments, township medical officers, and representatives of health assistants and LHVs from the respective townships.

The training, which was run from November 1996 to July 1997, comprised an integrated package of materials covering: a general overview of the RH concept including a syndromic approach to, and management of, RTIs and STDs including HIV/AIDS; birth spacing; abortion; maternal morbidity and mortality; contraceptive technology and programme methods; UNFPA programme activities for RH/birth spacing programme design and management; MIS recording and reporting forms; and group work and field experience on IEC and counselling, client screening, and observation of, and issues related to, IUD insertion.

(b) Second-level training

The second level comprised training courses that were initiated in December 1996 on a continuous, repetitive basis. The courses are conducted at the township level, with the trainees from the first level of training acting as resource persons, for basic health staff of the townships concerned. The training is concerned mainly with the operational aspects of RH/birth spacing, including data collection, reporting and utilization.

(c) Third-level training

The third level of training was for voluntary health workers, including those with NGOs. The training was conducted with assistance from responsible NGO staff and basic health staff, especially the midwife. The training dealt with counselling, availability of birth spacing methods, data collection on ELCO and other operational issues. In addition, regular and continuous on-the-job training was provided for township medical officers and basic health staff by central staff during monitoring visits.

4. Management information systems implementation and field data collection

Eligible couple registration was started in April 1997 and has been established in all the project townships. Data collection is undertaken mainly by basic health staff through intersectoral collaboration and partnership, especially between health volunteers, personnel of the Immigration and Manpower Departments, local administrative authorities, staff of general administration departments, local NGOs and community elders.

Complete reports for 1998 were received from only 60 of the 72 townships and updating for the 1999 report is in progress. ELCO provides the contraceptive prevalence rate (CPR) by method, non-current users (divided into potential users and non-users) by reason, sources of contraceptive supplies, eligible couples by frequency of pregnancy, abortions, stillbirths, live births, and number of living children. The information is considered to be representative of the eight states/divisions of the country.

Data on current users, including those who have switched over to other methods of contraception, are obtained from the client registers and client cards provided by the MIS project. Drug status (receipts, supply, distribution and balance of stock) are obtained from the drugs and materials logbook. Numbers

referred for IUD insertion and sterilization, health education on birth spacing and number of attendances are recorded on the daily worksheet or diary during field visits. The data are compiled on the monthly return form and one copy is sent to the State/Division Health Department. Another copy is forwarded to the central data bank for consolidation, analysis and necessary action on management issues.

5. Monitoring, supervision and feedback

A National Health Plan Monitoring and Evaluation Committee was formed at the central level to undertake monitoring and evaluation of the project. A built-in monitoring and evaluation process is followed at the state/ division and township levels on a regular basis. Monitoring the progress of individual service activities is carried out by responsible township medical officers and supervisors. It consists of individual and group interviews of basic health staff, focus group discussions at the community level, clinical observations and visits to service provider facilities. Evaluation workshops are conducted in townships and at the central level at regular intervals.

At the peripheral level, midwives are supervised by LHVs, the public health supervisor II is supervised by the health assistant, and all basic health staff including multipurpose workers and the public health supervisor I are supervised by the township health officer and township medical officer at least during their regular monthly meetings and training sessions. The meetings usually take place at the end of each month when salaries are disbursed and accounts are settled. Focus group discussions and other IEC activities, clinical observation and service provision are monitored by basic health staff in the community in cooperation with Myanmar Maternal and Child Welfare Association (MMCWA).

Another avenue that was utilized for monitoring and feedback was a central-level evaluation workshop on MIS strategy and implementation, which was conducted with participation by State/Division Health Department officials, statisticians and responsible personnel from the townships. In addition, township-level evaluation is carried out annually, exhibiting disaggregated data and other useful information and indicators for township micro-planning. In-depth studies with constant monitoring and evaluation for the generation of indicators are conducted in focus townships. A cohort study is undertaken for processing the relevant indicators.

6. Data processing and compilation

Each of the five sentinel townships in the study was provided with a computer as well as software developed at the central level for use in data entry and analysis. In the other townships, data for the monthly reports on user status, drug status and annual ELCO compilation are processed manually.

At the central level, a data bank has been established with Local Area Network (LAN) facilities for health project managers of the Department of Health and Department of Health Planning who are involved in the national HMIS. Relevant data and information are processed monthly on the returns from project townships, and compiled and disseminated for project management.

7. Participation by United Nations agencies, INGOs, NGOs and the private sector

Cooperation and coordination were enhanced during the implementation of the RH/ birth spacing project through the participation and assistance of NGOs, INGOs and the private sector. Specifically, MMCWA produced two videos for dissemination of RH/birth spacing education through the media, provided IEC materials at the grass-roots level through its township branch associations, provided services to the poor jointly with local health staff, assisted in the establishment of a general drug

fund and arranged hospitalization in needy cases. MMCWA also assisted in the training activities, provided counselling, and distributed condoms and oral contraceptive pills.

In one township (Kyauktan in Yangon Division) the township medical officer included general practitioners from private sector clinics in the implementation of the birth spacing programme, which raised the user/prevalence rates.

Active participation by community members is needed to prevent RTIs and HIV infection. Community leaders and representatives from NGOs need to be trained in promoting health education activities aimed at different social and ethnic groups. Other interventions that have been highly beneficial to Myanmar include:

(a) The UNFPA-assisted birth spacing project in 72 townships;

(b) The United Nations Development Programme's HDI (Human Development Indicator) in 36 townships in primary health-care, phase 2;

(c) The World Health Organization through its family health clinics, RH and health of women and children project;

(d) The United Nations Children's Fund, women's health and HIV/AIDS prevention projects;

(e) The United Nations High Commissioner for Refugees project on local integration for health and RH;

(f) Family Planning International Assistance in its birth spacing programme in seven townships; and

(g) Assistance from several other INGOs involved in the health sector, with particular emphasis on RH and HIV/AIDS prevention.

8. Quality and coverage of data

The MIS recording and reporting system is in place in all the project townships, thus covering about one third of all townships in Myanmar. However, although most of the service statistics have been found reliable, based upon a check of service records and registers during the study, there are still some gaps. The validity of the service statistics was tested by the lot quality assurance sampling method during home visits in the communities and found acceptable by the survey team. Collection of census data on ELCO is updated annually by the health staff in coordination with the Immigration and Manpower Departments, local administration staff, health volunteers and NGOs, and with the full involvement of the communities. Thus, the data are expected to be complete.

(a) Data collection problems: issues and constraints

In implementing the birth spacing MIS, data collection is done through the client cards, which make data entry in the monthly return forms a relatively easy task. However, the basic health staff need continuous and repeated training on concepts and definitions to ensure data quality.

Another problem is that ELCO registers are not being completed in some townships and the monthly reports are therefore incomplete. Corrective action includes reminders to ensure timeliness as well as monitoring visits during which guidance and assistance are provided in expediting the work.

(b) Workload of data collection and capacity of staff

Data recording and reporting by using the form were not a serious burden to the basic health staff. Data are computerized in the central data bank, enabling statisticians to manage and share them through LAN with the health project managers of the Ministry of

Health. MIS data and activities are supervised and checked by the national activity manager, two senior officials and five staff of the Statistics Division of the Department of Health Planning at the central level, eight statisticians in the State/Division Health Departments and all basic health staff in the field.

(c) Time lag in data collection, processing and analysis

Service statistics are recorded promptly in registers at the service delivery points and compiled in a daily worksheet. At the township level, monthly meetings are held with health staff to consider the monthly township data. Monthly returns are due before the second week of each month for onward submission. However, the central data bank is allowed three months for finalizing data returns.

The monthly processing and analysis of data is done at the central level by project and activity managers but not on a regular basis because of the heavy workload of the managers. An annual evaluation is conducted by responsible personnel including township-level representatives.

9. Results of data collection in the area: analysis and interpretation

ELCO registration data from the 72 project townships indicated that CPR increased from around 40 per cent in 1997 to 44 per cent in 1998. The increase was noted for all ages up to 44 years with a slight decline in the 45-49 age group. The peak and biggest increase in CPR was found in the 30-34 age group. The preferred method was injectables but the oral pill also showed significant preference. Condom had some acceptance in the youngest and older ages. Perhaps because of cost considerations, most of the users received their supplies from health staff. General practitioners contributed approximately one fifth of the supplies.

The abortion rate was highest in the ages of 15-19 years, after which it declined until reaching a trough between the ages of 25 and 29 years. A slight increase was shown thereafter. A substantial number of mothers had experienced six or more pregnancies and a sizeable number of women had undergone two or more abortions, highlighting the importance of IEC in addressing unmet needs.

Another crucial finding was that a large percentage of women reported having no knowledge of any birth spacing methods, while another sizeable group indicated a dislike for the method they were currently using. Thus, in addition to IEC, there is a need to investigate the causes for such dislike and to rectify the situation. Among non-users, around one fifth reported "dislike" and a further one fifth indicated "don't know" as the reasons for non-use. As most of the non-users could be persuaded to accept one of the birth spacing methods, appropriate action is needed.

The analysis revealed that compared with 76 per cent who were potential users, only 40 per cent were current users. The gap between knowledge and practice must be bridged by motivation and education.

Data have been obtained from the 72 UNFPA-funded project townships in respect of the number of eligible couples, frequency of pregnancies, abortions and stillbirths, the number of children still alive and those aged under 5 years, the number of current contraceptive users by method and source, and reasons for non-use.

For the five selected sentinel townships of Nyaungdon, Pyay, Amarapura, Kyauktan and Tachilek, information was collected and presented in respect of ELCO, the number of users, non-users and never used, health education (number of sessions and attendance) contraceptive clients and utilization by method and source, and contraceptive accounts (supply, distribution, use and balance on hand). Some

impact indicators such as the abortion rate, infant mortality rate, maternal mortality ratio, child mortality rate, crude birth rate and crude death rate are also presented in table 1. From the data given, it appears that most of the indicators are under-reported.

H. Conclusions and recommendations

1. Lessons learned

The supply of drugs, especially injectables, should be adequate, while timely provision of information to programme managers plays a crucial role. Training of basic health staff and volunteers is also crucial to programme success, and regular and continuously updated training modules should be utilized. In addition to formal training, more participatory sessions such as discussion groups and role-playing need to be introduced. Adequate funding and other resources such as data processing equipment need to be allocated to achieve decentralized management.

The quality of contraceptives and the fear of side effects are related problems in switching or abandonment of contraceptive methods. Efforts must be made to allay the fears and doubts of clients.

Performance appraisal, regular monitoring and recognition of performance are avenues for improving project execution. Priority should be given to filling vacancies among basic health staff, especially midwives. The attrition of auxiliary midwives needs to be reviewed and rectified. Motivation and incentive schemes could be considered as a way of reducing attrition.

2. Utilization of MIS data

The importance of MIS lies in its use, in terms of both self-evaluation and corrective action by service providers, and for the clients themselves who will benefit from improved services. However, the study indicated that at the lower levels of health infrastructure, the basic health staff were not using the data in self-monitoring. There appears to be a need for training in user-based application.

Townships send their reports up the hierarchy for analysis and evaluation of data and corrective action. However, to put the recommendations into action is not easy as that requires additional resources. For example, corrective action may not be taken in a case where a drug is in short supply at one centre and in surplus in another centre, as bureaucratic, logistical and other problems are involved in transferring commodities between centres.

3. Feedback mechanism and dissemination of findings

The bottom-up approach is used in the dissemination of information whereas feedback is top-down. More interchange and flow of information is required in both directions. The existing supervision and monthly monitoring and feedback systems appear to be weak. They are in need of strengthening.

The monthly returns are analysed and the results disseminated to the project decision-makers to enable them to mobilize resources and take corrective action. Township-level RH/birth spacing profiles are prepared and disseminated to the authorities and distributed to health staff as a tool for monitoring, evaluation and taking corrective action.

4. Sustainability and replicability: scope for expansion

In line with the National Health and Population Policy, a phased extension of activities to cover all townships is envisaged. With strong government commitment towards improving the living conditions of the population, and with active support and collaboration of INGOs, NGOs and the private sector, the sustainability of efforts to increase health-care and related services looks bright.

REFERENCES

Ba Thike, K., 1997. "Abortion: a public health problem in Myanmar", *Reproductive Health Matters*, vol. 9, pp. 91-100.

Government of the Union of Myanmar, 1997. *Statistical Yearbook 1997.* Yangon, Central Statistics Organization.

_____, 1997. *Monitoring Progress Toward the Goals of National Programme of Action for Myanmar's Children Through Multiple Indicator Cluster Survey, 1997.* Yangon, Central Statistics Organization.

_____, 1999. *Fertility and Reproductive Health Survey, 1997.* Yangon, Department of Population.

_____, 1999. *Report on the Healt Management Information Systems, 1998.* Yangon, Department of Health Planning.

Krasu, Mary, 1992. *An Overview of Maternal Morbidity Monitoring in Myanmar: Proceedings of a Seminar on Maternal Morbidity.* Yangon, Myanmar Medical Association.

VII. NEPAL

*Dharanidhar Gautam**

A. Background

Nepal is a land-locked, least developed country that is topographically divided into three distinct zones, mountainous, hilly and terai, a fertile tropical lowland area. The country comprises five development regions and 75 administrative districts. In 1991, the population of Nepal was 18.5 million. Between 1981 and 1991 the annual average rate of population growth was 2.1 per cent, a decline from the 2.7 per cent recorded during the 1970s.

Despite a decline in recent years, the growth rate is still considered high, and the infant, child and maternal mortality levels are also very high. Fertility levels have shown some decline, which is attributed among other reasons to family planning, but much remains to be achieved in Reproductive Health and Family Planning (RH/FP).

The major thrust of the health policy in Nepal has been to provide basic health services with emphasis on primary health care and family planning services as an integrated package. The government identified the strategic framework for implementing the reproductive health programme within the context of the health policy of 1991, as well as the second long-term health plan (1997-2007). The emphasis is on community involvement, increased access through primary health care outreach, the establishment of health facilities at the local level and functional referral mechanisms at all levels. Importance is also being given to strengthening management capacity especially for planning, monitoring, supervision, and performance evaluation.

The reproductive health package includes family planning, safe motherhood, prevention and management of complications resulting from abortions, Reproductive Tract Infections (RTIs), Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome (HIV/AIDS), prevention and management of infertility, adolescent reproductive health as well as the problems of elderly women such as reproductive tract cancers, breast cancer and osteoporosis. At present, the focus is on identifying critical interventions based on the magnitude of the problem and reflecting a process of prioritization, keeping in view the cost, acceptability, efficiency, and structural and manpower resources.

B. Existing health service delivery system

At present, family planning programmes are being provided to reduce fertility and deliver reproductive health services such as maternal, neonatal and child care services. HIV/AIDS prevention and control is also being made available. RH/FP services are being made available in an incremental way to reduce infant, child and maternal mortality and morbidity. Reproductive health interventions in Nepal are being carried out at five levels.

(a) The first is the family/decision maker level. At this level, intervention is made through the new concept of Information, Education and Communication (IEC) on reproductive health activities and their importance for the family. Most of the programmes are new and have yet to be implemented.

(b) The second is the community/ primary health care outreach level. Intervention is made at this level

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through motivation and the mobilization of resources and efforts to strengthen reproductive health services. At present, subhealth post and health post staff conduct primary health care outreach services by providing family planning and other reproductive health services. Traditional birth attendants and female community health volunteers are also being trained to provide such services.

(c) The third is the subhealth post/ health post level. Reproductive health intervention is carried out at this level through family planning counselling and services, the provision of antenatal, delivery and post-natal services, and education on the prevention of sexually transmitted diseases and HIV/AIDS. Referral services are to be developed and implemented in an effective way.

(d) The fourth is the primary health care level. At this level, the reproductive health care package is aimed at providing surgical contraception, the supply of oxytocins, partographs, manual removal of placenta, equipment for resuscitation, RTI and HIV/AIDS services, infertility services and timely referrals. These goals are to be achieved through the gradual provision of counselling, services, infection prevention and management of complications arising from family planning.

(e) The fifth is the district level. All the services outlined for the primary health care level are provided at the district level, together with the provision of general anaesthesia, blood transfusion facilities, C-section, timely diagnosis and referral of complicated cases.

C. Pre-project situation regarding reproductive health/family planning

In view of the new paradigm of reproductive health, it was logical and necessary to examine the existing information system in Nepal. The objective was to revise the system and close any gaps that existed in monitoring and evaluating RH/FP activities, to ensure that the system was responsive to the demands for services and related activities.

In the past, in order to monitor reproductive health services, a family planning management information systems was operated that generated, *inter alia*, contraceptive prevalence rates by district on a monthly basis as an indicator for monitoring family planning activity.

The Health Management Information Systems (HMIS) is used to collect, compile, process and disseminate health-related information on a regular basis, for use in evaluating and monitoring various aspects of the health services. Thus, most of the required RH/FP indicators are obtainable from the system. Information not covered by HMIS is collected from other sources such as censuses, special surveys and studies. One important source is the Nepal Multiple Indicator Surveillance (NMIS), which was initiated in early 1994. Its main aims are to provide information for effective national and local-level planning, as well as monitoring and evaluating progress and establishing trends. Six cycles have now been completed: child health and nutrition; primary education; diarrhoea, water and sanitation; early childhood feeding, nutrition and development; pregnancy, delivery practices, polio coverage and literacy; and service delivery systems (health and agriculture). Each cycle covered around 18,000 households comprising a total of about 100,000 people, and the surveys were spread over periods of 3 to 5 months.

The first cycle focused on child health and nutrition, and information was obtained

on growth monitoring; breast-feeding; immunization; sanitation and water supply. The salient findings were that: 47 per cent of the women had not received immunization against tetanus; a quarter of the people obtained water from unprotected sources; and only 18 per cent of the households had latrines, of which only a third met sanitary standards.

The second cycle dealt with primary education and literacy. Less than 25 per cent of the women aged 15 years and over were literate compared with more than 50 per cent of the males.

The third cycle concentrated on water supply, sanitation and water-borne diseases. In the wet season, about 50 per cent of the households had access to safe water but that figure was slightly lower during the dry season. The sanitation situation remained similar to that reported by the earlier study, with only 15 per cent of population having latrines (63 per cent in urban areas and 12 per cent in rural areas).

In the fourth cycle, emphasis was placed on early childhood feeding, nutrition and development. Breast-feeding was found to be universal. Households seem more aware of benefits of breast-feeding for the child than for the mothers. Around 75 per cent of women giving birth in the past five years received no formal antenatal care (ANC), but the vast majority of those who made any ANC visits went to government health facilities, while some 50 per cent of them stated that they were seen by a doctor. Some 25 per cent of the women reported that they had limited their own food consumption at least once in the previous week to give more food to the child, although very few (fewer than 10 per cent) said they did not have enough food to eat.

The fifth cycle stressed pregnancy and delivery practices. More than 33 per cent of pregnant women did not seek ANC as they felt there was no need, while another eighth said the service delivery points were too far away. Some 33 per cent of the women stated that it was not in their tradition and 25 per cent of the women were unaware of its availability. On average, pregnant women made only 0.7 ANC visits, but among the minority who actually sought ANC the average was 3.5. Most of those who received ANC were satisfied with the service but a few indicated problems such as the absence or bad attitude of staff, long waiting times and poor facilities/conditions. Suggestions for improvement included the provision of more health facilities, medicines and staff. The provision of education and transportation also emerged from the survey as issues that needed to be dealt with in order to increase the utilization of services. Immunization against tetanus was not received by more than 50 per cent of the women but iron foliate was received by more than 50 per cent. Most women reported having no problems during their most recent pregnancy and less than a tenth did not go for help during pregnancy. Among the latter, the main reason given for not seeking assistance was that they did not feel it was necessary, followed by cost and distance factors.

The survey found that less than 10 per cent of deliveries occurred in a hospital or health facility. Most births (around 50 per cent) were assisted by family members, while about 5 per cent only were assisted by trained health care providers. More than two fifths of umbilical cords were cut by using unboiled blades and a third reported the application of ghee/turmeric to the navel. Of the problems experienced during labour, "baby upside down" was reported by about 50 per cent of women while about 33 per cent stated the reason as "obstructed". Only 2.4 per cent of pregnancies were stillbirths and more than 90 per cent experienced no problems after delivery. About 50 per cent of the women did not seek post-natal care, with most saying that they felt that it was not necessary.

With the merging of the public health and family planning programmes, an integrated Management Information Systems (MIS) was

implemented in 1994. It was aimed at avoiding the duplication of effort and making recording and reporting less cumbersome by only recording information that was used for planning, monitoring and evaluation purposes. The integrated MIS includes the following components: (a) family planning/safe motherhood; (b) child health; (c) RTIs/STDs; (d) HIV/AIDS; (e) control of tuberculosis, leprosy and other diseases; and (f) hospital data on morbidity and mortality.

D. Reproductive health and family planning indicators

1. Identification and selection of indicators

The study team examined available indicators currently used by HMIS of the Department of Health Services for RH/FP monitoring and evaluation purposes. Due consideration was given to suggested indicators developed by the United Nations Population Fund (UNFPA) to measure the International Conference on Population and Development (ICPD) goals and existing indicators in HMIS. Tables 1a and 1b list the indicators that were collected from the existing system and from the supplementary forms, respectively. Table 2 provides a list of indicators for monitoring ICPD goals with some actual values for 1998.

2. Objectives and purpose of the project

(a) Long-term objective

To strengthen the existing monitoring and evaluation system for measuring the progress of national RH/FP programmes, including quality of services, and to institutionalize the monitoring and evaluation system for more effective programme performance and management.

(b) Intermediate objectives

The intermediate objectives are:

(a) To identify appropriate indicators for performance monitoring at the national, district and community levels;

(b) To improve data availability and quality as well as ensure timeliness in the utilization of information in monitoring and evaluating RH/FP programmes at the national, district and community levels;

(c) To develop an appropriate feedback mechanism for effective programme monitoring and evaluation; and

(d) To enhance and develop national capacity for the proper management, utilization and dissemination of RH/FP indicators and other related data.

Table 1a. Indicators collected from the existing system

Major programme component areas and indicators	Source
Percentage of service delivery points at the primary health care level offering a full range of reproductive health services either directly or through referrals	Administrative records
Contraceptive prevalence rate (by method)	Monthly reports of family planning acceptors at the national and district levels
Percentage of birth attended by trained health personnel	Administrative records; Maternal health register
Percentage of population with access to basic health services	Administrative records

Table 1a. *(continued)*

Major programme component areas and indicators	Source
National policy specifying in writing standards of quality of care for:	
(a) Family planning information and services	MOH/DOHS documents
(b) Maternal care	MOH/DOHS documents
(c) Prevention and management of RTIs and STDs	MOH/DOHS documents
(d) Abortion care	MOH/DOHS documents
(e) Treatment of abortions complications	MOH/DOHS documents
Legislative policy that prohibits provision of family planning to persons who are unmarried	Civil Law
National policy for the provision of contraceptives at nominal cost or without charge	Family planning policy document
National strategic plan to control RTIs and STDs including HIV/AIDS	MOH/DOHS policy documents for RTIs, STDs and HIV/AIDS
Provisions to protect the basic rights of HIV positive individuals	Policy document
Age at first marriage by sex	Civil Law
(a) Does a legal minimum age exist?	
(b) What is the legal minimum age?	
(c) Is the legal minimum age endorsed?	
Percentage of family planning clients who are male	Family planning register; Monthly report
Number of contraceptive methods available at family planning health-care centres	Administrative records
Percentage of pregnant women attended at least once by trained health personnel	Monthly report
Number of service delivery points per 500,000 population able to provide basic emergency obstetric care on a 24-hour basis	Administrative records
Number of district hospitals per 500,000 population able to provide C-sections and blood transfusions on a 24-hour basis	Administrative records
Percentage of deliveries that are C-sections	Hospital records
Percentage of pregnant women attending antenatal services who received	Monthly/yearly reports
(a) Iron/foliate	
(b) Tetanus immunization	
Availability of in-service training programmes on life-saving skills for midwives, nurses and paramedics	Recorded in National Health Training Centre, DOHS
Percentage of service delivery points offering condoms for the prevention of STDs	Administrative records
Number of service delivery points offering diagnosis and treatment of:	Administrative records, DOHS
(a) Syphilis	
(b) Gonorrhoea	
(c) Chlamydia	
Percentage of service delivery points offering PAP smear testing	Administrative records
Percentage of obstetric and gynaecological admittance/outpatients due to abortion complications	Maternity service register; Hospital records
Percentage of parliamentary seats held by women	National records

Notes: DOHS: Department of Health Services; MOH: Ministry of Health.

Table 1b. Indicators collected by using additional information (supplement forms)

Major programme component areas and indicators	Source
Infant mortality rate (by sex)	NFHS, 1996
Under-5 mortality rate (by sex)	NFHS, 1996
Maternal mortality ratio – determine causes of maternal death	NFHS, 1996
Gross primary school enrolment (by sex)	MOE, 1996
Percentage of sexually active women of reproductive age who want to postpone or stop childbearing and who are not currently using any contraceptives methods	NFHS, 1996
Adolescent (<age 20) fertility rate	NFHS, 1996
Percentage of population within a two-hour walk of an RH/FP service delivery points	GIS mapping and exit interview
Provisions for: (a) Inquiries into maternal deaths (b) Special measure(s) to reduce maternal mortality	Hospital audit; Verbal autopsy
Percentage of family planning clients who are: (a) Adolescents (b) Men	Family planning register; Monthly report
Percentage of service delivery points with a three-month stock of contraceptives	LMIS quarterly report
Percentage of service delivery points having available (a) Equipment for high-level disinfection/sterilization (b) Piped water	Administrative records for specified SDPs; NMIS third cycle, 1997
Percentage of clients asked about their (a) Reproductive intentions (b) Concerns about contraceptive methods	 Exit interview Exit interview
Percentage of pregnant women receiving maternal services expressing satisfaction with: (a) Prenatal care (b) Delivery services	Exit interview
Percentage of women aged 20-44 wanting to become pregnant, not using contraception and had not become pregnant during the previous two years	NFHS, 1996
Sex ratio at birth	CBS, 1993
Total population	CBS, 1999
Median age of population	CBS, 1993
Percentage rural	CBS, 1999
Annual change (%)	CBS, 1999
Crude birth rate	CBS, 1999
Total fertility rate	CBS, 1999
Average number of children desired	NFHS, 1996
Life expectancy at birth (by sex)	CBS, 1995
Adult literacy rate (by sex)	CBS, 1995
Gross secondary school enrolment, by sex (%)	CBS, 1995

Table 1b. *(continued)*

Major programme component areas and indicators	Source
Percentage of households without access to safe water	NMIS third cycle, 1997
Percentage of households with access to sanitation	NMIS third cycle, 1997
GNP per capita	CBS, national accounts, 1999
Unemployment rate: (a) Overall (by sex) (b) Under age 25 (by sex)	Nepal Living Standards Survey, 1996/1997
Labour force participation rate (by sex)	"

Notes: CBS: Central Bureau of Statistics;
DOHS: Department of Health Services;
GIS: Geographic Information Systems;
MOE: Ministry of Education;
NFHS: Nepal Family Health Survey;
NMIS: Nepal Multiple Indicator Surveillance;
LMIS: Logistics Management Information Systems.

Table 2. List of indicators for monitoring and evaluation of RH/FP in Nepal: national and project area

Major programme component areas and indicators	Value/level		Source
	National	Project area	
1. Indicators for monitoring ICPD goals			
Percentage of service delivery points at primary health care level offering a full range of reproductive health services either directly or through referrals	33.3	100	Administrative records
Contraceptive prevalence rate, by method (%)			
Condom	1.7	0.2	Annual report,
Pills	1.8	4.6	1997/1998, DOHS
Depo-Provera	7.0	35.9	
IUD	0.5	0.2	
Norplant	0.7	0.2	
Sterilization	19.6	1.5	
All methods	31.3	42.6	
Percentage of births attended by trained health personnel	8.0	14.0	Administrative records
Percentage of population with access to basic health services	33.4	6.1	Administrative records
Infant mortality rate: Male	101.9		NFHS, 1996
Female	83.7		
Under-5 mortality rate: Male	142.8		NFHS, 1996
Female	135.5		
Maternal mortality ratio (per 100,000 live births) – determine causes of maternal death	539		NFHS, 1996
Life expectancy at birth: Male	55.9		CBS, 1995
Female	53.5		
Gross primary school enrolment ratio: Male	134.6		
Female	83.7		MOE, 1996
Adult literacy rate: Male	62.4		CBS, 1995
Female	27.6		

Table 2. *(continued)*

Major programme component areas and indicators	Value/level		Source
	National	Project area	
2. Legislative and administrative policies related to reproductive health			
National policy specifying in writing standards of quality of care for:			
(a) Family planning information and services	Yes		MOH documents
(b) Maternal care	Yes		
(c) Prevention and management of RTIs and STDs	Yes		
(d) Abortion care	Yes		
(e) Treatment of abortion complications	Yes		
Legislative policy that prohibits provision of family planning to persons who are unmarried	Yes		Civil law
National policy for the provision of contraceptives at nominal cost or without charge	Yes		Family planning policy document
Provisions for:			
(a) Inquiries into maternal deaths	Yes		Hospital audit;
(b) Special measure(s) to reduce maternal mortality	Yes		Verbal autopsy
National strategic plan to control RTIs and STDs including HIV/AIDS	Yes		MOH/DOHS policy on RTIs, STDs and HIV/AIDS
Provisions to protect the basic rights of HIV-positive individuals	Yes		Policy document
Age at marriage by sex			
(a) Does a legal minimum age exist?	Yes		Civil law
(b) What is the legal minimum age? Male	21 years		
Female	18 years		
(c) Is the legal minimum age endorsed?	Yes		
3. Family planning indicators			
Percentage of sexually active women of reproductive age who want to postpone or stop childbearing and who are not currently using any contraceptive methods	62		NFHS, 1996
Fertility rate aged 15-19 years (per 1,000)	113		NFHS, 1996
Percentage of population within a two-hour walk of a RH/FP service delivery points		100	Exit interview
Percentage of clients who are:			
(a) Adolescents	1.2	6.1	SDPs
(b) Men	6.0	0.6	SDPs
Number of contraceptive methods available at family planning health-care centres	Specified at SDPs		Family planning policy
Percentage of SDPs having available:	Above		Administrative
(a) Equipment for high-level disinfection/sterilization	PHC level		records
(b) Pipe water, tap water and well water	47	100	
Percentage of clients asked about their:		70	Exit interview
(a) Reproductive intentions		(for resupply)	
(b) Concerns about contraceptive methods			
Percentage of SDPs with a three-month stock of contraceptives	48		Administrative records

Table 2. *(continued)*

Major programme component areas and indicators	Value/level		Source
	National	Project area	
4. Maternal health indicators			
Percentage of delivering women who developed obstetric complications and received emergency obstetric care (EOC)	NA		
Percentage of pregnant women attended at least once by trained health personnel	26	39.8	Monthly report
Number of SDPs per 500,000 populations able to provide basic EOC on a 24-hour basis	74		Administrative records
No. of district hospitals per 500,000 population able to provide C-sections and blood transfusions on a 24-hour basis	23	1	Administrative records
Percentage of pregnant women attending antenatal services who received:			Hospital records; Monthly report
(a) Iron/foliate	44.0	74.0	
(b) Tetanus immunization	37.3	73.2	
Percentage of pregnant women receiving maternal services expressing satisfaction with:			
(a) Prenatal care		90	Exit interview
(b) Delivery services		94	Exit interview
Availability of in-service training programmes on life-saving skills for midwives, nurses and paramedics	Yes		DOHS
5. Reproductive tract infections/sexually transmitted diseases			
Percentage of SDPs offering condoms for the prevention of STDs		100	Administrative records
Number of SDPs offering diagnosis and treatment of:	Referral		Administrative
(a) Syphilis – vaginal discharge syndrome	centres – 12		records
(b) Gonorrhoea – genital ulcers	Clinics – 166		
(c) Chlamydia, urethral discharge	Total – 178		
Percentage of SDPs offering PAP smear testing	2.1		Administrative records
6. Harmful practice			
Sex ratio at birth	103.5		CBS, 1993
7. Population, social and economic indicators			
Total population (million)	22.4		CBS, 1999
Median age of population: Male	21.4		CBS, 1993
Female	18.1		CBS, 1993
Percentage rural	87.6		CBS, 1999
Annual population growth (%)	2.4		CBS, 1999
Crude birth rate (per 1,000)	34.1		CBS, 1999
Total fertility rate	4.35		CBS, 1999

Table 2. *(continued)*

Major programme component areas and indicators	Value/level		Source
	National	Project area	
Average number of children desired	2.9		NFHS, 1996
Gross secondary school enrolled (%): Total	35		CBS, 1995
Male	44		"
Female	26		"
Percentage of households without access to safe water	57		NMIS third cycle, 1997
Percentage of households with access to sanitation	No latrine – 15 Urban – 63 Rural – 13		NMIS third cycle, 1997
Parliamentary seats held by women	12 out of 205		Parliament records
Gross national product per capita	US$227		CBS, national accounts, 1999
Unemployment rate (%):			
(a) Overall: Male	5.6		Nepal living standards survey, 1996/1997
Female	4.1		
(b) Under age 25: Male	75.2		
Female	66.4		

Notes: CBS: Central Bureau of Statistics;
DOHS: Department of Health Services;
MOE: Ministry of Education;
NFHS: Nepal Family Health Survey;
NMIS: Nepal Multiple Indicator Surveillance;
SDPs: Service delivery points.

E. Methods and materials

1. Study area

To assess the existing system, a study was carried out in Rupandehi district of the western region. The district was chosen in view of the fact that the western region falls in the middle of the socio-economic development ranking. In addition, Rupandehi is accessible both by road and air, allowing effective supervision by central-level study staff. The district has also initiated a programme for reducing maternal mortality and morbidity under the safe motherhood programme and the study will supplement and complement the ongoing exercise.

It was decided to select one urban and one rural area in which to implement the project. The selected urban area was the Bhim zonal hospital located in Bhairahawa. However, Lumbini zonal hospital in Butwal Municipality was also selected for collecting data on reproductive age and maternal deaths. The rural site was the Semera Health Post, located on the Shiddhartha Highway, which has four subhealth posts nearby.

2. Methodology and mechanism of data collection

A study team was formed, comprising a study director with expertise in HMIS and two members (RH/FP service delivery manager and a demographer), with responsibility for the overall implementation of the study. They benefited from the training conducted at ESCAP for the project. It was decided that a committee chaired by the director-general of the Department of Health Services, and that the directors of the Family Health Division and Planning and Foreign Aid Division as members would supervise and guide the study team.

The existing HMIS and logistics management information systems (LMIS) tools, registers, forms and reporting formats currently being used by health workers at the service delivery points were scrutinized. It was also decided to test the existing records, registers and forms on RH/FP services in Rupandehi district where a safe motherhood programme has been launched by the Department of Health Services.

The current HMIS incorporated most of the necessary RH/FP information. That information was used to generate RH/FP indicators such as the contraceptive prevalence rate, percentage of pregnant women attending antenatal services, percentage of deliveries conducted by trained health workers, percentage of service delivery points with a three-month supply of contraceptives etc. However, it was necessary to develop some tools, forms and registers to collect information not included in the current MIS. Additional information and indicators to measure quality of care related to reproductive health services and information on RTIs, STDs and HIV/AIDS also needed attention and the required tools were designed and developed to generate such information. A questionnaire was developed to assist in understanding client perceptions about key components of quality of care during RH/FP service delivery. The data collection tools included:

(a) A master register containing information on age, sex and type of service;

(b) A multipurpose contact card containing information on patient's name, age, sex, type of service provided such as family planning, curative services, vaccination etc., date, diagnosis specification, treatment and prescription and return date;

(c) A maternity service card with information including each patient's name, age, sex, health related complaints, date of tetanus immunization, result of pregnancy, pregnancy history, age of children alive by sex, complications of pregnancy, nature of delivery, details of present pregnancy, first day of last menstruation, pregnancy test and result and assessment of need for hospital delivery, delivery service (place of delivery, condition of neonate, complications of delivery), post-partum service and referral;

(d) A maternal health card including information on name, age, height, pregnancy time, husband's name and address, special problems related to health, date of immunization against tetanus, pregnancy order, previous pregnancy results, current age of live births, pregnancy complications, nature of delivery and risk factors;

(e) Family planning fact sheets for hormonal and non-hormonal users containing information on name, age, sex, number of children born and those alive by sex, type of contraceptives used, with additional information collected for those using hormonal contraceptives, including last date of menstruation, date of using pills, medical history and physical examination;

(f) A family planning service register containing information on name, age, contraceptive by type, and details on changes of method;

(g) A sterilization register including name, age, number of live births and living children by sex, age of youngest child and type of sterilization;

(h) A norplant/IUD removal register containing information on name, method, date of implantation, district and health centre where implantation was done, reason for removal and service provider;

(i) A daily outpatient register with data on name, sex, age, probable diagnosis, treatment and advice;

(j) An outreach clinic register with information on name, age, family planning method, times of pregnancy test, acute respiratory infection, malaria, dehydration and other symptoms, primary treatment and advice;

(k) A referral slip including information on name, age and sex, reason for referral, type of services provided, name, status and organization of referee, date of contact, feedback information, and name of informer/ status and date;

(l) A defaulter follow-up form containing information on name, address, necessity for service and type of service;

(m) A defaulter follow-up slip with information on name, age, sex, method currently being used, date of visit and reason for default;

(n) A monthly progress report under the integrated HMIS from the District Health Centre on each health facility, which provides the number of health institution and personnel as well as the number of persons receiving services, safe motherhood and family planning programmes, drug supplies, and training for female community health volunteers and traditional birth attendants;

(o) A discharge register containing information on each patient's name, age, sex, date of admission, discharge, main diagnosis, type of care, condition on discharge, number of days in hospital, number of outpatients and other services provided;

(p) A summary of indoor services that includes the age, sex, status and referral of patients; and

(q) An inpatient morbidity form categorizing patients by age, sex and disease category.

Additional questionnaires to understand client's perceptions were also developed and used for collecting data from the selected study area. One example is the structured exit interview questionnaire on client perception of quality of care in various aspects of reproductive health, including family planning services, and experiences with service providers and other information on the client and facility. Another questionnaire was prepared to enable ANC attendants to probe deeply into the services, service providers and other logistical aspects.

With regard to safe motherhood information, a screening questionnaire was designed for collecting information on maternal deaths such as the name of the deceased, cause of death, attendants at death and place of death. A verbal autopsy questionnaire on maternal deaths was produced for obtaining detailed information on the deceased, including the use or otherwise of health facilities and services, length of pregnancy, cause and symptoms of death. A hospital maternal death audit questionnaire was designed for collecting information on the deceased, including socio-economic background, age, pregnancy-related information, contraceptive use, medical history, use or otherwise of health facilities and services, physical condition and other relevant details.

In addition to service statistics, data have been generated through surveys, censuses and special studies. Since 1976, Nepal has

conducted national surveys at five-year intervals, which have provided information on family planning knowledge and use, fertility levels and trends, infant and child mortality and trends, child and maternal nutrition, immunization coverage, prevalence of diarrhoeal diseases, acute respiratory infection and knowledge of AIDS. There is growing awareness about infertility, RTIs, STDs, HIV/AIDS, abortion, adolescent reproductive behaviour etc., and some data have been collected on those variables.

The forms, records and registers thus developed for collecting information on quality of care and other aspects were pre-tested at the Village Development Centre of Semera with voluntary health workers, maternal and child health workers, auxiliary health workers of the health posts, district health officers and public health officers, and staff nurses and health assistants of Bhim Hospital. The questionnaire to test the perception of quality of care was also pre-tested with health workers.

3. Training and supervision

Instruction manuals and guidelines were developed to ensure accurate information. They were used by district health officers, public health officers, statistical assistants, medical recorders, nurses, heads of health posts and subhealth posts, village health workers, maternal and child health workers, female community health workers, traditional birth attendants and community leaders at village and district levels.

Doctors, public health officers, nurses, programme assistants, medical recorders, statistical assistants, auxiliary health workers, auxiliary nurse midwives, enumerators, supervisors and community health workers working in the project areas were trained at a two-day session organized especially for the study.

To enable service providers and managers to utilize the newly developed forms and registers, a two-day orientation session was conducted by the study team. The orientation included a brief introduction to ICPD goals and highlighted the long-term and immediate objectives of the study. The guidelines and manuals for each set of reporting and recording forms were used in the training, which included practice in the use of the tools at the service delivery points.

Regular supervision, checking, verification and feedback were instituted to ensure data quality and quantity. Field monitoring was performed on a monthly basis by the team members and district supervisors during visits to the study sites. After reviewing the monthly reports received by the central MIS, the necessary feedback and processed reports were sent back for necessary action in the field.

4. Data quality and data analysis

Together with the close supervision and regular training of staff, the quality and quantity of data collected were satisfactory. Most of the information was collected within the stipulated timeframe, verified and rectified.

Data analysis was performed by using EP INFO (version 6) and SPSS. Most of the cross tabulations were derived by using the SPSS programmes. All the variables and values in each cell of the files were labelled according to information derived from the questionnaires and reporting forms. However, some of the values were re-labelled during table editing and following data entry.

F. Survey results

1. Survey on quality of care

The questionnaire on quality of care in reproductive health and ANC services was used with 50 clients at the service delivery points in the project area. The clients were selected from those visiting the project area for family planning services during 1998 when the survey

was conducted. The survey indicated that 70 per cent of the clients visited the clinic for new supplies of contraceptives. More than 66 per cent of the clients obtained the information about the clinic from friends and neighbours, while fewer than 25 per cent received the information from health workers.

The method of contraception was selected by almost 50 per cent of the clients themselves, while the other half selected it jointly with their husbands. A total of 82 per cent of the clients stated that advice on simple complications was obtained from health workers.

Only 2 per cent stated that service at the facility was bad but around 50 per cent of the respondents did not answer this question. Only 12 per cent of the clients had knowledge of all the methods of contraception available at the clinic and some 33 per cent did not respond. Thus, it appears that not much information was provided about the various methods available.

The survey noted that 6 per cent of the service providers were male. Regarding suggestions for further improvement of the programme, 40 per cent of the clients indicated exhibits of methods plus counselling but around 33 per cent either did not know or did not respond.

Regular follow-up is a prerequisite for better continuity of use and in that respect almost all the clients stated that they were instructed to come back at a specified time.

An important consideration in the use of services is accessibility. Just over 12 per cent of the clients mentioned that it took them more than an hour to reach the clinic and 58 per cent said they walked to the clinic. Most felt that the clinic hours were suitable and fewer than 10 per cent said they had to wait for more than an hour. The service was considered as good by almost all the clients and none reported that it was "not good".

2. Survey on antenatal care

Based on interviews of 49 currently pregnant women who visited for services, slightly more than 50 per cent were visiting for their first ANC check-up and most of the others came for follow-up checks. However, some 12 per cent visited during early pregnancy (less than three months) and a large proportion was in the seventh or later month of pregnancy. Thus it appears that clinic facilities are sought only in the late stages of pregnancy.

Around 90 per cent knew of the benefit of ANC check-ups and a similar proportion mentioned that they were advised by health workers to have regular check-ups before delivery. Only 10 per cent stated that they had to wait for an hour or more and most of them were satisfied with the services and waiting periods. In addition, 94 per cent felt that the clinic hours were convenient. Around 50 per cent walked, while 20 per cent travelled by bus or *riksha* (tricycle); it took them less than 30 minutes to reach the clinic. Some 66 per cent preferred a health institution for delivery but the last place of delivery for 50 per cent of the clients was at home.

3. Survey on maternal deaths

There were 227 deaths of women of reproductive age in Rupandehi district (194 rural and 33 urban); the corresponding figures for the project area were 35 rural and 33 urban deaths. A total of 53 of the 227 deaths were identified as maternal deaths in Rupandehi district with corresponding figures for the project area being 13 out of the 68 deaths. Thus, the proportion of maternal deaths in the project area was slightly lower but the small size and selectivity of the sample has to be kept in mind when interpreting the results.

A large proportion of the reproductive age deaths occurred among women aged 20-24 and 40-44 years. Although the proportion of deaths among those with pregnancy order 4 or

higher was not large, it should be remembered that the proportion of women with such high parity was also not large. Most of the deaths occurred among currently married women, but there was also a significant proportion among the unmarried.

Only some 8 per cent of the deaths occurred with no one in attendance. In about 33 per cent of the cases the husband was present and in an equal number of cases the husband and others were present. More than 50 per cent of the deaths occurred at home while some 33 per cent occurred in hospital. A significant number of deaths occurred on the way to a health facility, indicating that perhaps people only take a serious case for medical aid when it is too late.

Infectious and parasitic diseases claimed a large proportion of the reproductive age group deaths. In addition, the number of deaths due to pregnancy, childbirth and puerperium was significant. Thus, a significant role is still played by infectious diseases in the community.

The 53 maternal deaths in the district and the 13 cases in the project area exhibited a similar pattern in respect of age, pregnancy order and marital status. Unlike the pattern in the district regarding the literacy level of women, where the expected majority of deaths were among the illiterate, in the project area the largest proportion of maternal deaths occurred in women who had received 1-6 years of schooling. That is possibly an indication of the selectivity of clients. In fact, illiterate women constituted a very low proportion of the maternal deaths in the project area. Again, as anticipated, both in the district and the project areas the predominant occupation of the women and their husbands was agriculture.

Around 50 per cent of the deaths occurred within 42 days of delivery, with only a slightly smaller proportion dying before delivery. About 66 per cent of the deaths occurred in women who did not receive ANC. Among the few who received ANC, death occurred in a hospital and was attended by a doctor, health worker or traditional birth attendant. The reasons for not having ANC were stated to be a lack of knowledge or information, distance from the facility or the early stage of pregnancy.

More than half of the deaths occurred at home, and retained placenta and obstructed labour were the causes in most of the cases. Accessibility, lack of transportation, illiteracy and general poverty are the major causes of maternal deaths. Training in the management of post-partum haemorrhage with intramuscular oxytocin, intravenous infusion, the procedure for the manual removal of the placenta, timely referral, and the availability of emergency transport and obstetric first aid kits at the homes of health post staff may alleviate the situation.

G. Lessons learned and main issues

1. Lessons learned

Very little use is made of the collected information in monitoring and supervising the RH/FP programme either by the community or health service providers at all levels.

There is a lack of information on many aspects and even when it does exist, it is given little consideration in decision-making.

The lack of health awareness among the population is another serious problem.

Poor data quality owing to a lack of knowledge among community-level workers concerning data collection requires attention.

2. Constraints in project implementation

Poor facilities or conditions of institutions as well as inadequate equipment and supplies, especially in rural areas, affect project implementation. The quality of services is minimal at district hospitals and rural health institutions, which has discouraged people from utilizing such facilities. Clients therefore prefer

to utilize private hospitals and health practitioners.

In view of the poor rural services and living conditions, it is difficult to convince health workers to work in such areas. The problem is compounded by the frequent transfers of health personnel and prolonged post vacancies; sanctioned posts are often kept vacant owing to the long bureaucratic process. This affects availability and the quality of services.

The absence of nursing staff makes it difficult to provide ANC and post-natal care in rural health institutions

Community volunteers are not sufficiently active in the health sector and dependence is thus mainly on government facilities.

Local and international non-governmental organizations and the private sector do not provide records and reports or otherwise cooperate and coordinate with public sector efforts, while ineffective government policies to bring them into the government framework results in duplication of effort and non-integration of data from all sources.

3. Data utilization

From a programme perspective, the data currently generated by MIS are used only by programme managers and service providers. There is very little dissemination of information or feedback. The existing MIS does not cover several important aspects, as indicated by the study, an issue that requires looking into.

H. Recommendations and suggested action

To resolve some of the issues discussed above, awareness campaigns, the provision of information, education and communication, and other approaches such as on-the-job and refresher training for health workers should be intensified. Frequent monitoring and communication on behaviour changes in dealing with issues of reproductive health, and the recognition of danger signs of pregnancy and safe traditional practices will improve public perception and health facility usage.

Government policy since 1997, especially that concerning private sector institutions, may improve the cooperation of non-governmental organizations and the private sector. Frequent supervision and monitoring, and greater use of information in decision-making is expected to improve data availability and quality. Encouragement of more involvement by community volunteers will be beneficial.

The improvement of service conditions especially concerning tenure and salaries and other perquisites, the filling of vacancies expeditiously, training and supervision of various cadres of health workers, the provision of quality equipment and supplies, and inculcation of a positive attitude in staff towards work will improve available services and attract people to use them.

Policies should be formulated on making maternal and reproductive age deaths notifiable, establishing regular mechanisms to enable midwives to practice basic midwifery and life-saving skills, and creating standards and protocols for implementing quality of care at service delivery points at all levels.

Access to facilities could be improved by providing emergency transport in communities. Supplying emergency and essential first aid kits to subhealth and health posts and the homes of health post staff would enable faster assistance to be provided, and thus reduce the number of deaths.

I. Scope for expansion, sustainability and replicability

It has been recommended that NMIS should continue as the "Between Census Household Information for Monitoring and

Evaluation System" and it is expected that during 2000 it will focus on the situation of children and women. That will ensure the sustainable generation of indicators for use in reproductive health. NMIS has proved very useful in making available the required information and its continuance will ensure the supply of requisite data for programme management and implementation.

In terms of programme priorities in Nepal, RH/FP care will remain a top priority programme with special focus on catering to the unmet needs for spacing and limiting childbearing as well as placing emphasis on quality of care. As a second priority, the safe motherhood programme has been giving high priority to the reduction of maternal mortality and morbidity. The programme is gradually establishing emergency obstetric care facilities in every hospital in the country. Other critical areas are also being identified.

The scope for replicability and expansion exists because of the strong commitment of the government. With the proposed policies on better cooperation from the private sector, sustainability and improvement of HMIS is more likely to be achieved.

REFERENCES

Central Bureau of Statistics, 1993. *Population Census – 1991, Volume 1, National, Development Regions and District Tables.* Kathmandu, National Planning Commission Secretariat.

_____, 1995. *Population Monograph of Nepal, 1995.* Kathmandu, Central Bureau of Statistics.

_____, 1997. "Nepal living standards survey, 1996/97", *Four-Monthly Statistical Bulletin*, vol. 18, No. 1, pp. 1-35. Kathmandu, Central Bureau of Statistics.

_____, 1999. *Nepal in Figures 1999.* Kathmandu, Central Bureau of Statistics.

Central Bureau of Statistics, National Accounts, 1999. *National Accounts 1999.* Kathmandu, Central Bureau of Statistics.

Department of Health Services, 1999. *Annual Report, 1997/98.* Kathmandu, Ministry of Health.

HMG/Nepal, 1996. *Nepal Multiple Indicator Surveillance, Health and Nutrition – Cycle I.* Kathmandu, National Planning Commission Secretariat, in collaboration with UNICEF.

_____, 1996. *Nepal Multiple Indicator Surveillance, Second Cycle, Primary Education: final report.* Kathmandu, National Planning Commission Secretariat, in collaboration with UNICEF.

_____, 1997. *Nepal Multiple Indicator Surveillance, Third Cycle, Diarrhoea, Water and Sanitation: final report.* Kathmandu, National Planning Commission Secretariat, in collaboration with UNICEF.

_____, 1997. *Nepal Multiple Indicator Surveillance, Fourth Cycle, Early Childhood Feeding, Nutrition and Development.* Kathmandu, National Planning Commission Secretariat, in collaboration with UNICEF.

_____, 1998. *Nepal Multiple Indicator Surveillance, Fifth Cycle, Care During Pregnancy and Delivery: Implications for Protecting the Health of Mothers and their Babies.* Kathmandu, National Planning Commission Secretariat, in collaboration with UNICEF.

_____, 1998. *Nepal Multiple Indicator Surveillance, Sixth Cycle, Service Delivery Survey: Health and Agriculture Services.* Kathmandu, National Planning Commission Secretariat, in collaboration with UNICEF.

Ministry of Education, 1996. *Educational Statistics of Nepal.* Kathmandu, Ministry of Education.

Ministry of Health, 1997. *Nepal Family Health Survey, 1996.* Kathmandu, Ministry of Health.

VIII. PAKISTAN

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A. Background

During the 1960s, Pakistan launched a national family planning programme after becoming aware of the serious implications of rapid population growth. However, the programme has not been able to achieve the desired level of success. In 1998, the population of Pakistan totalled 130.6 million, having recorded a high growth rate of 2.6 per cent per annum during the 1981-1998 intercensal period.

At present, family planning services are provided in the rural and urban areas through a variety of sources. These sources include a large number of female village-based family planning workers, registered medical practitioners and indigenous doctors, female health workers and a network of family welfare and reproductive health services centres, mobile service units, health outlets; the Prime Minister's Programme for Family Planning and Primary Health Care, target group institutions, Non-Governmental Organizations (NGOs) and outlets for the social marketing programme.

In Pakistan, family planning and health programmes are planned, implemented and managed by the Ministry of Population Welfare and Ministry of Health and both have separate management information systems (MIS). While the family planning programme is vertical (managed by the federal government); the health programme is horizontal (managed by the provincial authorities). The exception is the Prime Minister's Programme for Family Planning and Primary Health Care, which is vertical and administered by the federal Ministry of Health.

Pakistan has accepted the International Conference on Population and Development's Programme of Action (ICPD-POA) goals and strategies. Consequently, there have been important shifts in population policy from a family planning target orientation to meeting the needs of clients by expanding the extent and nature of services. While the aim of reducing Pakistan's population growth remains the policy cornerstone, it is now generally recognized that to achieve such a reduction the needs of individual couples will have to be met through the provision of broad, high-quality and readily accessible reproductive health services.

The reproductive health of women in general is still considered poor. According to the most recent national-level Fertility and Family Planning Survey, 1996-1997, the total fertility rate is 5.3 and family size norms are still high. Infant mortality is around 90 per 1,000 live births and maternal mortality about 420 per 100,000 live births. Services and supplies for both health and family planning are inadequate. Most women (83 per cent) deliver babies at home without the assistance of trained attendants. Less than one third of women (30 per cent) receive any antenatal care. There is wide gap between knowledge (94 per cent) and use of contraceptives (24 per cent), while the unmet need for family planning is around 38 per cent.

B. Management information systems

The current MIS is designed mainly to collect and report fragmented service statistics such as the number of clients served and their selected characteristics, the types of services provided etc. They are not geared towards providing comprehensive and integrated Reproductive Health and Family Planning (RH/FP) services to the target population. The

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shift from merely monitoring the service to meeting the needs of clients would require a systematic redesigning of the information base.

1. Population welfare programme management information systems

The MIS of the population welfare programme (formerly the family planning programme) was developed in 1966 and modified as the programme expanded. The format designed under the supervision, monitoring and evaluation systems has been adopted by the Ministry of Population Welfare for collecting the required information from programme functionaries. The information sources include family planning client record cards and the daily attendance register of clients/patients at Family Welfare Centres (FWCs). The existing system covers responsibility at the federal, provincial and district levels for designing or implementing monitoring tools as well as making decisions on improvements to the programme.

At the federal level, the Monitoring and Statistics Wing of the Ministry of Population Welfare has developed its own MIS for collecting and compiling information on contraceptive use, supplies and stocks through different components of the programme at the national, provincial and district levels. This MIS provides the basis for monitoring overall programme performance.

At the provincial level, the Directorate of Monitoring and Evaluation is responsible for monitoring the activities of each component and evaluating its overall performance in each of the four provinces. It compiles service statistics for each province according to the MIS developed by the Monitoring and Statistics Wing and submits them directly to the Ministry of Population Welfare.

The district level is responsible for planning, organizing and implementing family planning activities through various service delivery channels, and for collecting and forwarding MIS data to the respective provincial headquarters for onward transmission and compilation at the national level.

2. Health department management information systems

In view of the extensive health service infrastructure in Pakistan (public and private), a National Health Management Information Systems (HMIS) was developed between 1990 and 1993 by the Ministry of Health in collaboration with the Provincial Health Departments and international agencies. The system, which was developed for the first-level care facilities throughout the country, collects, processes, analyses and provides feedback on all health-related data, including information on input, process and output indicators. At present, the provinces (the end users) fully control HMIS, which currently includes indicators on preventive services (mother and child health issues), priority health problems, and information on logistics, essential drugs, supplies and management.

HMIS generates information that flows directly from the peripheral health facilities to the districts, then to the provinces and ultimately the national HMIS cell. Specific formats, including the family planning register, monthly reports and HMIS, are designed to record information from patients and transmit it upwards in the monthly reports to managers.

C. Project to identify indicators: objectives and purpose

ICPD-POA stressed the need to strengthen the RH/FP programmes. Thus, it was necessary to formulate a project to identify indicators for monitoring and evaluating the expanded RH/FP as well as raise the quality of care services. In order to monitor and evaluate RH/FP activities on a scientific basis, core information and data need to be collected on a regular basis. The project objectives are detailed below.

1. Long-term objectives

The long-term objectives of the project were: (a) to strengthen the existing monitoring and evaluation system for measuring the progress of national RH/FP programme capabilities, including the quality of services; and (b) to improve and institutionalize the monitoring and evaluation systems necessary for more effective programme performance and management.

2. Short-term objectives

The short-term objectives included:

(a) The identification and adoption of appropriate, standardized indicators for programme performance and the monitoring and evaluation system at the national, subnational and local levels;

(b) The strengthening and improvement of data availability and their timely utilization for programme monitoring and evaluation at all levels;

(c) The development of an appropriate feedback mechanism for effective programme monitoring and evaluation; and

(d) The development of national capacity for proper management, utilization and dissemination of RH/FP performance indicators and other related data to ensure better monitoring and evaluation.

3. Identification and selection of RH/FP indicators

Keeping in view the national requirements, a list of indicators was identified for strengthening the programme monitoring. The Ministry of Health and Ministry of Population Welfare have been following their own MIS, but these require revision and updating in keeping with the change in ICPD-POA criteria. Therefore, after examining the existing MIS, a list of indicators was identified together with sources of information and periodicity for monitoring the performance of RH/FP services. The indicators include: monitoring ICPD goals on reproductive health; policies related to reproductive health; family planning; maternal and child health; reproductive tract infections (RTIs) and sexually transmitted diseases (STDs); unmet needs; and population, social and economic indicators. The main sources of information are existing client record cards, daily attendance client registers, monthly performance reports of each service outlet, quick count surveys and reproductive health client cards (RHCC) that are designed for the collection of additional indicators.

The maximum information on all indicators identified above has been collected. However, the collection of information concerning abortion, gender-biased violence and female genital mutilation was not possible owing to the non-availability of services, lack of proper record-keeping and cultural reasons.

In preparing formats for the above-mentioned indicators, routine formats and questionnaires on service statistics were reviewed. Where needed, formats were changed and/or modified, while in some cases new additional formats were introduced for selected indicators.

D. Methods and materials

The project was implemented by a team comprising a study director who was assisted by a technical committee of professionals and by a team of researchers and support staff.

1. Selection of study area

Two *tehsils* (subdivisions) of District Jhelum (Jhelum and Sohawa *tehsils*) were selected as the project area. District Jhelum had an established network of RH/FP facilities

spread over the urban and rural areas. The district had 19 population welfare service outlets, of which 15 were in the study area. FWCs located in the urban and rural areas were the basic service outlets at the grass-roots level.

Basic Health Units (BHUs) and Rural Health Centres (RHCs) comprise the basic service outlets of the Health Department in the district. The study area included 29 BHUs and RHCs. BHUs are located in the villages and serve the rural population, whereas RHCs are placed at the *tehsil* level and serve both rural and urban populations. In addition, there are 750 Health Department lady health workers in the large villages and urban localities, who make home visits to provide health and family planning services. They submit monthly reports to nearby BHUs or RHCs.

Each FWC prepares a monthly summary report of staff positions, medicines and clients of family planning and general treatment. The reports are submitted to the District Population Welfare Officer who compiles them and sends a district report to the provincial headquarters for onward submission to the Ministry of Population Welfare. Similarly, the BHUs and RHCs submit reports to the District Health Officer for compilation and onward transmission to provincial headquarters, from where they are sent to the Ministry of Health.

2. Training imparted for data collection

The training of project staff prior to executing the project in the field was considered as being very important. A training workshop for participating countries was organized by ESCAP to enhance the knowledge and perception of the project staff with regard to data collection and implementation of the project activities.

(a) Training workshops for master trainers

The team with assistance of local resource persons organized a two-day workshop for master trainers, which was attended by 30 participants representing the Ministry of Health and Ministry of Population Welfare at the federal, provincial and district levels. In addition to highlighting the importance of strengthening the existing monitoring and evaluation system, the workshop emphasized that there was room for improving the programme. Detailed presentations on the existing MIS of the health and population welfare programmes were made and the selected indicators for the ESCAP monitoring and evaluation project were explained. The participants discussed the suitability of each indicator to the environment in Pakistan, their practicality within the existing infrastructure and the usefulness of information collected. Some of the indicators were dropped owing to non-suitability to the existing system.

The new reproductive health client card (RHCC), designed by project staff for the collection of information not available from existing MIS registers/cards, was explained. Married women aged between 15 and 49 years who visited the Department of Health and Department of Population Welfare service outlets in the project area were requested to complete the cards.

Information on some of the important RH/FP indicators is recorded on the RHCC. That information includes: (a) the number of living children (male/female); (b) the age of the youngest child; (c) acceptance of family planning after delivery; (d) infertility; (e) reproductive intentions; (f) pregnancy history, outcome of last delivery, place of delivery and person attending delivery; (g) breast examination; (h) RTIs, suspected cases and clients referred; and (i) STDs, suspected cases and clients referred.

A second two-day workshop for master trainers was later organized to discuss the changes that were recommended for the new formats during the previous workshop. The master trainers from the project area were asked to study the revised versions and discuss in detail the various sections of the new RHCC.

(b) Training of service outlet staff

The District Jhelum programme managers, the heads and female staff of the Department of Health and Department of Population Welfare service outlets and a number of paramedics were trained by project staff, with assistance from master trainers, at RHCs in the project area. The main purpose of the training was to introduce the project, explain the process of implementation, and train the staff in the collection of information from the new RHCC. During the training, it was emphasized that the new card was not replacing the existing recording cards/registers but was to supplement it. The card was to be completed for currently married women aged 15 to 49 years who were seeking services for mother and child health care, family planning and reproductive health including RTIs, STDs and infertility.

3. Project data collection

Field data were collected from RHCCs and existing client record cards through the monthly performance reports. The RHCC data covered one year, from June 1998 to June 1999, whereas data on regular service statistics covered 18 months from January 1998. In addition, data collection under the quick count survey, which was a cross-sectional representative sample of currently married women, was undertaken during early 1999 using a pre-designed questionnaire. The questionnaire included questions related to:

(a) The number of the household members, their sex and age;

(b) Background variables of women and their husbands, such as age, education and occupation;

(c) Fertility level, infertility and related matters;

(d) Infant and child mortality;

(e) Pregnancy and related matters;

(f) Mother and child health care;

(g) Prevalence of breast cancer and related issues;

(h) Knowledge about RTIs, STDs and hepatitis, and place of treatment;

(i) Knowledge, practice and side effects of contraceptive methods and reasons for non-use;

(j) Access to health and family planning facilities; and

(k) Views about the facility and its staff.

To assist service providers to record RHCC information, a manual of instruction was prepared that included guidelines on completing the card.

Every service outlet was preparing the monthly report summarizing information taken from client records. Although some useful information was collected, it was not being compiled. However, the information and data from the RHCC are now recorded in the monthly report, which covers: (a) staff situation including absenteeism; (b) family planning users by age group and any side effects; (c) clinical examination of clients, including breast examination; cases of jaundice, suspected RTI/STD cases and infertility; (d) client intentions regarding additional children; (e) changes by clients to other family planning methods; and (f) pregnancy history and outcome of last delivery, including place and attendant.

4. Periodic field monitoring and supervision during the project

Undertaking regular and systematic supervision and monitoring of programme implementation was essential to the success of the project. Hence, a periodic field monitoring system was devised as an important part of the project. To gain a clear picture of the actual functioning of the service outlets, separate formats were designed for the monthly and quarterly monitoring reports. The monthly monitoring formats prepared for each type of

service outlet included information on staff presence, family planning clients by age, clinical examinations, future intentions regarding additional children and pregnancy history. In addition, a consolidated monthly report (desk monitoring) was prepared that highlighted the overall functioning of all service outlets. Every service outlet was visited and data from the existing and new RHCC was transferred to a pre-designed sheet. A copy of the existing monthly performance report was also collected. All data were transferred to computer software designed to enable further analysis. However, if the project is replicated at national level, this monthly exercise would have to be carried out by the staff of the service outlets. Furthermore, the existing formats would have to be revised accordingly.

All service outlets were visited every quarter to examine their functioning and performance, using information recorded on a set of pre-designed formats. The aim was to properly highlight the service outlet conditions, the facilities available, staff situation, status of contraceptive/medicine stocks, client attendance and supervision.

The data obtained from RHCCs, quick count surveys and other sources were checked and computerized for further processing and analysis. After entry and cleaning, the final analysis of data was done by using SPSS software and a report was then prepared.

E. Quality and coverage of data

1. Quality and coverage of existing service statistics

The Population Welfare Programme MIS changed gradually from a simple service delivery system to a complex and expanded programme. At present, it operates at all levels and is designed around five main functions: service delivery; contraceptive logistics; programme administration; non-service delivery components; and national programme recording and reporting.

The main service outlets of the Population Welfare Programme are FWCs, Mobile Service Units, and Reproductive Health Services Centres. FWCs maintain various formats such as an area data sheet, a daily attendance register, clinical record card, a contraceptive stock register, medication and clinical records, and an office equipment record. They are the key components of the programme in urban, semi-urban and rural areas. FWCs submit monthly reports on personnel and equipment status, family planning performance, referred sterilization cases, contraceptive stock levels, future contraceptives requirements and stocks of medicine. Although the format is comprehensive, it does not provide full coverage as it lacks coverage of the number of camps held; dropout cases, counselling, quality care, duplication and availability of information, and information, education and communication material. Being target-oriented, the service providers tend to escalate data to underscore their achievements. Incomplete client addresses are also a serious problem.

Forecasting of contraceptive requirements is another weak area. The Mobile Service Units maintain records regarding availability of equipment, medicines, vehicles and contraceptives. However, their reporting system does not indicate the number of camps held, the number of villages covered (new and old), dropouts by contraceptive users and availability of information, education and communication material. Reproductive Health Services Centres have a comprehensive reporting system. However, they lack coverage in several areas, such as the availability of information, education and communication material, the number of counselling meetings held, follow-up of clients, incomplete addresses and the number of female sterilization cases referred by FWCs.

The non-service delivery components (NGOs, target group institutions, Provincial Line Departments, hakeems and homeopaths, and registered medical practitioners) also submit monthly reports that meet minimum recording

and reporting requirements. However, indicators in these reports for antenatal and post-natal care, mother and child health care and client dropout are either weak or missing.

At the national level, a report is published on the performance of contraceptive methods among the programme and non-programme service outlets, client attendance per service delivery unit, contraceptive methods among users (old and new), mother and child health care, antenatal and post-natal care, general ailments of clients and the percentage of achievement against method-wise targets. The report is circulated among senior managers and policy makers. As a monitoring tool, the report is reasonably comprehensive. However, it could be further improved by strengthening some important indicators such as client dropout, continuous users, age and parity of clients, changes of method, manpower needs, vehicle status, and medicine and equipment stocks.

Clinical and patient records exist at almost all service delivery points, but they are incomplete and little attempt is made to consolidate the information. The service providers complained that the statistical forms were too complex, lengthy and required a great deal of time to complete. Another problem was under-trained staff. As a result, data quality and coverage was inadequate, and there was no regular data interpretation and analysis or feedback to field staff.

2. Quality and coverage of data in project area

During project implementation, the reliability of the service statistics was ensured by directing the service providers to record all relevant information in the daily attendance register or on the client record cards either while examining the client or immediately afterwards. Scrutiny of the information confirmed that the information collected was complete.

To check the validity of the service outlet statistics, visits should be made to clients to follow up their visit to the service outlet and the treatment provided. In actual practice, the Health Department has not been able to do so because of the need for more staff and improved logistics. The Population Welfare Department has a system of client verification with regard to contraceptive use. However, it is limited to 10 per cent of those clients who have had IUDs inserted and is done by the supervisory technical staff from higher-level offices (divisional directorate).

Another important issue is the completeness of information recorded for each client. The service providers sometimes fail to record the age of clients and are reluctant to ask for exact ages. However, client age is very important when undertaking analysis, while also providing a guideline for programme managers when changing client focus. Complete names of clients and their husbands as well as full addresses are also vital to validation and follow-up, but this information is also overlooked at times by the service providers.

3. Data collection problems

(a) Service outlet level

One of the main problems is that the workers do not realize the importance of recording complete client information in the prescribed registers/cards, even though such details are essential for locating the client when making follow-up visits.

In the case of population welfare outlets, it was also observed that the staff sometimes completed a new client card for follow-up clients. They were apparently reluctant to search for the previous card and enter the necessary information in the follow-up section. A similar situation existed at the Health Department outlets. The completion of new cards was also being done in order to increase figures on new client coverage in order to meet the target set for the current month by the district management. In other words, the service providers avoided laborious work and

showed apparent efficiency in terms of attending more clients. Consequently, data quality suffered.

At the service outlets, where daily client attendance was quite high, the busy service providers felt uncomfortable in completing many record cards and the attendance register as that interrupted the main job of examining patients and prescribing medication. Hence, some patient record keeping might be incomplete.

A consolidated monthly performance report was prepared by each service outlet and forwarded to the respective district office. Some client information, such as the ages and number of children, was found to be missing in the monthly reports.

The new RHCC requires the service outlet staff to devote extra time to recording information on RH indicators. However, it was observed that the staff did not complete a card for every client for whom they had recorded information in the existing formats of service statistics.

(b) Management level

At the district management level of the Population Welfare Department, the District Population Welfare Officer checked the client registers as a routine exercise whenever he visited a service outlet, but ignored the client record cards. He was apparently interested only in the number of clients visiting the clinics during the current and previous months, and did not check the client follow-up schedule. Similarly, for the Health Department, the district manager was required to check many registers and records of various sets of clients seeking different types of health care, in addition to the managerial records. Again, the interest of the health manager was mainly in performance in terms of the number of clients visiting each facility.

(c) Resolving the problems

To assist in resolving the above problems, several training sessions were arranged for the staff of the service outlets as well as district managers from both departments. The project concept, mechanism and implementation were thoroughly explained and instructions given for completing the new RHCC. During the training, emphasis was placed on recording complete information in the existing and new formats so that it could be easily transferred to other sheets during the data collection stage.

While collecting monthly records, checks were made on the completeness of the data and guidance was given in recording the information. Regular visits to all service outlets resulted in proper supervision and helped to strengthen the monitoring of the implementation process.

Under the project, the reporting system was enhanced by introducing transfer data sheets that were designed so that all information about every client could be transferred from the existing and new formats onto a single row of the sheet. The information was then transferred from the transfer data sheets to a computer, enabling further analysis without the loss of any information.

4. Workload and staff capacity

The staff of the health and population welfare service outlets constantly complained about having to work with so many formats. In their view, their job was to examine the clients and provide them proper treatment. Obtaining and updating information from clients and transferring it to the monthly reports was considered to be extra work and time consuming.

The introduction of the RHCC was seen by the staff as an overload in record keeping. During the training, the service providers and

other field staff were very upset. However, they later became reconciled to the change and made it a routine exercise. However, coverage was not 100 per cent.

During project implementation, it became clear that the client record format needed to be comprehensive. It was also realized that the reporting formats should be designed to allow the collection of maximum information but from fewer forms, thus requiring field staff to spend less time in recording information. With regard to capacity-building, field staff at all levels should receive periodic training in recording and reporting systems.

F. Results of data collection in the project area

In order to meet the project objectives, service statistics and cross-sectional quick count surveys were employed in data collection.

1. Findings from service statistics

As several indicators are not available from the existing system of service statistics, those indicators were collected during the project. The additional indicators pertaining to RH/FP were collected through the service outlets of health and population welfare programmes on a monthly basis. Information was also collected from RHCCs of 3,059 women clients aged 15 to 49 years who visited the outlets of the Departments of Health and Population Welfare in the study area. The data were then processed and analysed. The major findings are given in table 1.

(a) Clientele

Most of the clients from the rural areas were seen at the Department of Health service outlets because most of the Department of Population Welfare service outlets were located

Table 1. Main findings of reproductive health and family planning indicators for female clients who visited service outlets in District Jhelum, 1999

Indicator	Urban	Rural	Total
Median age	30.1	28.9	29.4
Mean number of living children	3.6	2.9	3.2
Infertile client (%)	14.6	10.1	12.3
Want no more children (%)	59.9	55.9	57.9
Want only sons (%)	12.8	10.4	11.6
Want only daughters (%)	5.1	4.4	4.8
Want both (%)	22.1	29.2	25.8
Delivery occurred at home (%)	76.1	61.3	68.5
Delivery attended by doctor (%)	12.2	9.8	11.0
Delivery attended by lady health visitor (%)	13.0	15.1	14.1
Delivery attended by traditional birth attendant (%)	72.6	60.9	66.4
Experienced any abortion (%)	13.1	21.6	17.5
Breast abnormal (%)	3.7	3.6	3.6
Reproductive tract infections			
Suspected cases of RTIs (%)	17.3	15.6	16.4
Cases referred (%)	7.7	6.3	7.0
Sexually transmitted diseases			
Suspected cases of STDs (%)	0.1	0.5	0.3
Cases referred (%)	0.1	0.4	0.3
Number of women	1 479	1 580	3 059

Source: Reproductive health client cards, 1998-1999.

within, or close to, urban areas. The latter outlets need to be relocated closer to the rural areas.

(b) Age

Younger women showed a greater preference for visiting the Department of Health outlets, as they provided a wider range of reproductive health services.

(c) Number of living children

The mean number of living children of clients was higher among those visiting Department of Population Welfare outlets than those visiting Department of Health mainly because of the above noted age differentials.

(d) Duration of accepting family planning after last delivery

The acceptance of family planning methods after the most recent birth indicated that a large proportion of clients (35 per cent) accepted family planning 10 weeks after delivery. Only 16 per cent accepted such methods within 10 weeks of the last delivery.

(e) Infertility

Information on infertility, which is important, was not collected previously through either service statistics or cross-sectional surveys. It is found that 12 per cent of the clients were infertile (15 and 10 per cent in urban and rural areas, respectively). Only 2 per cent of the clients were referred for treatment. The referral rate in rural areas was 3 per cent while in urban areas it was only 1 per cent. More attention needs to be given to such clients in urban and rural areas. The provision of treatment also needs to be improved.

(f) Desire for more children

Desire for more children is an important indicator for service providers with regard to both RH and FP components. This information was not being collected through existing service statistics. It was found that 58 per cent of clients wanted no more children (60 and 56 per cent in urban and rural areas, respectively). The desire for sons was greater (12 per cent) in both urban and rural areas compared with that for daughters (5 per cent).

(g) Place and attendance of last delivery

The majority of the last deliveries occurred at home (69 per cent), with only 23 per cent occurring in health centres/hospitals/clinics. It was also noted that a large number of deliveries occurred at home, even in urban areas, a fact that should be given attention by policy makers and service providers. The reason is that clients are either uncertain about the quality of services provided by hospitals/ clinics or are not being motivated by the advantages. It is also possible that services are either unavailable or, where available, unaffordable. Only 11 per cent of deliveries were attended by doctors and 14 per cent by lady health visitors. The majority of deliveries were attended by traditional birth attendants and other untrained persons.

(h) Abortions

Abortions are illegal in Pakistan and are only allowed in cases of risk to the life of the mother and child. Unfortunately, no authentic data on this indicator are available from any source in Pakistan. However, valuable information on abortion was obtained from the RHCCs, which showed that 82 per cent of clients had not had an abortion, 11 per cent had undergone one abortion and 4 per cent had undergone two abortions. There were visible indications that abortion was more prevalent in rural areas compared with urban areas. It was also evident that more abortions occurred among clients who visited Department of Health outlets compared with clients who visited Department of Population Welfare outlets. Such clients presumably preferred the former outlets for treatment of RH/FP problems.

(i) Breast examination and symptoms

Data from clients visiting health and population welfare department outlets showed that 3.6 per cent had abnormal breast symptoms with almost equal distribution between urban and rural areas.

(j) Reproductive tract infections

Data on symptoms of RTIs indicated that the highest proportion (41 and 26 per cent in urban and rural areas, respectively) reported back pain followed by vaginal discharge/ bleeding (around 18 per cent both in urban and rural areas). Some 39 per cent of clients had at least one or more symptoms of RTIs. Suspected cases of RTI totalled 16 per cent, of which only 7 per cent were referred for further examination. The high proportion of suspected cases of RTIs needs greater attention from policy makers and service providers of reproductive health services.

(k) Sexually transmitted diseases

Detailed information was obtained on this indicator from RHCCs. The majority of women in Pakistan are unable to identify symptoms of STDs. Therefore, the information on clients had to be collected through service providers. Hence, the information is diagnostic in type. The highest occurrence of STD symptoms was from "repeated infection" (3.4 per cent), followed by frequent micturition and fever (2.9 per cent), burning on micturition (1.9 per cent), skin rash (1.7 per cent) and chronic cough (1.6 per cent). Around 11 per cent of clients had at least one or more symptoms of STDs with urban areas recording a slightly higher proportion of cases than rural areas.

From a total of 3,059 clients who visited Department of Health and Department of Population Welfare outlets, only 10 cases of STD (two urban and eight rural) were reported. Of that total, eight were referred for further examination.

2. Findings from the quick count survey

During the survey, 633 currently married women aged 15 to 49 years were interviewed, of which 66 per cent were from rural areas and 34 per cent from urban areas. The main findings on RH/FP indicators are detailed in table 2.

(a) Background characteristics

The background characteristics of currently married women aged 15 to 49 years indicate a young age structure (mean age, 32.5 years), high fertility (total fertility rate, 5.4 children) and a low level of education (secondary and above, 7.3 per cent).

(b) Infertility

Knowledge about infertility was not universal, as 28 per cent of women were unsure whether they were infertile. However, 59 per cent of women indicated that they knew infertility could be treated and 52 per cent knew where to go for treatment. These figures indicate the need to expand the community reproductive health services.

(c) Last delivery: place and attendance

Most deliveries (60 per cent) were reported to have occurred at home (63 and 55 per cent in rural and urban areas, respectively). Similarly, most of the deliveries were not attended by trained medical doctors. A large number of women (17 per cent) reported facing complications during their last deliveries.

(d) Abortion

More than one third of women had no knowledge of the fact that a pregnancy could be aborted if mother's health was in danger; the proportion was high in rural areas (39 per cent). Only one third of women had any knowledge of the possible side effects of abortion.

Table 2. Main findings of reproductive health and family planning indicators for currently married women aged 15 to 49 years, District Jhelum, 1999

Indicator	Urban	Rural	Total
Background			
Mean age	32.6	32.5	32.5
Not educated (%)	20.2	22.2	21.5
Secondary and above (%)	11.0	5.3	7.3
Fertility			
Mean number of living children	3.4	3.1	3.2
Total fertility rate	5.0	5.7	5.4
Infertility (%)			
Unsure about infertility	24.8	30.1	28.3
Infertility is treatable	62.4	56.9	58.8
Knew place for treatment	55.4	50.2	52.0
Mother and child health (%)			
Pregnancy attended by doctor	59.2	46.9	51.3
Delivery attended by doctor	40.0	30.3	33.8
Delivery occurred at home	54.9	62.6	59.9
Complications during delivery	24.1	12.6	16.7
Not vaccinated against tetanus	19.5	30.3	26.4
Received prenatal care	61.0	47.1	52.0
Received post-natal care	39.5	22.7	28.6
Abortion (%)			
Knowledge of abortion	72.9	61.0	65.1
Knowledge of abortion side effects	31.7	33.7	33.0
Breast-feeding (starting time) (%)			
Immediately after birth	22.1	24.6	23.7
After a few hours	39.0	31.9	34.4
After one or a few days	33.8	38.6	36.9
Never breast-fed	5.1	4.8	4.9
Reproductive tract infections (%)			
Knowledge of RTIs	83.5	87.9	86.4
Suspected cases of RTIs	40.7	44.4	43.1
Sexually transmitted diseases (%)			
Knowledge of STDs	53.2	55.2	54.5
Suspected cases of STDs	2.6	4.4	3.8
Hepatitis (%)			
Knowledge of hepatitis B and C	54.6	58.6	57.2
Family planning methods (%)			
Knowledge	95.4	93.3	94.0
Ever used any method	55.0	35.2	42.0

Table 2. *(continued)*

Indicator	Urban	Rural	Total
Current use of any method	34.9	19.5	24.8
1. Pill	4.1	1.9	2.7
2. IUD	5.5	3.1	3.9
3. Injection	3.7	1.2	2.1
4. Female sterilization	7.8	4.8	5.8
5. Condom	11.5	4.8	7.1
6. Any traditional method	2.3	3.6	3.2
Main reason(s) for never using (%)			
1. Want (more) children	27.6	34.2	32.4
2. Husband opposed	7.1	8.6	8.2
3. Fear of side-effects	7.2	4.5	5.2
4. Lack of knowledge	3.1	5.2	4.6
5. Religion opposes FP	4.1	4.1	4.1
Quality and coverage of services			
Worker visited at home (%)	38.1	41.2	40.1
Worker discussed FP with women (%)	60.2	60.2	60.2
Mean number of visits	5.8	6.8	6.4
Women visited the facility (%)	22.0	34.9	30.5
Women visited for mother and child health care (%)	60.4	80.7	75.6
Women visited for family planning (%)	25.0	15.2	17.6
Women visited for antenatal checkup (%)	10.4	7.6	8.3
Service providers discussed with women (%)	43.8	31.7	34.7
Explained service providers methods (%)	77.5	84.5	82.7
Number of women	218	415	633

Source: Quick count survey, 1999.

(e) Breast-feeding

Twenty four per cent of women reported that they starting breast-feeding immediately after giving birth, while 37 per cent of women started breast-feeding their children from one to several days after giving birth. Five per cent of women never resorted to breast-feeding following their last delivery; the pattern was similar in urban and rural areas, which indicates the need for greater advocacy for breast-feeding through the mass media and interpersonal communication.

(f) Immunization

It was encouraging to find that a relatively large proportion of women (77-92 per cent) reported having had their last-born children immunized against six diseases, with similar coverage in urban and rural areas. However, 26 per cent of women reported that they had not been vaccinated against tetanus. This indicates that in Pakistani society, women are not particularly concerned about their own health, but that they care for their children.

(g) Prenatal and post-natal care

More than half (52 per cent) of women had received prenatal care, compared to about 29 per cent who had received post-natal care. About 33 per cent of women had paid only two visits for prenatal or post-natal care. A reasonable proportion of women (21 per cent)

had made three visits while very few women had made more than four visits.

(h) Breast cancer

Knowledge of breast cancer was significantly high among women (82 per cent) in the study area. Some 12 per cent of women reported finding a growth in their breast. However, the prevalence of breast cancer was almost negligible in the study area.

(i) Reproductive tract infections

Knowledge about RTI symptoms was quite high (86 per cent) among currently married women. Knowledge of specific symptoms was also reasonably high, ranging from 73 to 90 per cent. Approximately half of the women reported experiencing back pain as the most common RTI symptom, followed by hip pain in about 33 per cent of women and vaginal discharge/bleeding in some 25 per cent of women. The majority of women knew where to go for treatment of RTIs, both in urban and rural areas. Another encouraging sign was that a large proportion of women (78 per cent) had discussed the problems of RTIs with their husbands.

(j) Sexually transmitted diseases

Nearly 50 per cent of the women had no knowledge about STDs while nearly 33 per cent recognized one or more of the symptoms. Hip pain was experienced by 33 per cent of women, followed by burning on micturition (9 per cent), weight loss (7 per cent) and discharge through the vagina (6 per cent). A reasonably high proportion (87 per cent) of women had discussed the problem of STDs with their husbands.

(k) Hepatitis

Knowledge of hepatitis A, B and C was reasonably high among women. Around 85 per cent had some knowledge of hepatitis A compared with 57 per cent in the case of hepatitis B and C.

(l) Knowledge and use of family planning methods

Knowledge of any family planning method among currently married women aged 15 to 49 years was 94 per cent with similar distribution in urban and rural areas. However, positive answers were given to the question "ever used any family planning method" by only 42 per cent of women (55 and 35 per cent in urban and rural areas, respectively). Current use of any family planning method was still lower at 35 and 20 per cent in urban and rural areas, respectively, while the use of traditional methods was around 3 per cent. It was interesting to note that knowledge and prevalence of contraceptive methods in the study area was similar to that found in the Pakistan Fertility and Family Planning Survey of 1996-1997. Thus, similar to the situation at the national level, there was a wide gap between knowledge and practice in the study area. The main reasons given by women who had never used any form of contraception were a desire for more children (32 per cent), opposition of husband (8 per cent), a lack of knowledge (5 per cent) and religious opposition (4 per cent).

(m) Coverage

Around 40 per cent of the women reported having been visited at home by Department of Health and Department of Population Welfare workers. Sixty per cent of those who had been visited at home said they had discussed family planning. Only 31 per cent of the women reported visiting any health and population welfare programme facilities during the past 12 months. The main reason given (76 per cent) was that either the child or they themselves had been sick. Only 18 per cent had visited a facility for family planning and an even lower percentage reported visiting any health facility for an antenatal check-up. A third of the staff members were reported to have discussed family planning with women during their visits to the facilities. It is encouraging to note that around 83 per cent of the service

providers did explain various methods to women.

G. Conclusions and recommendations

The family planning programme in Pakistan has not been able to achieve the desired levels of success in the area of RH/FP mainly because of a lack of proper monitoring and supervision. For any programme to be successful, a reliable system of monitoring and evaluation is an absolute necessity.

Information pertaining to several RH/FP indicators was not being collected by the programme. In addition to routine data collection through service statistics, additional indicators were obtained by the study from RHCCs and quick count surveys. The experience gained during the project indicates that the same methodology (that is, service statistics as well as cross-sectional surveys) can be used to obtain information on the additional indicators from other areas of Pakistan, following the necessary training of the service providers.

1. Lessons learned

A review of the existing MIS of both the Department of Population Welfare and the Department of Health brings to the fore a number of problems. The workload at the peripheral level is too high. Most of the information collected is not processed and is little-used at any level. Those who begin the process at the lowest level receive very little feedback. Several family planning and health service outlets have no workers who are able to complete the required formats; where such workers are available, a great deal of time is needed to do the job. Very little monitoring and evaluation of data collection is undertaken, and virtually no serious review has been carried out in Pakistan of the overall monitoring and evaluation of the data collection process through service statistics. Over-reporting frequently occurs in order to achieve the desired target/ goals. There is a lack of coordination between the family planning and health MIS, which need further strengthening.

During the project, clients were reluctant to provide information about sensitive questions on matters such as breast examination, RTIs and STDs. However, explaining the usefulness of the data and how essential it was to their own good health and well-being convinced them to provide the information. Initially, efforts were also made to obtain information from STD clients on their history of contacts. However, obtaining such information proved very difficult for the service providers and that section was subsequently dropped from the RHCC.

The supervisory team frequently visited the service outlets to check on the progress of the project and examine the client cards. The team also provided training and guidelines. These efforts were considered particularly important during the initial stages of the project.

In the field, many FWCs were situated in isolated areas and staffed by service providers who were not local residents. Therefore, absenteeism was high among service providers, especially during the monsoon season and during extreme weather conditions. This not only adversely affected performance but also undermined recording and reporting activities. Even on normal days, particularly in the rural villages, late arrivals of staff were often observed, mainly because of transportation problems. Clients usually faced a lengthy wait for the lady health visitors, doctors or heads of the centres. The inconvenience as well as the casual attitude of lady health visitors undermined the confidence of clients and created a bad impression of the centres.

Many service outlets faced shortages of medicine, stationary and printed forms for recording and reporting. In the absence of a qualified medical doctor, some BHUs were being run by male medical technicians. Although some of them had established a good reputation in the local community, the situation

adversely affected the quality of the services provided as well as the reliability and validity of the information reported.

Over-reporting, in order to achieve given targets, was another serious problem at service outlets and will require special attention and remedial measures. Owing to limited staff and heavy workloads at BHUs, the RHCCs were not being properly completed. Supervisory staff also took little interest in supervising and monitoring the performance of personnel. In addition, the receipt of medicine and contraceptive supplies was also irregular in some cases.

Duplication of services provided by the health and population programmes was found. Therefore, in order to strengthen monitoring activities, the staff of the District Health Officer and District Population Welfare Officer should collaborate to avoid any duplication and overlapping of such services.

2. Recommendations

The collection of information on additional RH/FP indicators will require additional resources for further training of service providers at the grass-roots level. The allocation of optimum resources (financial among others) will help in monitoring progress towards improved results of the RH/FP programmes.

Increased technical inputs are required to enable service statistics and MIS to be improved for programme planning and monitoring at the local level. Those inputs include the development of manuals, data processing systems, standardization of concepts and definitions, improvement of local survey conducting capabilities, and the training of local staff in data analysis and using it in programme management and policy formulation. Input and process indicators and measures need to be developed, particularly for ensuring the quality of care services. However, the lack of coordination, non-accessibility of datasets and the non-involvement of potential users of the surveys often lead to limited use of the data in programme planning, development and monitoring.

The existing system, which mainly comprises service statistics and sample surveys, is not fully equipped or effective enough to cope easily with the new demands for information. In addition to the usual problems of coverage, frequency, timeliness, disaggregation and consistency of available data, a major deficiency of the existing system lies in its design. The current MIS is designed mainly for collecting and reporting fragmented service statistics, such as numbers of clients served and their selected characteristics, types of services provided etc. They are not set up for providing comprehensive and integrated RH/FP services to the target population. The change from merely monitoring the services to meeting the needs of clients will require a serious and systematic rethinking of the information base design.

While identifying and adopting various RH/FP indicators, focus should first be placed on those indicators that provide easily measurable trends. In the field of population welfare, several such indicators have been tested widely in measuring and monitoring family planning performance. They include contraceptives distributed and sold, the number of acceptors in terms of the methods used, and contraceptive continuation and dropout rates. However, much remains to be done to improve reproductive health service statistics, which are crucial to the identification, collection and adoption of indicators required for assessing changes related to various programme inputs, outputs and results.

Collaboration and coordination in data collection is needed between various organizations in Pakistan, such as the Federal Bureau of Statistics, the Ministry of Health, the Ministry of Population Welfare, the National Institute of Population Studies and the Pakistan

Medical Research Council. The data generated at the service delivery points will increasingly become an important source of information. The integration of service statistics systems into a comprehensive client/household-based MIS needs to be strengthened and institutionalized to provide much-needed information for monitoring and evaluation. Extra efforts will have to be made to rationalize and integrate MIS into a comprehensive information source for continuous programme monitoring at all levels. The functional integration of the Ministry of Population Welfare and the Ministry of Health is recommended, as they are currently operating independently.

Sample surveys are an important tool for obtaining a vast array of demographic, socio-economic and reproductive health data needed for carrying out in-depth analyses. Survey findings help policy makers to obtain the necessary insights into determinants, consequences and interlinkages among variables. Similarly, sample surveys can be used not only in constructing indicators but also in interpreting and explaining them. As such, there is a need to build a mechanism for undertaking sample surveys at the local level. Multiple rounds of such surveys offer the potential of serving as a major tool for monitoring and evaluation purposes.

In view of the broad scope of RH/FP services proposed in the ICPD-POA and the need to improve the quality of care and services, broad-based training is urgently needed on all emerging issues and concepts in expanded RH/FP programme activities. Adequate training must also be given before implementing a new system and, if possible, managers and field workers should be involved in designing such a system. Their involvement can help to ensure effective local-level implementation. In the project area, such efforts proved successful in producing good results.

Devising quality indicators is difficult. Indicators must provide reliable, objective and relevant information about important issues. At the same time, they must be sensitive to changes in performance; and be easy to calculate with available data. The additional indicators suggested under the project are recommended for adoption by the health and population welfare programmes as well as NGOs and the private sector.

3. Utilization of data and scope for expansion

Overall, the methodology of data collection adopted for the project proved to be a useful supplement to the service statistics. In addition, it was shown that service statistics and cross-sectional surveys make it possible to obtain information on the additional indicators from other areas of Pakistan. However, the training of service providers, and monitoring and supervision are essential ingredients. The existing population welfare and health infrastructure can easily be readjusted and current data collecting formats modified to replicate and sustain the project nationally with little additional financial burden.

IX. VIET NAM

*Do Trong Hieu**

A. Background

The preliminary report of the 1999 population census in Viet Nam indicated that the total population reached 76.3 million and that the annual growth rate between 1989 and 1999 was 1.7 per cent. The country has experienced a rapid decline in fertility from a total fertility rate (TFR) of 3.8 births per woman in 1989 to a TFR of 3.1 in 1995. Mortality rates have also declined: infant mortality is estimated at 40 per 1,000 and expectation of life at birth is more than 65 years.

The country is divided into seven geographic regions. Eighty per cent of the land area is mountainous and 20 per cent of the population live in urban areas.

There is strong commitment at all levels of government to reduce the population growth rate. The national population and family planning programme has been underway since the 1960s. In its continuing efforts to stabilize the size of the population, the government has stressed the importance of family planning not only in national development, but also as a critical contributing factor to the health of mothers and infants and overall family well-being. This sustained long-term commitment has resulted in a well-advanced demographic transition in Viet Nam.

The overall objective of the national population and family planning programme is to achieve small and healthy family units able to enjoy a happy and prosperous life. Achieving that objective is seen in the context of the relationship between population and sustainable development. In other words, rapid population growth is seen as a major obstacle to socio-economic development.

Figure 1 shows that population and family planning services in Viet Nam are provided by the public and private sectors. In the public sector, the National Committee for Population and Family Planning (NCPFP) and the Ministry of Health are mandated to provide information and services, respectively. The basic unit of service delivery is the Commune Health Centre (CHC). At the district and provincial levels, services are provided through specialized hospitals, polyclinics and health stations. All health-care service delivery points are under the Ministry of Health. At the central level, the Ministry is responsible for promulgating service delivery guidelines, technical standards, data analysis and overall monitoring. NCPFP is also decentralized, with provincial, district and commune committees and family planning motivators at the various levels. Recently a social marketing component was added. In addition, services and contraceptives are provided through private practitioners and social marketing.

While the concept of reproductive health and the need for changes are understood and appreciated, the demographic rationale behind family planning continues to be strong in the government's perception. The country considers safe motherhood, family planning and prevention of abortion as the most important components of reproductive health. At the same time, attention is paid to other issues of reproductive health, in particular, adolescent health, Reproductive Tract Infections (RTIs), Sexually Transmitted Diseases (STDs) and the Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS), health of the aged and gender issues. In the family planning component, efforts are made to ensure that clients are given information on the methods available through strengthening of counselling and the provision of a diversified

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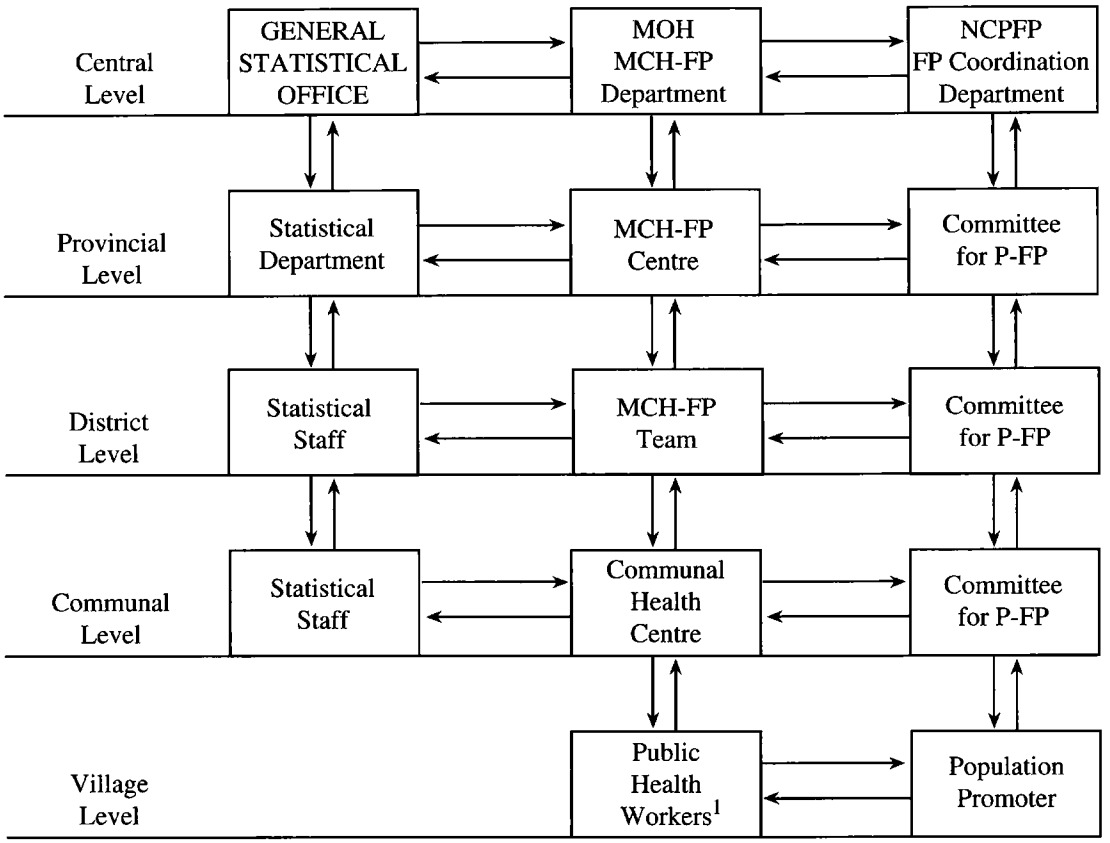
Figure 1. Flow chart of reproductive health and family planning information/services in Viet Nam



Notes: [1] Also referred to as community health workers.
NCPFP: National Committee for Population and Family Planning.
MCH-FP: Maternal and Child Health – Family Planning.
P-FP: Population – Family Planning.

contraceptive supply. Among the key issues that remain central to the population and family planning programme are:

(a) Reproductive rights;

(b) Quality of reproductive health services;

(c) National migration and population distribution;

(d) Coordination, both within the government (problems of vertical health programmes) as well as among donors;

(e) Programme management.

There is a lack of appropriate institutional structures and human resources for meeting the reproductive health needs of the population. Most of the population and health programmes are being implemented vertically with little coordination, and there is scant harmonization with the private sector and non-governmental organizations (NGOs), which are also involved. Thus, there is need for improving coordination and integration, for which the establishment of a systematic set of reproductive health indicators is crucial for evaluating and measuring progress or otherwise. In particular, the issues of programme management are expected to be addressed through an improvement in

management information systems (MIS) and monitoring and evaluation systems.

B. Review of the reproductive health/ family planning management information systems

Several government organizations are involved with reproductive health/family planning (RH/FP) programmes in Viet Nam. The measurement of their progress is carried out by the National Advisory Committee (NAC) for the General Statistical Office. However, each government organization such as the Ministry of Health, NCPFP, NAC and the Committee for Child Protection and Care has its own reporting system and each of them relies on data at the grass-roots level. That places an unnecessary burden on health workers at the commune level. In addition, obtaining comprehensive data on RH/FP services requires the integration of data from a variety of sources.

The different systems sometimes yield data with huge discrepancies, mostly owing to the differences in definitions and measurements. The necessity for an integrated system for evaluation and monitoring of RH/FP programmes is thus evident.

Data are collected and registered throughout the existing public sector health system and information is shared with higher level institutions. Vertical programmes (some donor-funded) also generate their own data and share them with higher level institutions. The two major institutions, NCPFP and the Ministry of Health, generate information for the RH/FP programmes. For example, NCPFP provides information on family planning use, fertility control and population growth using a household-based mapping method in many areas. However, their data on contraceptive use are based on the distribution of supplies rather than actual use. Also, the system does not record the number of pregnancy terminations or births delivered outside CHCs, and the quality of data needs improvement. Some of the reports generated by the family planning programme are detailed below.

1. Monthly contraception change report

The monthly contraception change report by district is produced by NCPFP and includes information on users of IUDs, condoms, pills, injectables, norplant and other contraceptives, sterilization cases, and the number of persons who have discontinued contraceptive use.

2. Quarterly report on population and family planning information, education and communication

The quarterly report on information, education and communication (IEC) on population and family planning includes information on the number of: (a) IEC meetings and participants; (b) meetings held by mobile teams; (c) shows and participants; (d) print media publications, posters and illustrated leaflets and video tapes; and (e) clubs in each district.

3. Quarterly report on current contraceptive use

The quarterly report on current contraceptive use includes the number of couples using contraceptive methods as of the last month of each quarter by method (IUDs, condoms, pills, injectables, norplant, sterilization and others) for each district of the province.

4. Quarterly report on population and family planning

The quarterly report on population and family planning by district for each province gives the number of births, women with three or more children, abortions, oral contraceptives and condoms distributed, and households visited.

In addition to the above sources, data are collected through various recording forms. These include the following.

(a) One is a household form for identifying people not using any form of contraception. The form includes data on the number of households, population, single and married women aged 15-49 years, couples with two or more children of the same sex, couples with three children and number of motivators for each district by province.

(b) Another is a form containing quarterly information on contraceptive usage and discontinuation, including the number of users of IUDs, injectables, Norplants and condoms, those who have undergone sterilization (males and females) and other methods in terms of current users, new users, discontinuations, side effects and failures.

Other sources of information include Ministry of Health personnel at CHCs who record service statistics that are then shared with District Health Centres. Reports are generated both quarterly and annually. However, there is no feedback mechanism for lower-level service delivery points. At the provincial level, the Health Services Department accumulates information from the various health service centres and vertical programmes in that province. The quality and accuracy of those data vary considerably, leaving their reliability and validity in doubt. For example, complications and errors in diagnosis and treatment are not recorded, provider attitudes are not measured and patients are rarely tracked. Data are seldom used for management, measuring performance monitoring, programme guidance or policy development.

The Provincial Maternal and Child Health/Family Planning (MCH/FP) Centres record service statistics specifically for RH/FP services. They also collect information from Provincial Committees for Population and Family Planning. The MCH/FP Department at the central level is responsible for generating quarterly and annual reports on MCH/FP and RH. Data on abortions, contraceptive use and distribution of supplies are reasonably reliable; however, data on maternal deaths and method complications and failures are under-reported. Recently, the MCH/FP Department has made some effort to enhance the accuracy of data.

Several other sources of data are also utilized. For example, the General Statistical Office collects information on health services. Various donor-funded vertical programmes generate data through their own specific reporting systems. Some donors, including the World Health Organization and the United Nations Population Fund (UNFPA), have pilot MIS testing programmes underway.

In the fourth cycle of UNFPA funding, a pilot MIS project was introduced in Thai Binh and Tien Giang provinces. Initially, the system was introduced in one district of each province and subsequently expanded to all districts of the province. The findings from the first phase of the project revealed that the data collected were more complete and accurate and that the system encouraged outreach. The MIS pilot project attempted to collect data on some 90 indicators for evaluation of the primary health-care programme. It was thought to be overly ambitious and it proved possible to collect only 15 reproductive health indicators. Moreover, most of the indicators were quantitative and none dealt with the quality of reproductive health service or care. In addition, the system was found to be expensive, burdensome for health workers at the grass-roots level and had some technical shortcomings. Based on the findings of the pilot project UNFPA is currently revising the MIS and it will be tested in eight provinces.

C. Reproductive health/family planning indicators

1. Objectives and purpose of the project

The long-term objective is to strengthen the RH/FP programme in Viet Nam as well as create a methodology for measuring and evaluating progress in reproductive health. The immediate objectives are to: establish a set of RH/FP indicators for strengthening and measuring the progress of the programmes; promote the importance of reproductive health issues among providers and individuals in the study area; and test the use of those indicators in the study area.

2. Selection of indicators

Workshops were held to select reproductive health indicators first in Thai Binh and then Hanoi among MCH/FP staff, the Planning Department, the Therapeutics Department, MIS staff and Thai Binh health staff. A set of 39 indicators was selected, of which 19 can be calculated by using the data from existing MIS; the remainder can be calculated from different data. The indicator sets were also discussed with CHCs during the selection process. Consideration was given to the recommendations and findings of the ESCAP workshops; after the Chiang Mai workshop, it was decided to include a few additional indicators for testing in the study area.

The indicators focus on the priority components of RH programmes in Viet Nam: safe motherhood, maternal health, family planning, child health and quality of care. A set of 56 indicators was tested; it was noted that they were more relevant and could be used conveniently at the district and provincial levels to enhance management and evaluation of the RH/FP programme. The indicators are listed below.

(a) General

- Population size
- Number of women aged 15-49 years
- Number of couples aged 15-49 years
- Number of adolescent women
- Number of children aged under 5 years
- Number of children aged under 12 years
- Number of children aged under 15 years

(b) Safe motherhood

- Percentage of pregnant women making three or more prenatal visits
- Percentage of pregnant women receiving tetanus immunization and iron foliate
- Crude birth rate
- Abortion rate
- Percentage of adolescent abortions
- Percentage of pregnant women who are anaemic
- Percentage of deliveries attended by trained health workers
- Percentage of deliveries at CHCs
- Percentage of delivered women followed up by partograph
- Number and percentage of women diagnosed with cervical cancer and breast cancer
- Percentage of women aged 15-49 years suffering from STDs and HIV/AIDS
- Percentage of pregnant women having obstetric complications, including infections, haemorrhage, eclampsia, uterine rupture, neonatal tetanus and other obstetric complications
- Percentage of pregnant women giving birth at District Health Centres
- Percentage of CHCs providing counselling services

- Percentage of CHCs using disinfecting and sterilization instruments
- Maternal mortality rate
- Percentage of married women who are infertile

(c) Family planning

- Contraceptive prevalence rate by method: IUDs; pills; condoms; norplant; female sterilization; and male sterilization
- Number of couples practicing contraceptive methods within nine months following delivery by method: IUDs; pills; condoms; norplant; female sterilization; and male sterilization
- Number of women with three or more children
- Percentage of women using a contraceptive method immediately after abortion
- Percentage of women using family planning method six weeks after delivery
- Percentage of women receiving counselling after abortion
- Percentage of clients visiting health facilities: adolescents; and males
- Percentage of CHCs offering all types of contraceptive methods

(d) Child health care

- Number of live births by sex
- Infant mortality rate
- Child mortality rate
- Percentage of children aged under 1 year
- Percentage of children aged under 5 years
- Percentage of children aged under 15 years
- Percentage of births under 2.5 kg in weight
- Percentage of infant deaths within seven days of birth
- Percentage of malnourished children aged under 5 years
- Percentage of children aged under 3 years followed up by growth chart

(e) Client satisfaction

- Percentage of clients satisfied after using health facilities
- Percentage of midwives at CHCs who can insert and remove IUDs
- Percentage of health workers who can provide reproductive health counselling
- Percentage of family planning clients who obtained contraceptive methods within one hour of a visit to health facilities

Based on the above considerations, and as a result of training and meetings with different organizations in Viet Nam, a set of reproductive health indicators was proposed for strengthening performance and evaluation systems to be used in measuring the progress of RH/FP programmes. The set includes the five components detailed below.

- National policies on each priority component of the reproductive health programme including safe motherhood, family planning, abortion, child health care and HIV prevention.
- Indicators related to safe motherhood and women's health:
  - (a) Crude birth rate;
  - (b) Total fertility rate;
  - (c) Number of abortions including D&C, menstrual regulation and late pregnancy termination;
  - (d) Percentage of women with three prenatal visits;
  - (e) Percentage of anaemic pregnant women;
  - (f) Percentage of women with full anti-tetanus immunization;

(g) Percentage of patients with obstetrical complications (by type);

(h) Maternal mortality rate and number of deaths;

(i) Percentage of births attended by trained health workers;

(j) Percentage of births occurring in health facilities;

(k) Percentage of deliveries that are C-sections;

(l) Number of cases of breast cancer and cervical cancer;

(m) Number of infertile couples;

(n) Number of persons with HIV/AIDS;

(o) Number of persons with RTIs and STDs.

- Family planning:

(a) Percentage of service delivery points with counselling services;

(b) Percentage of service delivery points with a post-abortion counselling service;

(c) Contraceptive prevalence rate (all methods and rate of use of modern methods);

(d) Percentage of births among women with two or more living children;

(e) Number of male clients;

(f) Failure rate by method.

- Child health care:

(a) Number of live births;

(b) Number of stillbirths;

(c) Number of neonatal deaths during the first week after delivery and number of deaths during the first four weeks after delivery;

(d) Number of low birth weight neonates;

(e) Infant mortality rate;

(f) Under 5 mortality rate;

(g) Percentage of children with full immunization;

(h) Percentage of children that are fully breast-fed during the first four months after delivery.

- Quality of care and services:

(a) Percentage of clients who are satisfied with the reproductive health services;

(b) Percentage of family planning clients who are satisfied with the chosen method of contraception;

(c) Percentage of service delivery points with a full range of family planning methods allowing clients to make a choice.

D. Methods and materials

1. Selection of study site

Thai Binh province was selected as the site for the study. The province has been supported by UNFPA in MCH/FP programmes and hence provincial workers are familiar with reproductive health concepts and issues. The province was also the location for the pilot MIS project. Thus, health and statistical workers are familiar with the need for accuracy and quality of data collection. Other advantages are that the population in the province is relatively stable with very little migration and research has been undertaken on RH/FP by health authorities. In addition, the proximity and accessibility of the study area to Hanoi makes supervision and monitoring easy.

Three districts (one urban and two rural) were selected for the project. The rural districts were Dong Hung, with a population of 252,000, and Kien Xuong, with a population of 238,000. The urban district was the township of Thai Binh, with 135,417 persons. The criteria for the

selection of the districts included: (a) a population size of not less than 100,000; (b) a good MCH/FP network, (c) midwives at all CHCs; (d) MCH/FP volunteer workers would be available; (e) a feeling of ownership and good cooperation among MCH/FP personnel and other social workers; and (f) a good system of communication.

2. Data collection methodology

A new reporting form was developed for collecting the data. The form, comprising six sections, can be used at all levels. The sections cover: (a) information on the background of the area; (b) information on safe motherhood and women's health; (c) family planning information; (d) child health information; (e) quality of care; and (f) remarks.

The new form was developed to address some of the issues that the service providers considered burdensome when using the old forms.

3. Training

In May 1997, a meeting to assess training needs was held at the Ministry of Health with participation by MIS project staff and MCH/FP Department staff. The training activities reviewed included:

(a) Refresher courses on reproductive health;

(b) Contraceptive technology updates and the quality of care;

(c) Management and measurement issues in RH/FP programmes;

(d) Data compilation and analysis; and

(e) Feedback mechanism.

The first training course, held for 12 provincial-level health workers for three days, covered a reproductive health update, the need for data collection and the selection of reproductive health indicators. Subsequently, four more training courses were held in the two rural districts for six communes. Each course, which was for 10-12 participants, covered a reproductive health update, data collection, and the use of data for planning, monitoring and evaluation. In addition, a data collection sheet for 20 reproductive health indicators by regular registration and the MIS project was considered. Training was also provided for 14 persons at Thai Binh Township.

4. Data collection

Data collected from several existing sources, including the MIS pilot project, the regular MCH/FP system, the regular provincial family planning system and the district statistics offices, were used to ascertain the validity and reliability of the new reporting system.

5. Monitoring and supervision

The project director and his team visited the study areas to carry out regular monitoring and supervision. The first visit was in November 1997 to the Thai Binh MCH/FP centre to review data collection and feedback. The second visit was in December 1997 to the selected districts and communes to review the data collection, discuss performance and to provide feedback. In February 1998, following the inclusion of the urban area in the study, a monitoring visit was made to all the areas to ensure data quality. Based on the visits, an additional form was issued for data collection. The final visit was made in May 1999 to the study areas to discuss progress and feedback.

6. Data collection and compilation

Data for one year (1997) prior to the implementation of the project were collected for comparison purposes. For 1998 and part of 1999, data were collected using the new forms. The information on the two rural areas and the urban area includes:

(a) Population by age group;

(b) Family planning users by age and method;

(c) The number of births by age group and birth order;

(d) The number of neonatal deaths by age of mother;

(e) The number of pregnancy terminations by age;

(f) The number of expectant mothers by age and visits to health facilities;

(g) The number of deaths among women by age;

(h) The number of abortions from method failure;

(i) The number of women not using family planning methods;

(j) The number of males practicing family planning (vasectomies, condoms);

(k) The number of clients receiving counselling services;

(l) The number of clients practicing family planning after abortion and counselling by age;

(m) The number of cancer and RTI cases by age, STD cases by age and disease, and HIV/AIDS cases by age;

(n) The number of obstetrical complications by age;

(o) The number of couples with more than three children;

(p) Child deaths (under 1 and under 5 years) by age of mother;

(q) The number of stillbirths by age of mother;

(r) The number of malnourished children aged under 5 years by age of mother;

(s) The number of anaemic women by age;

(t) Family planning methods available at service delivery points;

(u) Satisfaction with service;

(v) Service delivery points with a good technical room; and

(w) IEC on reproductive health.

7. Data quality and study results

There are inconsistencies in data obtained from different sources. For example, the reported number of births attended by health workers is more than the number of births. Furthermore, the IUD failure rate obtained from the survey data is only 0.001 while the study by the Ministry of Health showed a higher failure rate that may be nearer to the true situation.

The total population differed slightly between sources, with the one from the General Statistical Office being the lowest. The number of woman of reproductive age also varied, perhaps owing to the different age-calculation methods used, such as the lunar versus solar calendar. In addition, some exaggeration of age might be present owing to marital status. The number of living children appears to have been reported correctly, but child deaths (especially early-age deaths) and stillbirths may have been under-reported.

Abortion data are difficult to collect, although the procedure is legal in Viet Nam, and abortions are under-reported. Most women are familiar with, and have experienced, an abortion. However, depending on their beliefs, women and their families may be reluctant to admit that they have undergone abortion. In addition, the local health service records may not cover pregnancies that were terminated using private practitioners or other health facilities far from the women's usual place of residence. Thus, the information may not reflect reality. It should be noted that Thai Binh is

among those provinces with a high rate of abortion.

Complications and side effects such as uterine rupture and postpartum infection are usually under-reported. Health-care providers do not want to record complications for fear of punishment or because they are unclear about the type of complication. Complications and side effects of family planning methods are largely unreported for the same reasons.

There are also some discrepancies between the project study area information and other data. Several problems were experienced with collecting data on family planning use. Some investigators base contraceptive use on the amounts distributed. Sometimes clients are recorded as continuing users based on the number of times they have visited the clinics. Clients are counted as continuing users of pills and condoms even if they visited a clinic just once. Method failures with IUD use and sterilization are not assessed; however, anecdotal evidence shows that this is an issue. Couples experiencing method failures risk societal and familial problems and may be reluctant to divulge the information. Fertility control measures are important from the national perspective and efforts are concentrated on that aspect, including the recording and follow-up of any additional child born in a village or commune. The sizeable increase in sterilization (male and female) from 1 per cent during the 1980s to 8 per cent at present, and increase in condom use from 4 to 30 per cent in recent years are significant. However, a decrease in IUD use from 60 to about 40 per cent over the past 10 years needs investigation and possibly some form of action programme is needed to improve the method mix.

Data on child health indicate a low infant mortality rate and a low incidence of other usual types of problems. However, the study appears to indicate that, overall, the child health services are excellent, even though other studies have painted a different picture. Differences in definition and measurement may explain the variations, implying a need for the standardization of definitions, measurements and other tools. The quality of care and services could not be adequately assessed, which was a weakness in the data collection of the project.

The data needed for the calculation of the indicators were collected during 1997 and 1998 for the three districts participating in the pilot project. Data for the combined population of three districts in Thai Binh province for 1998 are presented in the annex tables.

It has been observed that due to the lack of appropriate denominator, most of the information is given in absolute numbers and the quality does not appear particularly satisfactory. However, some estimates of fertility and contraceptive use can be derived from data presented in these tables. For example, the total fertility rate is estimated at 1.72, which is much lower than the total fertility rate of 3.1 in 1995 estimated for the country as a whole. It is suggested that the fertility level in Thai Binh province is expected to be lower than that of the country as a whole. This is supported by the contraceptive prevalence rate of around 70 per cent estimated from this study. According to annex tables, over four fifths of the contraceptive acceptors are IUD users, followed by sterilizations (9.1 per cent).

E. Conclusion

1. Lessons learned

One of the major difficulties with collecting integrated data is the continued support for vertical programmes. The proposed set of indicators and data collection methodology can assist with planning a future comprehensive reproductive health MIS. Data collection for this set of indicators may thus force vertical programmes to work together.

The suggested reproductive health indicators should be reviewed as the situation in

the country changes. In particular, a reassessment may be valuable following the completion of the fifth-cycle UNFPA study.

It is recommended that data transmission from commune to district and district to province be made in the form of statistics and not in the form of indicators. Indicators, however, would be most meaningful at the local level. In addition, recording and reporting systems and forms at the grass-roots level need to be simple and easy to understand and use.

The study revealed which indicators could feasibly be measured and were required for monitoring and evaluation of the RH/FP programme, as well as those that were essential to the policy-making process.

The indicator set can be used to strengthen the achievements of reproductive health programmes, such as safe motherhood, family planning, abortion reduction, child health care and STD/HIV prevention through integrated measurements.

The project exposed health workers to data collection and use in planning and programming. Local health workers were able to improve their capacity for forward planning, carrying out, understanding and appreciating the present programme, and integrating with other social programmes in order to save scarce resources and produce higher quality of work.

The data and experiences gained from the study were found to be valuable by both the government and the users, in that they not only addressed concerns of government regarding fertility control but also improved the quality and quantity of services.

The short duration of the project together with budget constraints necessitated the use of the Ministry of Health and local health personnel on a voluntary basis, which may have affected data quality and quantity. Moreover, the short duration did not permit adequate supervision and monitoring, with implications for the data collected.

2. Utilization of data and feedback

The data are expected to be used in programme monitoring and evaluation, the planning of new programmes, and the setting of future objectives and targets. However, the study indicated that data utilization for management was not very systematic and that feedback mechanisms were poor. For example, commune and district staff emphasized the need for information on disease prevalence and patterns as well as other aspects of immediate concern to them; however, that information is not provided routinely or regularly. More training is therefore necessary on the production and use of service statistics and other information collected. In addition, information is required on client satisfaction, complication rates and related aspects for use in problem solving, improving quality and increasing service utilization rates.

3. Dissemination of the findings

The findings from the study have been publicized within Viet Nam through printed materials. In addition, a national dissemination seminar with participants from the Ministry of Health, NCPFP, General Statistical Office, the Ministry of Planning and Investment, other line ministries and international donors was held to discuss and assess the findings and the lessons learned.

4. Sustainability, replicability and scope for expansion

In Viet Nam, a comprehensive reproductive health programme and strategies are being formulated. The Ministry of Health is submitting a strategy outline to the government and it is hoped that in the near future an integrated programme of RH/FP and sexual health will be available. The current study paved the way for the formulation of a relevant national programme. For example, the indicator set and experiences gained will be used for planning future reproductive health programmes.

The use of the set of reproductive health indicators will increase the sense of ownership as well as coordination among managers, providers and end users, thus generating enthusiasm and support for extension and expansion. The national seminar is considered a good platform for taking up the issue of sustaining and replicating the project, especially as coordination and cooperation with international agencies and donors will be highlighted. A significant outcome of this study is that the Ministry of Health and the National Committee for Population and Family Planning have recognized the set of indicators developed by the project as being a comprehensive tool that would be helpful in planning and promoting the government RH programme. At the central level, the Ministry of Health has authorized the use of a new reporting form in all 61 provinces of the country.

Annex

Reproductive health data for three districts of Thai Binh province, 1998

The tables in this annex present the data for the combined population of the three districts, Dong Hung and Kien Xuong (rural) and Thai Binh township (urban) in Thai Binh province for 1998.

Table 1. Percentage distribution of population by age group

Age group	Male		Female	
	Number	Percentage	Number	Percentage
0-4	22 382	7.6	25 524	7.9
5-9	22 470	7.7	26 335	8.2
10-14	28 087	9.6	27 671	8.6
15-19	29 341	10.0	28 890	9.0
20-24	28 277	9.7	27 447	8.5
25-29	24 473	8.4	25 287	7.8
30-34	20 747	7.1	24 124	7.5
35-39	22 099	7.5	25 036	7.8
40-44	19 926	6.8	23 048	7.1
45-49	17 388	5.9	20 685	6.4
50-54	15 551	5.3	17 765	5.5
55-59	14 097	4.8	15 685	4.9
60 and over	28 225	9.6	34 887	10.8
Total	292 663	100.0	322 381	100.0

Table 2. Number of family planning users by age group

Family planning method	Age group							Total	Percentage
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
IUD	289	9 965	15 001	12 830	12 570	8 732	6 576	65 963	83.3
Sterilization	–	1	159	1 154	2 531	2 202	1 125	7 172	9.1
Pill	20	534	739	793	550	65	–	2 701	3.4
Condom	16	358	366	499	581	367	147	2 334	2.9
Others	–	5	219	180	321	166	106	997	1.3
Total	325	10 863	16 484	15 456	16 553	11 532	7 954	79 167	100.0

Table 3. Number of births by age group of mother and age-specific fertility rates and total fertility rate

Birth order	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
First	232	2 222	1 267	561	168	69	7	4 526
Second	–	911	1 393	956	258	72	–	3 590
Third and higher	–	2	121	309	257	49	6	744
Total	232	3 135	2 781	1 826	683	190	13	8 860
Age-specific fertility rates	0.008	0.114	0.110	0.076	0.027	0.008	0.001	1.72

Table 4. Percentage distribution of neonatal deaths by age group of mother

	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
No. of deaths	6	27	24	17	12	4	_	90
Percentage	6.7	30.0	26.7	18.9	13.3	4.4	0.0	100.0

Table 5. Percentage distribution of pregnancy terminations by age group

	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
No. of pregnancy terminations	102	1 156	2 157	2 258	2 344	1 689	724	10 430
Percentage	1.0	11.1	20.7	21.6	22.5	16.2	6.9	100.0

Table 6. Number of expectant mothers by age group

	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Three prenatal visits	204	2 950	2 513	1 670	615	149	11	8 112
Delivery at health facilities	227	3 128	2 775	1 861	671	180	11	8 853
Delivery with assistance by health worker	232	3 133	2 775	1 854	671	178	13	8 856

Table 7. Percentage distribution of female deaths by cause of death and age group

Cause of death	Age group							Total	Percentage
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
Obstetrical	–	–	–	2	–	–	1	3	10.0
From abortion	–	–	–	–	–	–	–	–	0.0
Suicides	3	2	3	1	1	–	1	11	36.7
Accidents	2	2	4	2	2	3	1	16	53.3
Total	5	4	7	5	3	3	3	30	100.0

Table 8. Percentage distribution of abortions from family planning failure by age group

Method	Age group							Total	Percentage
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
IUD	13	141	151	96	79	26	1	507	56.8
Vasectomy	–	–	–	1	2	–	–	3	0.3
Tubectomy	–	–	–	3	4	3	1	11	1.2
Pill	5	37	71	31	25	8	–	177	19.8
Condom	4	44	34	39	57	16	1	195	21.8
Total	22	222	256	170	167	53	3	893	100.0

Table 9. Number of women not practicing any family planning method by age group

Marital status	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Single	6	15	14	20	19	10	7	91
Married	80	934	1 901	2 088	2 177	1 636	721	9 537
Total	86	949	1 915	2 108	2 196	1 646	728	9 628

Table 10. Number of male family planning clients by age group

Method	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Vasectomy	–	–	–	1	5	1	–	7
Condom	16	358	366	499	581	367	147	2 334
Total	16	358	366	500	586	368	147	2 341

Table 11. Percentage distribution of clients receiving counselling services

Counselling service	Number of client	Percentage
Reproductive health in general	135 369	78.8
Family planning methods	25 988	15.1
Abortion	10 361	6.0
Total	171 718	100.0

Table 12. Percentage distribution of clients practicing family planning after abortion and counselling by age group

Client	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Number	6	367	644	723	529	248	85	2 602
Percentage	0.2	14.1	24.8	27.8	20.3	9.5	3.3	100.0

Table 13. Percentage distribution of cancer cases by type of cancer

Site of cancer	Age group							Total	Percentage
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
Breast	–	1	1	3	4	12	11	32	25.8
Cervix	–	1	2	3	2	6	4	18	14.5
Uterus	–	1	–	–	1	1	2	5	4.0
Others	2	4	5	5	14	18	21	69	55.6
Total	2	7	8	11	21	37	38	124	100.0

Table 14. Percentage of clients with reproductive tract infections by age group

Client	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Number	243	5 840	8 104	7 605	7 907	5 023	3 281	38 003
Percentage	8.4	21.3	32.1	31.5	31.6	21.8	15.9	21.8

Table 15. Percentage distribution of clients with diseases by type of disease

Disease	Age group							Total	Percentage
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
Gonorrhoea	–	1	5	4	6	3	1	20	0.7
Syphilis	–	–	1	1	1	2	–	5	0.2
Trichomonas	25	225	324	236	349	196	138	1 493	52.3
Mycoses	27	101	299	235	308	195	146	1 311	45.9
Hepatitis B	1	1	2	5	3	2	1	15	0.5
Chlamydia	–	1	1	2	1	6	–	11	0.4
Total	53	329	632	483	668	404	286	2 855	100.0

Table 16. Number of HIV/AIDS cases by age group

Case	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Number of HIV/AIDS	–	1	–	–	–	–	–	1

Table 17. Percentage distribution of obstetrical complication by type of complication

Complication	Age group							Total	Percentage
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
Haemorrhage	8	28	37	24	21	10	–	128	77.6
Infection	4	6	11	3	6	2	–	32	19.4
Eclampsia	–	1	–	2	1	–	–	4	2.4
Uterine rupture	–	–	–	–	–	–	–	–	0.0
Neonatal tetanus	–	–	–	–	1	–	–	1	0.6
Total	12	35	48	29	29	12	–	165	100.0

Table 18. Percentage distribution of mothers with three or more children by age group of mother

Mother	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Number	–	19	1 359	4 142	8 773	9 755	8 253	32 301
Percentage	0.0	0.1	4.2	12.8	27.2	30.2	25.6	100.0

Table 19. Number of child deaths by age group of mother

Age of child	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
< 1 year	9	37	37	29	17	7	–	136
<5 years	13	57	50	37	21	10	1	189

Table 20. Number of stillbirths or deaths during labour/delivery by age group of mother

Death	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Deaths during labour	1	5	5	4	2	2	–	19
Stillbirths	4	4	4	2	2	1	–	17

Table 21. Percentage distribution of malnourished children under five years of age by age group of mother

Malnourished children	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Number	111	3 140	5 746	4 563	3 520	1 268	394	18 742
Percentage	0.6	16.8	30.7	24.3	18.8	6.8	2.1	100.0

Table 22. Percentage of anaemic women by age group

Anaemic women	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Number	680	988	1 572	2 279	2 218	2 086	1 577	11 400
Percentage	2.4	3.6	6.2	9.5	8.9	9.1	7.6	6.5

Table 23. Satisfaction of clients by service provided

Service	No. of client	Percentage
Family planning	144 604	–
Safe motherhood	6 718	76

Table 24. Percentage of service delivery points (SDPs) with family planning methods available

Method	No. of SDPs	Percentage
IUD TCU 380	4 515	100
IUD Multiload	1 828	100
Pill	15 697	100
Condom	–	–

Table 25. Percentage of service delivery points with a good technical room

Type of room	Service delivery points	Percentage
Delivery room	91 out of 93	98
Gyn. exam room	93 out of 99	94
Family planning room	88 out of 99	89
Children's room	95 out of 99	96

Table 26. Number of information, education and communication (IEC) services provided on reproductive health

IEC service	Number
Messages communicated through the commune loud speaker system	698
Family planning group discussions	2 182
Counselling sessions for clients	146 561
Leaflets posters and tables displayed in public	291

PART THREE

X. EXPERT GROUP MEETING

A. Organization of the meeting

The Economic and Social Commission for Asia and the Pacific (ESCAP) organized an Expert Group Meeting on Strengthening Monitoring and Evaluation Systems for Measuring the Progress of Reproductive Health and Family Planning Programmes, at Bangkok from 10 to 13 March 1997. Experts in the field of Reproductive Health and Family Planning (RH/FP), management, and monitoring and evaluation from selected countries of the region participated in the meeting. Country-specific papers were presented on strengthening monitoring and evaluation systems for measuring the progress of reproductive health and family planning programmes. Participants also made statements on issues related to their countries and participated in the ensuing discussion.

1. Objectives and issues

The objectives of the meeting were to (a) discuss the existing issues on management, monitoring and evaluation systems for measuring the progress of RH/FP programmes, and (b) formulate recommendations for strengthening performance monitoring and evaluation systems in order to improve the programmes.

2. Participation

Experts from nine countries of the Asian and Pacific region participated in the meeting. In addition, representatives of the United Nations Population Fund (UNFPA), the UNFPA Country Support Team, Bangkok, and the Population Division of the United Nations Headquarters also attended the meeting.

3. Opening remarks

In his opening address, the Director of the ESCAP Population Division highlighted the Bali Declaration on Population and Sustainable Development, 1992, and the International Conference on Population and Development (ICPD) Programme of Action, 1994. He noted that those instruments had broadened the scope of the relationship between population and sustainable development. Both conferences had adopted specific goals in areas such as education, especially for girls and women, the improvement in overall health conditions and in areas related to RH/FP.

In particular, the Programme of Action reflected agreement among countries that governments should provide comprehensive RH/FP services to enable couples to achieve their reproductive goals. It also reflected agreement that those governments should accord high priority to basic education, particularly for girls, the eradication of poverty, improved survival of infants, children and mothers, and improvements in the status of women.

The Programme of Action also recommended that government goals for family planning should be reflected in terms of unmet needs, but should not be imposed on service providers in terms of targets or quotas. Moreover, he said, over the next several years, countries should assess the extent of the unmet needs for good quality family planning services and their integration as part of reproductive health.

He also noted that the Programme of Action recommended that governments set up national databases to provide necessary baseline data and information for measuring the progress of countries in attaining population goals, including RH/FP. Thus, there was a need to appraise existing data-generating systems and determine how they could best be geared towards meeting those needs. The identification of relevant qualitative and quantitative indicators was also necessary to assess changes within the context of a comprehensive statistical system. Because the development of a sound

information base for reproductive health and family planning was a priority for monitoring and evaluating programmes on a permanent basis, baseline indicators would have to be obtained for the national and subnational levels.

To assist the member governments achieve that goal, he pointed out that the ESCAP secretariat was implementing a project in selected countries of the region on improving and strengthening national capacities to monitor and evaluate the progress of RH/FP programmes.

He concluded by stating that the meeting had been convened to initiate those processes. Therefore, as experts, the participants were being asked to provide the ESCAP secretariat and the countries of the region with a clear understanding of the issues involved, a list of the required indicators, as well as the necessary tools, definitions and methodologies for collecting data to enable the indicators to be established in a cost-effective manner.

4. Agenda

The following agenda was adopted by the meeting:

1. Opening of the meeting
2. Election of officers
3. Adoption of the agenda
4. Strengthening performance monitoring and evaluation systems for measuring the progress of RH/FP programmes
5. Presentation of country papers
6. Other matters
7. Adoption of the report

B. Summary of the papers and discussions

Three separate presentations were made under agenda item 4, "Strengthening performance monitoring and evaluation systems for measuring the progress of RH/FP programmes". Under agenda item 5, "Presentation of country experiences by experts and resource persons", the presentations by the participating countries, Bangladesh, China, the Islamic Republic of Iran, Myanmar, Nepal, Pakistan, the Philippines, Thailand and Viet Nam, reviewed and discussed experiences as they related to agenda item 4. Each of the presentations provided clarification of the current situation, drawbacks, limitations and gaps in the information base. The discussion focused on possible indicators, and recommendations were made on measurement tools, definitions and methodologies for establishing indicators.

The presentations dealt with the expanded role of RH/FP, quality of care, challenges in the management information systems (MIS) and identification of RH/FP indicators, including current global efforts in this regard. The presentations touched upon international comparability of information and indicators, data collection mechanisms, integrated nature of data collection, importance of maternal mortality estimation, and public vs. private sector roles in the formulation of indicators. The presentations also covered the need for integrated programme strategies, the status of existing systems, past methodologies for monitoring FP programmes, elements in MIS, instruments for measuring progress, service delivery components, community-based workers, training needs, monitoring procedures, and the role of special surveys and studies in monitoring.

There was some overlap in the presentations, which served to emphasize the discussion topics. The discussion reiterated the need to take into consideration all the RH/FP components agreed upon at ICPD in the formulation of MIS, which should be simple to implement and flexible enough to adjust to programme changes. The meeting was informed that in many countries greater

emphasis had been laid on quantity rather than quality, which was a cause of growing concern in countries that measured the quality of services. Thus, it was emphasized that, among other things, the system of case studies should be institutionalized. The meeting emphasized that quality of care indicators should be grouped among the most important sets of indicators. Provider competence, continuity of care, provider-client interaction, client satisfaction etc. should be a part of the quality-of-care information base. Among the factors seen as enhancing the quality of care were appropriate training and skills development for service providers, a wider contraceptive method mix, proper logistics management, and the creation of conditions conducive to availability, accessibility and confidentiality of RH/FP services.

The meeting recognized that variations among countries appeared to exist with regard to data availability as well as the relative emphasis placed on input, process and output variables for the purposes of monitoring and evaluation. That situation called for a common understanding and common strategy if cross-country comparisons were to be attempted. Further, integrated information systems were the choice if duplications and wastage of time, effort and cost were to be avoided. Integrated information systems were based on various data sources such as service statistics, administrative records, censuses and surveys. In particular, it was noted that service statistics, on which much of the information systems were based, possessed certain limitations. Generally, service statistics related to public sector programmes. As such, the indicators based on service statistics only measured the performance of public sector programmes. Therefore, efforts should be made to bring non-governmental organizations (NGOs) and the private sector not only under the umbrella of service provision but also into the information base. Otherwise, measures such as the contraceptive prevalence rate would provide only a partial picture as the involvement of the private sector and NGOs in the RH/FP programme was steadily increasing.

The maternal mortality ratio (MMR) was widely recognized as one of the most important RH indicators. In many countries in the region, MMR was considered not only to be an RH indicator, but also an indicator that reflected family planning practices because of the association between maternal mortality and abortion-related mortality in those countries. Despite the difficulties involved in estimating MMR, the meeting stressed that efforts should not be spared in obtaining information on the causes of maternal mortality. It was only by making use of such information that meaningful intervention strategies could be initiated.

The meeting deliberated on the constraints and limitations of the organizations responsible for MIS data and other information in terms of personnel, training and equipment needs. Without such data and information, it would be very difficult to produce qualitative and quantitative data in a timely manner. The meeting recognized that the management information subsystems covered services, personnel, logistics, inventory, finance, transport etc., the input and process variables of which constituted the overall MIS. The monitoring and evaluation system, on the other hand, was composed essentially of output and impact variables. Most countries had a form of MIS either in operation or under development. MIS helped in the day-to-day management of the programmes and the monitoring and evaluation system should be capable of providing comparison across countries.

The meeting felt that since the monitoring and evaluation of indicators developed by UNFPA could serve as a starting point for the development of the monitoring and evaluation system, they should be discussed in detail. The objective of the discussions would be to identify the indicators, their purpose and objectives, periodicity of collection, level of collection, issues and constraints, and recommend

measures to improve them. The countries should identify and adopt those indicators that meet their priority needs and are useful in the context of national socio-economic and cultural environments. However, the applicability of indicators should be thoroughly investigated before they are adopted, taking into account the social and cultural framework of each country.

C. Recommendations

Taking into consideration the foregoing discussions and deliberations, the meeting made the following recommendations.

1. Efforts should be made to develop a simple and easy to implement mechanism for determining the progress of RH/FP programmes at the national, subnational and local levels.

2. The monitoring and evaluation system should be relevant to RH/FP policies and should provide basic information to policy makers and programme managers. It should also be flexible enough to adjust to programme changes.

3. An in-service training system should be developed for promoting the capabilities of workers and supervisors in the areas of data collection, processing and analysis.

4. Efforts should be devoted to produce quality data on a regular and timely basis.

5. Viable core and supplementary indicators that have defined goals and objectives for monitoring and evaluating each component/area of the programme should be identified.

6. The priority of the indicators should be based on their relevance and robustness as well as their international comparability.

7. Monitoring and evaluation indicators should be integrated into the existing MIS as and where appropriate.

8. A mechanism needs to be developed for a quick and timely feedback system at all levels.

9. The capability of the organizations responsible for the collection of information should be strengthened to enable them to produce qualitative and quantitative data, through MIS and/or service statistics and periodic surveys which meet the requirements for establishing various indicators.

10. The indicators for programme performance monitoring and evaluation should be easy for managers/ administrators and policy makers to follow when carrying out necessary and timely programme interventions.

11. The indicators to be adopted for each sector or area of the RH/FP programme should be pre-tested and thoroughly evaluated to ensure that they meet the desired objectives, before being replicated on a nationwide scale.

12. Use of informatics and telematics systems should be promoted and encouraged for the smooth and effective functioning of management monitoring and evaluation at the national, subnational and local levels.

13. As it is often assumed that good quality of care can lead to an increase in clientele, adequate attention should therefore be paid to quality-of-care indicators.

14. As the existing information system usually covers the public sector, efforts should be made to bring NGOs and the private sector under the umbrella of the new management information systems.

15. The activities being initiated by the ESCAP secretariat to strengthen the existing monitoring and evaluation system of RH/FP programmes should focus in particular on the following aspects:

(a) Study directors should develop a modified management, monitoring and evaluation system based on the recommendations as adopted at the present expert group meeting; and

(b) The system should have a clear-cut operational methodology for testing the system on an experimental basis for at least one year in at least one administrative unit (district/province) comprising both rural and urban areas. The prerequisite steps for achieving that objective are:

(i) The development of relevant recording and reporting forms for collecting the necessary information;

(ii) The development of an instructional manual for use at all levels;

(iii) The development of a training manual and training schedule, and the organization of a training workshop for all those who will be involved in data collection, processing and analysis at all levels;

(iv) The development of a monitoring procedure for programme assessment through defined indicators;

(v) The development of a feedback mechanism;

(vi) The development of a mechanism for rapid data processing, analysis and dissemination; and

(vii) Maintaining a close liaison with the ESCAP secretariat in the completion of each activity in accordance with an approved schedule and work plan.

XI. REGIONAL SEMINAR

A. Background

The Regional Seminar on Strengthening Monitoring and Evaluation for the Progress of Reproductive Health and Family Planning Programmes was one of the last activities of the project on strengthening performance monitoring and evaluation systems for measuring the progress of Reproductive Health and Family Planning (RH/FP) programmes. The Economic and Social Commission for Asia and the Pacific (ESCAP), with financial support from the United Nations Population Fund (UNFPA), implemented the project in Bangladesh, the Islamic Republic of Iran, Myanmar, Nepal, Pakistan, and Viet Nam.

This project was initiated in light of the decennial regional conference held in Bali in 1992, and the global population conference held in Cairo in 1994. Both the Bali Declaration on Population and Sustainable Development and the Programme of Action (POA) of the International Conference on Population and Development (ICPD) called for broadening the scope of RH/FP programmes. The Conference also urged that increased attention be paid to the acceptability and quality of reproductive health and family planning.

In particular, the ICPD-POA emphasized that valid, reliable, timely, culturally relevant and internationally comparable data needed to be generated for policy and programme development, implementation, monitoring and evaluation of programme activities (paragraph 12.1). It also recommended that governments establish national databases in order to provide necessary baseline data and information that could be used to measure the progress of ICPD goals including, *inter alia*, RH/FP.

Realizing the importance of a database for a sound monitoring and evaluation system, it was considered essential for all the developing countries in the region to improve their baseline indicators for monitoring and evaluation of RH/FP programmes at the national and subnational levels. In that context, an expert group meeting was held at Bangkok from 10 to 13 March 1997. The meeting emphasized the importance of identifying and collecting relevant quantitative and qualitative indicators for the development of a sound information base for RH/FP programmes.

B. Organization of the seminar

The Economic and Social Commission for Asia and the Pacific (ESCAP) organized the Regional Seminar on Strengthening Monitoring and Evaluation for the Progress of Reproductive Health and Family Planning Programmes at Bangkok from 28 September to 1 October 1999. Senior officials from selected countries of the region, resource persons and the study directors from the participating countries; and representatives of the United Nations, other international agencies, and Non-Governmental Organizations (NGOs) participated in the seminar.

1. Purpose and objective

The main purpose of the seminar was to discuss the major findings of the countries that had participated in the project entitled "Strengthening Performance Monitoring and Evaluation Systems for Measuring the Progress of Reproductive Health and Family Planning Programmes". The objective was to highlight priority issues, constraints, policy recommendations and future directions that could help to devise sustainable and cost-effective monitoring and evaluation systems for better management of RH/FP programmes.

2. Participation

Participants from 17 countries of the region attended the Seminar. In addition,

representatives of United Nations Population Fund (UNFPA), the UNFPA/Country Support Team (CST) for South-East and East Asia, the United Nations Development Programme (UNDP), the United Nations Development Fund for Women (UNIFEM) and NGOs attended the Seminar.

3. Opening remarks

The seminar was inaugurated by Kayoko Mizuta, Deputy Executive Secretary and Officer-in-Charge, a.i., ESCAP. In her opening address welcoming the participants, she pointed out that the Bali Declaration on Population and Sustainable Development and the ICPD-POA called for broadening the scope of RH/FP programmes with emphasis on refining, improving, identifying and adopting well-defined monitoring procedures and methodologies. It was, therefore, considered essential to establish an information base and collect a minimum set of programme indicators in a timely and cost-effective way, so that the programme could be planned, implemented, monitored and evaluated promptly and accurately.

The Deputy Executive Secretary said that in the course of the past two years or so, the six participating countries (Bangladesh, the Islamic Republic of Iran, Myanmar, Nepal, Pakistan, and Viet Nam) had implemented the project. They had gained substantial insights concerning data collection and analysis, which they would discuss while presenting the country findings.

The Deputy Executive Secretary pointed out that in addition to the inputs from the six participating countries, the presentations by representatives of the 11 other countries that had not participated in the project and which have good experience in RH/FP management information systems would provide a valuable input to the seminar.

The cross-cultural discussion would enable the participants to prepare tangible recommendations, which would help the countries of the region in their efforts to devise sustainable and cost-effective monitoring and evaluation systems for the better management of their RH/FP programmes and policy directions for the next millennium.

In providing some perspective for the benefit of the countries that had not participated in the project, the Deputy Executive Secretary said that the project had emphasized strengthening the programmes' effectiveness, efficiency and management through improved training of various cadres of staff in monitoring and evaluation, simplification and rationalization of data collection procedures, analytical skills and data utilization. Under the project, efforts were also initiated to develop and adopt quality-of-care indicators and measures. Two-way feedback for regular monitoring, and effective and timely interventions were also built into the overall design of the project implementation.

The aim of the project had been to assist the participating countries to identify, develop, adopt and integrate better quality and more relevant indicators of programme inputs, costs, demand, quality and output. In order to achieve the objectives of the project, several related activities had been carried by the ESCAP secretariat during the past three years.

The Deputy Executive Secretary said that the Study Directors of the project, most of whom were present at the seminar, had attended the expert group meeting held at Bangkok in March 1997. That meeting had provided guidelines for appraising current data-generating systems, and had identified their strengths and weaknesses as well as determined how they could be best geared towards meeting the changing needs of the countries. The meeting had also emphasized the importance of identifying relevant quantitative and qualitative indicators for the development of a sound information base for RH/FP programmes. It had recommended that baseline indicators be obtained for not only the national level but also the subnational level, depending on the social

and cultural framework of each country and keeping in view time and resource constraints. The meeting had also emphasized that the database system should be simple, easy to implement and functional and flexible enough to adjust to programme changes. Further, the meeting had discussed the modalities and methodology for implementing the project in the countries concerned. It was agreed to collect a set of RH/FP indicators during the project and complete country reports as discussed at the meeting.

The Deputy Executive Secretary noted that one other contributory element to the success of the project had been the human resources development aspect, which was aimed at strengthening monitoring and evaluation of RH/FP programmes. The goal has been to improve the capabilities and skills of the national programme officials so that they could better understand the importance of data collection, processing, tabulation and analysis. In that context, two regional training workshops were held, one at Bangkok in July 1997 and the other at Chiang Mai, Thailand, in May 1999.

Those activities had assisted the participating countries to build national capacity in data collection and the processing and analysis of key indicators, the Deputy Executive Secretary said. The participating countries had subsequently organized national workshops where 10-20 persons in each country had been trained in data collection, processing and analysis.

In particular, the Deputy Executive Secretary noted that the countries would undoubtedly have experienced several problems or constraints while implementing and integrating existing data systems. Those issues and the lessons learned would be discussed during the seminar to enable the participants to bring out the strong points that they considered were important for sustaining viable, efficient and cost-effective management systems at the local and national levels.

The Deputy Executive Secretary concluded by saying that the recommendations produced by the seminar would help the countries of the region and the ESCAP secretariat in formulating new and effective programme strategies.

4. Agenda

The following agenda was adopted:

1. Opening of the seminar
2. Election of officers
3. Adoption of the agenda
4. Problems and issues in collecting data on indicators for monitoring and evaluation of RH/FP programmes:
   (a) Presentations by countries participating in the project
   (b) Presentations by other countries
5. Draft recommendations and future directions:
   (a) Working Group 1 on family planning, abortion prevention and post-abortion care and infertility
   (b) Working Group 2 on maternal and child health, reproductive tract infections (RTIs), sexually transmitted diseases (STDs), human immuno-deficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) and harmful practice
6. Adoption of the report

5. Documentation

In addition to the six country papers by Bangladesh, the Islamic Republic of Iran, Myanmar, Nepal, Pakistan, and Viet Nam, all of

which participated in the project, presentations were made by 11 countries that did not participate in the project. A list of the papers presented at the seminar is presented in annex II.

C. Proceedings of the seminar: presentation of country papers and discussions

Problems and issues in collecting data on indicators for monitoring and evaluation of reproductive health and family planning (RH/FP) programmes (agenda item 4)

1. Presentations by the six countries participating in the project

Under agenda item 4(a), the six countries that participated in the project presented the country findings. The papers highlighted issues and constraints in RH/FP management information systems (MIS) and how those issues and constraints were resolved, the collection of RH/FP indicators and their quality and coverage, the findings from the data collected in the field, conclusions and recommendations, and future policy directions. A summary of the country findings and discussions is given below.

(a) Bangladesh

The country report from Bangladesh noted that the MIS of the Ministry of Health and Family Welfare had established a hierarchical system of recording and reporting that operated on a monthly basis. The reports dealt with input, process and output indicators that were monitored on a continuous basis in order to assess the progress of RH/FP programmes.

The paper pointed out that the project had been implemented at four welfare centres in Manikgonj District to collect information on a set of indicators for RH/FP. Those indicators that were not covered through MIS were obtained from a multi-round survey (MRS) conducted during 1998 in the same study area covered by MIS.

The two different strategies that provided information on the selected indicators were included in the report. Under MIS, information on family planning and some health indicators was obtained. Health indicators such as crude birth rate, total fertility rate etc., were obtained from MRS, while indicators such as RTIs, STDs and HIV/AIDS were mainly limited to counselling at the national level. Information was collected on antenatal and post-natal care, and family planning. The study area comprised 10,500 households with a total population of 46,292.

The paper noted that the workload at the grass-roots level was considered too heavy. There were too many recording and reporting tools. Collecting demographic data through MRS by field workers had proved to be very costly. Despite various problems and technical drawbacks in its effort to record demographic events MRS was able to yield results that appeared to be more satisfactory. The lack of coordination between the various agencies involved in the collection of data often led to limited use of such data in programme planning and monitoring. In addition, duplication of services by the health and family planning directorates was observed in the area of maternal and child health.

The collection of RH data through MIS would require constant training of service providers. The allocation of adequate resources was required for monitoring the progress of RH/FP programmes. Frequent surveys would be an important source of most RH indicators.

The present study had helped the government to design the unified management information systems (UMIS) under the new one-stop integrated service delivery mechanism. Different types of recording and reporting tools had already been designed, based on the experience gained from the project, and the new MIS had been implemented.

So far, the replication and sustainability of data collection and the generation of some

RH/FP indicators through MIS had not been a problem as UMIS was operational. However, the collection of data from other sources was expected to face some problems with regard to replication and sustainability of the survey techniques, which were costly.

The meeting raised the issue of the structural integration of two vertical MIS into a unified MIS for the collection of information from grass-roots service delivery points to a unit established for this system. The operational methodology for collection and transmission of data had not been specified and needed more detailed elaboration. The meeting expressed concern that although the number of data collection registers had been minimized, the service delivery outlets were over-burdened by data collection becoming one of their primary duties, which, *inter alia*, would affect their delivery of services to clients. It was further observed that the lessons learned from the study needed to elaborate the distinct difference between pre-project and post-project MIS achievements. The discussion also needed to focus on the sustainability of UMIS and the survey-based information system in Bangladesh as well as its replicability on a cost-effective basis.

(b) Islamic Republic of Iran

The country paper stated that the health delivery system of the Islamic Republic of Iran was among the best in operation. The system had a built-in information system for the health network, primarily based on family folders that were used by all health houses, health posts and health centres at the grass-roots level for recording data related to different aspects of family health, including the RH/FP programme. A vital statistics data sheet was used for the day-to-day recording of data on birth by sex, weight, month and place of delivery, mortality by age, cause of death, family planning acceptance by method, infant and child mortality by cause of death, population covered by health/family planning services by age and sex etc. The data collection forms of the health system were well designed and health personnel were adequately trained in completing the forms.

The paper noted that the main weakness of the programme was a lack of monitoring tools and indicators for the peripheral levels of decision-making. However, the data collected were considered low in quality and should not, therefore, be used in decision-making.

The paper indicated that the programme suffered from a lack of comprehensiveness. There were no appropriate indicators for many components of the programme or for peripheral levels of decision-making. Another major weakness was a lack of monitoring tools and indicators. Decision-making on a non-information basis and little usage of available data had caused programme managers to become indifferent to the quality of data. That had resulted in incomplete, unreliable and invalid data. The system also suffered from the burden of duplicated surveys that were carried out almost every year.

Keeping those shortcomings and weaknesses in view, the main objective of the project was to develop tools and techniques for strengthening monitoring and evaluation activities of the health programmes.

The paper mentioned that the project was still under implementation in Karaj district near Tehran. It was based on a conceptual framework developed into a "chain model" which had taken into consideration the three stages of understanding, assessment and strengthening. In each stage, several steps were being taken that would ultimately help in the establishment of a strengthened monitoring and evaluation system. The model was being used in an experiment to strengthen the monitoring and evaluation of the family planning and maternal care programme in Karaj district.

A list identifying the input, process, output and effect/outcome indicators being collected from the built-in registration system/

MIS and surveys was provided in the paper. The level of access to information was through the service delivery points and surveys undertaken at the national and provincial levels. However, analysis and interpretation to assist policy makers in decision-making were missing.

The paper expressed the opinion that although the data collection forms were well designed and health personnel were well trained in using them, the existing MIS lacked comprehensiveness owing to non-availability of information on several indicators.

The meeting noted that although the Islamic Republic of Iran had made impressive progress in health and family planning programmes through the built-in data collection system at each health house/post, the country needed to highlight policy initiatives, institutional arrangements and other factors that had contributed to its success, so that other countries in region could benefit from its successful experience. The meeting also noted that while the study had outlined the theoretical aspect of strengthening the monitoring and evaluation system for the progress of the RH/FP programme, it had failed to elaborate its experience gained in the field related to the objective of the overall project. An explanation of the workings of MIS at various levels was also needed.

The meeting stated that the provision of a few examples illustrating the main problems or lacunae related to the poor analysis of data could have strengthened the presentation. Moreover, it was pointed out that several indicators on family planning and maternal care had been identified but very few had been used. Some explanation of the poor utilization of the data was needed. The paper could also have attempted to offer some suggestions on improving the quality and utilization of registration data.

The meeting suggested that the Islamic Republic of Iran study could have increased the value of its report, had it attempted to detail the findings for the study area rather than reproducing national figures. It was expressed that as the project was continuing, the findings for the study area would eventually be presented and compared with national data.

(c) Myanmar

The paper detailed the pre-project situation regarding RH/FP. The FP aspect was brought under the umbrella of the community health care programme in 1994-1995 as expanded birth spacing services. At present, the birth spacing programme is operating in 117 project townships (districts).

With the exception of the national health MIS, prior to 1996 Myanmar had no proper information system on birth spacing services. The system was developed when the government introduced birth spacing into the regular health delivery system in 72 townships with financial assistance from UNFPA. Data collection on birth spacing services in the 72 townships is being monitored and minimum essential data will be included in the national health MIS once it covers all 324 townships in Myanmar.

The paper identified various RH and birth spacing indicators based on discussions at the expert group meeting and subsequent ESCAP meetings. RH and birth spacing information is being collected in the 72 townships and is being supplemented by information from five other townships with emphasis on timeliness and accuracy.

Promoting reproductive health by strengthening performance monitoring and impact evaluation through MIS is an essential tool for managers, decision-makers and planners aiming to reduce the dangers of childbearing and protect the lives of reproductive age women, and consequently the health and growth of their children. It is expected that MIS development will be extended to other townships as part of a national strategy for birth spacing in the RH programme.

The meeting noted that the RH programme of Myanmar was introduced relatively recently and that its MIS was even younger. Therefore, it was clear from the report that the country still had a long way to go, both in terms of service provision and its monitoring and evaluation system. However, the meeting was of the view that rather than presenting the short durations of the programme and MIS in Myanmar as a weakness, it should be seen as an opportunity to learn and fully benefit from projects such as the one under review.

Turning to the specifics of the report, the meeting noted that a major deficiency was the inability to assess the impact of the project owing to the lack of baseline data from the project area. In noting the heavy reliance on data recorded in various registers maintained by service providers, the meeting observed that unless the data were cross-checked and verified through a direct approach to the clients, its reliability would remain questionable.

The paper offered some useful statistics on HIV/AIDS together with mention of a few steps taken to overcome them. However, being a very important topic, it needed to be dealt with in greater detail. Particularly, it would be useful to evaluate the impact of government interventions through well-planned surveys.

The meeting also emphasized the cultural problems faced in collecting data on such socially sensitive indicators as HIV/AIDS. Since HIV/AIDS was generally associated with illicit sex, no one wanted to reveal his/her illicit sexual activities and information on incidence was therefore difficult to obtain. That was another reason for double-checking the data presented in the report.

It was pointed out that several tables annexed to the report presented information in absolute numbers. The meeting stressed that the data should be presented as percentages, rates and ratios in order to make them more easily understandable and comparable. The presentation of charts and figures should be kept to a minimum and only used to enhance understanding and derive the point more clearly.

It was further stressed that if the project were to be replicated nationally, as suggested in the report, its impact should be detailed more precisely. Was it found helpful in improving monitoring and in what ways? What specific improvements were subsequently noticed? What technical inputs, training programmes and coordination mechanisms would be required to extend the project to other parts of Myanmar? What difficulties would stand in the way of that expansion? The meeting agreed that these and related questions needed to be clearly answered in the final country report.

Finally, the meeting emphasized the need for the report to be more focused and analytical, and that it should adhere, as far as was feasible, to the format agreed on at the Chiang Mai workshop.

(d) Nepal

The paper focused on the pre-project situation of MIS in Nepal, that is, the monitoring of the RH services. It stated that FP and MIS were implemented successfully, thus generating monthly figures, *inter alia*, on the contraceptive prevalence rate by district as an indicator for monitoring FP activities. With the integration of the public health and family planning programmes, MIS became a unified health MIS that was implemented in 1994.

The Department of Health Services was responsible for the reproductive health strategy and policy for Nepal. The reproductive health strategy contains an integrated package for Nepal that includes family planning, safe motherhood (including newborn care), prevention and management of infertility, prevention and management of complications of abortions, prevention and control of RTIs, STDs and HIV/AIDS, adolescent reproductive health issues and RH issues of the elderly, e.g., reproductive tract cancer, and breast cancer and osteoporosis.

The health and logistics MIS currently used by health workers at service delivery points were minutely scrutinized and tested in the study area. Some tools, forms and registers needed to be modified and/or developed in order to collect information that was not included in MIS, particularly with regard to the quality of care related to RH/FP services. At the same time, it was felt necessary to collect information on RTIs, STDs and HIV/AIDS through special surveys.

The project was implemented in one district of the western region of the country. The data on selected indicators were collected from the regular and built-in MIS as well as from other sources such as periodic surveys. The paper discussed the findings on quality of care, and provided information on issues and constraints faced during the implementation of the project as well as the efforts to resolve the problems.

The meeting stressed the need to develop MIS for generating information on selected indicators that could be used for monitoring and evaluating RH/FP programmes. Some of those indicators could be gathered from periodic surveys, and strategies should therefore be developed to interlink the information obtained from MIS and those surveys. It was suggested that before launching such surveys, the concepts and definitions should be standardized. Although the paper mentioned several issues and constraints, the meeting noted that a more detailed explanation was needed of the ways in which they were resolved, as that would be beneficial to other countries.

The meeting also suggested that many of the formats given in the paper should be examined to indicate their relevance to the data presented. A query was raised regarding differences in information from two or more sources and it was suggested that standardization should be used to discern the real situation. Required information that was unavailable through the existing MIS system should be integrated from other surveys to minimize the cost and ensure optimal use of limited resources.

(e) Pakistan

The paper stated that although Pakistan had one of the oldest family planning programmes in the region, it had not been able to achieve the desired level of success in the area of RH/FP. Even the health programme run by the Ministry of Health side by side with the population welfare programme had not fully addressed the issues of reproductive health. Among other factors, lack of proper monitoring and supervision were major factors responsible for the inability to achieve the desired goals in RH/FP.

Pakistan had undertaken a thorough study of the existing system of monitoring and evaluation as well as a detailed review of current RH/FP indicators. When it was found that information pertaining to several RH/FP indicators was not being compiled, additional data were collected in the project area on the number of living children, the age of the youngest child, acceptance of family planning after delivery, infertile clients' reproductive intentions, pregnancy history, breast examinations, RTIs and STDs.

A one-page, pre-coded format reproductive health client card (RHCC) was designed for collecting information not covered by the existing client record cards. As it had both urban and rural populations, District Jhelum in Punjab province was selected as the test area for the new format. The selection was made in consultation with the federal and provincial population welfare and health departments. The officials involved in implementing the project received the necessary training. Health and population welfare service providers obtained information required under the new format from female clients during their visits to the service outlets.

A quick count cross-sectional sample survey was also undertaken, covering both urban and rural segments of the study area. The data obtained through the sample survey had also been analysed and presented in the report. The paper presented the findings from the results of both the service statistics and the quick count sample survey, which had proved quite useful in the monitoring and evaluation of the RH/FP programmes.

The presentation concluded that by using both methodologies (that is, service statistics as well as the cross-sectional survey) the information on the additional indicators could be replicated with appropriate training and proper supervision.

Several problems and constraints had been faced while collecting the RH/FP information, but they were resolved through proper monitoring and supervision and by developing interpersonal rapport with the clients. The paper noted that the collection of information on additional RH/FP indicators required supplementary resources, as further training of service providers at the grass-roots level was necessary.

The meeting noted that the current MIS was designed mainly for collecting and reporting fragmented service statistics. However, a shift from merely monitoring the services to meeting the needs of clients would require a systematic rethinking about the information base design. The meeting also pointed out that collaboration in data collection needed to be strengthened between various organizations in the country. Where the data collection system suffered in quality and coverage, the capacity to overcome such shortcomings should be improved so that more effective monitoring and evaluation of the RH/FP programme performance could be achieved.

There was consensus that the methodology of data collection adopted for the project had proved useful in supplementing the service statistics. However, the requisite training, monitoring and supervision of the service providers were seen as essential ingredients for sustaining its continuity.

The meeting suggested that the additional format devised under the project could be merged by the Ministry of Population Welfare and the Ministry of Health into their existing data collection system. The functional integration of both ministries at the appropriate level was also strongly recommended by the meeting as both programmes in Pakistan were operating independently.

(f) Viet Nam

The country paper brought out the existing multiplicity of organizations involved with RH/FP programmes in Viet Nam, which resulted in a waste of human and material resources. The various data collection and reporting systems in operation had placed an unnecessary burden on health workers and other field staff in addition to creating discrepancies in data through different definitions, measurements etc. Integration of both government and donor-funded programmes was thus seen as a positive step towards better use of resources, leading to improvements in data collection, analysis and utilization in programme management and policy formulation.

The paper noted that a pilot MIS had been introduced with UNFPA funding in Thai Binh and Tien Giang provinces. Although the findings showed that the data were more complete and accurate, and that the system encouraged outreach, the project proved to be expensive. In addition, it had several technical shortcomings, including the heavy workload faced by field workers in collecting the data. Using the experience gained from the UNFPA project, the study selected Thai Binh province for the current project. It used a newly designed reporting form that made provision for collecting background information on

administrative units, safe motherhood, women's health, family planning, child health, and RH/FP quality of care and policies. A set of 37 indicators was identified for addressing the issues.

Data were collected during 1997 and 1998 from three districts (one urban and two rural) in Thai Binh province. Field staff training focused on enabling health centre staff to collect RH/FP information at the grass-roots levels. Monitoring, supervision and feedback mechanisms were fully utilized to ensure data quality.

In discussing the report, the meeting stressed the importance of highlighting certain aspects of training, especially the experience gained in monitoring, supervision and feedback. Field experience should be dealt with in a more focused manner, with some indication of the problems faced and their solutions or other remedial actions. Although the workload of field staff was reported to be excessive, greater elaboration was required concerning the effect on data quality and quantity. More detail was needed with regard to what aspects of the project had contributed to the situation and how the problem could be addressed in future.

The meeting pointed out that analysis of the data should emphasize quality, and that any suggestions for improvement should be spelt out based on the results of field experience. Very little information on data compilation and processing had been made available in the presentation. In addition, no indication had been given of the time spent in data collection, compilation, analysis etc., nor were there any details about response reactions and other field problems. The meeting suggested that those aspects be given serious consideration in future surveys as well as in ensuring sustainability and replicability of the project and its expansion.

The meeting pointed out that the data reported in various tables needed further consideration. The results given in some of the tables should be in percentages, rates or ratios rather than in absolute numbers. In addition, standardized definitions and measurements should be adhered to for comparative purposes, proper interpretation and use.

While discussing the section on lessons learned, the meeting emphasized the fact that in addition to underscoring some of the problems faced, it would have been useful to have included more details on actions taken together with recommendations for future actions. Specifically, a comparison of the experience gained in the present study with that from the previous UNFPA study would have been very interesting, particularly in the areas of indicator quality and accuracy, workload and experiences of the field workers, and improvements achieved. The study should also have focused on the value added to the UNFPA-funded project.

It was felt that further elaboration of data utilization and feedback, especially the outcome of the dissemination seminar and other forums for data dissemination, would be useful. The meeting reiterated the fact that the sustainability and replicability of the project as well as the scope for its expansion needed careful consideration, an area that needed to be addressed in all the country reports.

The major consensus was that a more in-depth analysis of the findings would make the Viet Nam country report more useful, and that the format agreed on at the Chiang Mai workshop for the final report should be followed to the extent possible.

2. Other country presentations

In addition to the six countries that participated in the project, 11 non-participating countries with good experience of RH/FP MIS were invited to provide inputs to the seminar. The cross-cultural sharing of information and experience with the participating countries was expected to benefit all participants in the

seminar. The 11 countries included Bhutan, Cambodia, China, Fiji, Indonesia, the Lao People's Democratic Republic, Malaysia, Mongolia, the Philippines, Sri Lanka and Thailand. They presented salient points of their existing Health Management Information Systems (HMIS) covering the RH/FP components. Their presentations focused on various aspects of RH/FP data collection, systems of transmission, and processing and analysis in relation to their identified indicators. Various issues and constraints concerning the collection of data for the indicators were discussed. In addition to MIS, they were collecting data from other sources to supplement HMIS. Their presentations also included information on monitoring, supervision and evaluation of RH/FP programmes, feedback mechanisms and data utilization at various levels. The presentations are summarized below.

(a) Bhutan

Reproductive health is given a high priority in Bhutan, where there is political commitment to the issue. Several components of RH are included in the integrated health delivery system including maternal health care, safe motherhood, family planning, RTIs, STDs, HIV/AIDS, cancer of the reproductive tract, infertility and adolescent reproductive health. Information on RH/FP indicators is collected on a monthly basis from the health centres and compiled by District Health Supervisory Office for quarterly submission to the Health Information Unit of the Health Division. The Health Information Unit publishes its analysis of the data in the Annual Health Bulletin that is circulated to all health centres. Special surveys are also conducted from time to time by the Health Division and the Central Statistical Organization to supplement information on RH/FP.

However, a time lag in the collection and utilization of information occurs at all levels. Efforts are being made to strengthen health information system at all levels by reducing the number of recording and reporting tools, introducing computerization at the district level, enhancing telecommunications in health centres and training the programme personnel in MIS.

(b) Cambodia

Data on several RH/FP indicators such as maternal health, RTIs, STDs, abortion and post-abortion care, gender issues and the use of family planning methods are collected in Cambodia. Selection of the indicators is based on existing needs, coverage, access and quality of services provided.

There is a huge time lag between the collection and publication of data, information dissemination and feedback. Data collection is considered an expensive undertaking in Cambodia and little is being done to strengthen it. Therefore, the record-keeping system has suffered in quality and coverage. An integrated national data system for RH/FP indicators and training of personnel needs to be developed, with particular reference to the changing needs of information technology for MIS.

(c) China

RH/FP data are collected through MIS-based computer records at the township level and in areas where family planning is more advanced as well as through focus group discussions, family planning counselling records and sample surveys.

The feedback mechanism and data utilization vary at the different levels of administration. The data obtained from sample surveys and focus group discussions are mainly used by Family Planning Commissions at the national and provincial levels. The quality of data on some indicators is rather poor, as they are often under-reported. Logistical support remains inadequate for keeping pace with the steady growth of indicator data being collected. Hence, there is a need to minimize the indicators for monitoring and evaluation of

RH/FP while giving greater attention to cost-benefit analysis to ensure sustainability of the programme.

(d) Fiji

Fiji routinely collects 90 per cent of the indicators identified in the ESCAP project. Two main reporting formats are currently in use in the country.

(a) One is the consolidated monthly return (CMR), which is the principal reporting form used for data collection. CMRs are completed by staff from the lowest level of service delivery to the highest divisional level.

(b) Another type is the hospital returns, which is completed by the referral hospitals and the three specialized hospitals. This form differs slightly from CMR and contains sections for additional information such as diagnostic and laboratory services and theatre activities.

Additional reporting formats exist for collecting information on maternal mortality, child health etc.

The major constraint relates to the slow submission of CMRs and Hospital Returns from the service delivery points, resulting in delays in data analysis at the national level. As national level analysis is mainly carried out manually, in addition to the delay, errors in data transfer occur. Efforts are being made to review the CMR with the aim of streamlining RH data input by the year 2000. Computerization of the information channel, which began in 1998, is expected to be completed by 2001. That will lead to improvements in data processing, analysis and the feedback mechanism.

(e) Indonesia

From the start of the government's family planning programme in 1970, it was recognized that generating, analysing and using data and information were essential elements of an effective programme. This understanding has continued to play a central role throughout the evaluation of the programme.

The service statistics and data obtained from surveys and research are the main monitoring and evaluation sources for the RH/FP programme. Monitoring through the reporting and recording system represents the largest portion of the overall MIS, and serves as the backbone of the National Family Planning Coordinating Board (BKKBN) MIS. There are three main subsystems in the RH/FP reporting and recording system: the contraceptive services, field programme activities and family enumeration. The contraceptive services and field programme activities are carried out on a monthly basis, while the family enumeration subprogramme is carried out annually.

The data and information produced by MIS, the Department of Health Services and other sources are used as inputs to policy decision-making as well as monthly monitoring and evaluation of programmes and projects at all levels of administration. The data are also used for monthly, mid-term and annual evaluations of the programme at all levels of management. Timely feedback is used to adjust operational policy and carry out direct action at the operational level.

Several strategic issues need to be considered in the near future to ensure the effective and sustained implementation of the programme. These issues include the provision of sufficient training and refresher courses, motivation of staff and volunteers, the development of a totally computerized system and strengthening the role of data in the decision-making process.

(f) Lao People's Democratic Republic

The birth spacing programme introduced in 1995 and supported by UNFPA emphasizes the RH aspects, particularly improved maternal

and child health. Some of the basic RH indicators are utilized to monitor and evaluate the success of the national programme.

In addition to the existing HMIS, data from other sources are also collected and utilized in monitoring and evaluating the RH programme. However, many problems are being experienced in HMIS related to data collection, coverage, processing, quality and utilization. Action is being taken to strengthen the existing HMIS and overcome the problems, such as orientating programme managers on the importance of RH indicators and their utilization, improving the feedback system and ensuring regular dissemination of data to those involved in the RH programme, including policy makers, planners and MIS personnel.

As part of the effort to improve the performance of the system, the selection of a standard set of key RH indicators is essential for effective monitoring and evaluation of the RH/FP programme. The existing formats need to be revised and refresher training provided for MIS personnel and RH service providers. Improving the supervisory system for MIS and introducing basic indicators on the quality of care are also crucial factors.

A pilot project is being initiated on simplifying the recording and reporting formats as well as developing simple data processing and analysis tools in order to ensure the replicability and sustainability of the programme. The project will eventually be extended nationwide.

(g) Malaysia

The Ministry of Health collects data manually at the grass-roots level through a standardized HMIS. The basic documents are compiled as monthly reports and passed to higher administrative levels until they reach the Information Documentation System (IDS) units in the Ministry of Health. To ensure the quality of the collected data, the grass-roots staff as well as health personnel at various levels are trained and continuously supervised. In addition, they are provided with HMIS manuals and guidelines. A timely feedback schedule has been established from the grass-roots level to the national level and vice versa, depending on the programme involved, on a weekly, monthly, quarterly, six-monthly or annual basis.

The introduction of the Quality Assurance Programme (QAP) in 1985 has helped to increase the awareness of the health personnel with regard to data collection. In order to create awareness of the use of indicators, the National Indicator Approach (NIA) and District Specific Approach (DSA) were introduced. The use of either NIA or DSA depends on the priority of the health problems concerned at the national/ district level. Workshops are conducted on revising old indicators and developing relevant new indicators. Pilot projects are carried out and feedback collected on the feasibility of QAP formats before they are implemented nationwide. This has helped to ensure that the quality and coverage of information are continuously reviewed and updated.

However, a number of problems and constraints exist in data collection from HMIS. At the macro level, data collected through HMIS are mainly from the public sector, while data from private hospital/clinics are not captured. Continuous training and supervision of new staff in completing the HMIS/QAP formats is required and shortages of manpower and facilities such as computers and equipment have yet to be overcome. At the micro level, the HMIS formats are considered tedious and time-consuming, resulting in errors when completing the forms. Feedback from operational staff to higher levels and vice versa is slow because of the heavy workload.

HMIS formats have been reviewed with the objectives of making data collection more user-friendly and less tedious as well as reducing workloads. At present, the IDS data collection process is being computerized in phases. Standardized software is now available

at the state and district levels, which will help to prevent duplication and automatically generate timely reports.

(h) Mongolia

The health sector information system of Mongolia, which includes RH/FP, collects information at the grass-roots level. The information is then passed on via the provincial level to the Information, Monitoring, Evaluation and Analysis Department of the Ministry of Health and Social Welfare. Some data on RH/FP indicators are collected monthly, while other data are collected on either a quarterly or an annual basis. The data relate to morbidity status, medical care during pregnancy, abortion, contraceptive use, maternal mortality, infant morbidity and mortality, low birth-weight infants, and medical care and health status of children.

The main problems related to RH/FP data collection are related to coverage and accessibility, lack of trained and skilled manpower, and non-availability of data from private hospitals. Efforts are being directed to overcome the problems by improving the coverage and accessibility of data collection, organizing training courses on MIS, providing computers with e-mail facilities and strengthening information assessment at the provincial level.

(i) Philippines

A study was undertaken in the Philippines in a province where a baseline survey for RH/FP had already been conducted under an on-going UNFPA-funded project. One *barangay* (village) was selected from each of two municipalities representing urban and rural areas. It utilized the existing Department of Health MIS and ran parallel with, or complementary to, existing RH data collection. Efforts were made to put together appropriate RH/FP service data to serve as a guide for policy makers, programme managers, local executives and service providers who would be the primary users of the study results. Additional collection forms were developed, based on recent experiences and emerging issues, for collecting information not available from the existing system and with the objective of strengthening the existing MIS.

(j) Sri Lanka

Since the early 1980s, a strong MIS has existed in Sri Lanka, constituting a major contributory factor to the good performance of maternal and child health (MCH) care and FP. The conventional MCH/FP programme monitors the indicators covering fertility and family planning, maternal care and safe motherhood, infant and child survival, and school child health.

The data are routinely collected at the grass-roots level and transmitted to the district and national levels. The good communication system in the country minimizes the time lag in the submission of reports. The Family Health Bureau is the central focal point responsible for the analysis and dissemination of information at the national level.

In 1998, the existing MIS was reviewed and amendments were made in order to make the data-gathering tools more user-friendly and more comprehensive. Thus, the existing indicators were refined, and infertility, abortion practices and complications of abortions, RTIs, STDs and adolescent reproductive health indicators were added. Steps were also taken to gather information from the private sector. It is firmly believed that even the best MIS is meaningless without a strong backup system of supervision, frequent reviews of data gathered at different levels, and continuous training of grass-roots health workers to enable them understand and interpret the data they gather. The crucial role played by middle-level managers in using MIS to strengthen and improve performance is well recognized.

(k) Thailand

The organizational structure of the Department of Health was reorganized in 1995 and the Family Health Division became the Family Planning and Population Division. The Division established a new institution, the Bureau of Health Promotion, which is responsible for the consolidated RH services for all age groups. Information on RH/FP is derived from administrative records and censuses or surveys.

RH/FP data are collected at the grass-roots level and transmitted to the central level. Family planning data and information are sent directly to the Bureau of Health Promotion while other types of information and related topics are sent through the Health Information Systems, which are managed by the Health Information Division of the Bureau of Health Policy and Planning. The data are utilized by decision-makers at various levels.

However, several problems have been encountered in data collection. At the grass-roots level, reporting data places an excessive burden on the service providers. A rapid turnover of staff necessitates greater emphasis on MIS training of programme personnel at all levels. At the intermediate level, delays occur in data processing, analysis and interpretation, while the lack of feedback is also felt. At the central level, delayed programming and budgeting adversely affect MIS.

D. Recommendations and future directions

Making recommendations and proposing future directions were entrusted to two working groups. Working Group 1 was responsible for considering family planning, abortion prevention and post-abortion care and infertility, while Working Group 2 was responsible for the areas of maternal and child health, RTIs, STDs, HIV/AIDS and harmful practice.

The objective was for each working group to hold in-depth discussions and produce effective and tangible recommendations on RH/FP-MIS and related information bases. The aim was to help in strengthening and/or developing and formulating effective policies and programme strategies for the new millennium. Keeping in view the experiences of the participating countries in data collection, both working groups deliberated on various issues, constraints and problems related to their respective areas.

It was suggested by both working groups that various additional indicators concerning unmet needs, coverage and access, quality of care and management could be added, modified and/or deleted, depending on individual country priorities, needs, financial resources and manpower. The recommendations produced by the two working groups were discussed in the plenary session. Most of the recommendations were related to MIS and many were similar. Because of the overlaps, it was decided to merge the two sets of recommendations under the same subtitles. The recommendations are listed below.

1. Recommendations addressed to countries

(a) Measurement issues

1. Efforts should be made to use, to the extent possible, concepts and definitions that are universally accepted and understood. They should be standardized so that the data are comparable. However, where notable differences exist for particular countries they should be clearly explained.

2. Similarly, consistency needs to be maintained in using values such as rates and ratios, which should also be comparable at the international level. It is also important to mention sources of data and explain the reasons for any differences.

3. In the case of certain indicators, for example, maternal mortality rate, child survival and STDs, it may not be possible to collect complete data. While efforts to gather as much information as possible should continue, in such cases partial information will have to suffice.

(b) Data collection

1. Efforts should be made to develop/ strengthen MIS for the collection of needed core information to be used in determining the progress of RH/FP programmes at the national, subnational and local levels.

2. While service statistics should remain the basic source of data, exclusive or total reliance on that source should be avoided and attempts should be made to supplement the statistics through other sources such as surveys, registration, censuses and qualitative approaches.

3. Data-gathering tools should be simple and capable of generating reliable, easy to collect and relevant information on a regular basis. The tools should be flexible enough to adjust to programme changes, easy-to-understand, few in number and analysable. Care should be taken to avoid duplication.

4. The persons responsible for data collection should have such a task built-in to their job descriptions.

5. The methodologies and tools for data collection should be clearly explained to the officials concerned.

6. Data should be processed at various levels according to local needs, as a unified system of processing may not cater to all programme needs at different stages.

7. Specific attention should be devoted to the quality and coverage of data through proper guidance and supervision.

8. Information that is not collected or difficult-to-collect through MIS (such as maternal mortality data) should be supplemented through other statistical sources such as censuses, periodic surveys, exit surveys and the geographical information system in order to make up for such deficiencies.

9. The frequency of data collection will differ from area to area. In some areas, it may be done on a monthly basis, while in others an annual collection may suffice. However, it is important to regularly update the data fed into MIS.

10. Efforts should be made to improve the existing vital registration system, in terms of quality and coverage, with a view to generating needed information. In that regard, efforts should also be made to strengthen the vital registration system by implementing it nationwide in a phased manner.

11. Efforts should be made to minimize the time lag between data collection, its transmission and processing, and the finalization and dissemination of reports.

12. Steps need to be taken to guard against over-reporting of data for the sake of showing increased performance levels, or under-reporting either because of the sensitivity of certain indicators or biased or preconceived attitudes of service providers. In such cases, some form of double-checking should be introduced. Another measure could be to strengthen and increase the frequency of supervision to make it more effective.

(c) Human resources development

1. Increased efforts should be devoted to improving the capacity of staff at different levels in all aspects of MIS (medical, non-medical and statistical). In that regard, particular attention should

be given to on-the-job and refresher training.

2. The supervisors and master trainers should guide the staff in the use of data.

3. It is necessary to impart training to personnel at all levels. The training should be a continuous process and not an ad hoc activity. Basic training should include MIS as an essential component. As it is important to create a sense of ownership among those who generate data at the grass-roots level, they should be involved in data processing, interpretation and analysis.

4. To avoid any unnecessary burden on non-statistical staff from data collection, the situation should be assessed and addressed in an appropriate way. To lessen the burden of data collection, forms should be shorter, simpler and fewer in number. Stationing statistical assistants in at least district-level hospitals should also be considered.

(d) Utilization of data

1. Efforts should be made to ensure the timely and proper utilization of all types of collected data for effective and better programme management at all levels.

2. The utilization of data should be encouraged among all areas including research.

3. An in-built mechanism for making use of collected indicators is needed. Regular periodic meetings could be arranged at the district level for that purpose.

4. To improve utilization at the highest level, data should be analysed and policy implications highlighted in easily understandable language, avoiding technical terms.

5. MIS personnel should also be involved in the evaluation and planning process, as well as be given recognition and made responsible for the maximum utilization of data.

(e) Dissemination of information

An in-built mechanism should be developed for ensuring regular feedback at all levels. Maximum and timely dissemination of information should be made at all levels, both vertically and horizontally, in accordance with the requirements and capability to understand at each level.

(f) NGO and private sector participation in the generation and effective use of data

1. To ensure that MIS has a fuller picture, NGOs should be encouraged to collect a minimum core of data on RH/FP that is comprehensive and coherent rather than fragmented and disjointed. Further, attempts should be made to regularly incorporate such data into MIS at the national and subnational levels.

2. Private sector data are almost non-existent in most of the countries covered in this report. As the future belongs to the private sector, it will be necessary to involve the sector in the process of generating and reporting data. Since it is a complex problem, it is recommended that a national level seminar be arranged to find ways and means of securing private sector participation in MIS.

(g) Replicability and sustainability

1. MIS should be cost-effective and sustainable. In that regard, the experiences of the participating countries in respect of data collection should be replicated, in phases if necessary, with changes and

modifications being made where appropriate to individual country requirements.

2. Indicators that have been identified, tested and proved useful under the present project should be merged into the existing reporting system.

3. Separate provision should be made for necessary budgets or funding for MIS to ensure continuity and sustainability.

4. Efforts should be made to develop and strengthen cooperation and collaboration in the implementation of MIS at and between the ministry, department and organization levels. The institutionalization of coordination and collaboration is particularly needed where vertical programmes of health and family planning are operating concurrently.

5. Better and faster means of communication should be provided to ensure prompt transmission of data.

6. Efforts should be made to establish or strengthen a high level steering or technical committee to closely supervise and provide guidance on the functioning of MIS and the monitoring and evaluation system.

2. Recommendations addressed to international agencies and donors

1. To encourage NGOs and the private sector to actively participate in, and maintain MIS, regional-level seminars should be organized as venues for exchanges of experience and information.

2. In countries where health and family planning programmes are the responsibility of separate ministries, closer and stronger coordination should be institutionalized. To enable that to be done to the extent possible, donor agencies should provide financial and technical support.

3. To ensure standardization, sustainability and adaptability to changing needs, it will be necessary to organize periodic regional workshops to inform and update the partners concerned on issues related to MIS.

XII. CONCLUSIONS AND POLICY RECOMMENDATIONS

The primary objective of the project was to identify and utilize appropriate standardized indicators for programme performance, monitoring and evaluation systems as well as strengthening and improving data availability and their timely utilization in programme management and evaluation at the national, subnational and local levels.

Under this project, Bangladesh, the Islamic Republic of Iran, Pakistan, Myanmar, Nepal and Viet Nam participated in an expert group meeting held to identify and select appropriate indicators. Through the mutual exchange of information, the meeting identified relevant quantitative and qualitative indicators for the development of a sound information base for reproductive health/family planning (RH/FP) programmes. The meeting also discussed existing issues concerning management, monitoring and evaluation systems for measuring the progress of RH/FP programmes. The meeting also formulated recommendations on strengthening performance monitoring and evaluation systems through improvements in the programme, provided guidelines for appraising existing data gathering systems, identified the strengths and weaknesses of such systems and determined how they could best be geared towards meeting the changing needs of the countries. The participating countries reviewed existing MIS, adapted and tested the selected indicators, and provided suggestions and recommendations at the regional workshop and seminar.

The other objective of the project, enhancing national capacity, was achieved through regional, national, local and community-level seminars and workshops, other training activities, and continuous monitoring and supervision of field staff.

During the course of the study, which involved a review of the existing RH/FP MIS, most countries made the following observations:

(a) There were too many forms and reports to be completed, and duplication of effort existed as a result of the non-integrated and vertical nature of existing systems;

(b) Little or no coordination of data collection and utilization was undertaken between governments, non-governmental organizations (NGOs) and the private sector;

(c) The meagre amounts of data that were collected were rarely utilized and, in many cases, did not respond to the needs for quality of care data and programme planning; and

(d) The feedback mechanism was very weak.

It was observed that by involving local-level personnel in data collection, analysis and interpretation, a feeling of ownership was created among the participants, which improved their performance. Further, by involving programme managers, administrators and policy makers through seminars and workshops, their understanding and appreciation of the programme and, therefore, their cooperation were ensured.

The field experiences and the lessons learned were another important aspect. For example, Bangladesh and Pakistan noted the tendency to manipulate data in order to create the impression of better performance, especially when target deadlines had to be met. There were also cases where full information was not given, especially when dealing with sensitive issues such as sexually transmitted diseases. Inconsistencies were noted in performance reports from the local level to the subdistrict level, while in Bangladesh the MIS data were not used for planning and monitoring of programmes at the local level. The Islamic Republic of Iran reported that follow-up activities at service delivery points were poor;

consequently, records related to those activities were missing or deficient, and therefore invalid and unreliable.

Several other weaknesses were noted, including poor definition and inadequacy of indicators for reproductive health, especially maternal care. A lack of appropriate indicators for many components of the programme, no clear methodology for data analysis and feedback, and low validity and reliability of registration systems impinged on the quality of monitoring and evaluation. Nepal had found a lack of information on many aspects and that available information was given little consideration in decision-making. Another serious problem was the lack of awareness among populations about health matters. Poor data quality resulting from the lack of knowledge of community-level workers about data collection required attention. That observation was underscored by the experience of Myanmar, where training of basic health staff and volunteers had been found crucial to programme success. Therefore, it was recommended that regular and continuously updated training modules be utilized. In addition, it was proposed that informal sessions be held that allowed greater participation by individuals, such as discussion and role-playing groups.

Performance appraisal, regular monitoring with guidance and recognition of performance achievements were mentioned as avenues for improving project execution. Pakistan suggested that frequent visits to service centres to check on progress as well as provide training and guidance in order to remove doubts and obstacles, especially during the initial stages of project implementation, would be very useful. Duplication of work and services by health and population programmes was also observed, with resultant wastage of resources and adverse effects on data quality and quantity. Viet Nam noted that in collecting integrated data, continued support for vertical programmes was a major problem.

With regard to project sustainability, Bangladesh had established a unified management information systems as an integral part of the Ministry of Health, with a specific budget and other necessary provisions. That approach had ensured that there would be no problems in collecting data and generating some RH/FP indicators on a regular basis. In the Islamic Republic of Iran, the strong infrastructure and well-developed data collection tools (especially the household folder) guaranteed the expansion and sustainability of the system. In Nepal, strong government commitment and proposed policies for better cooperation with the private sector offered a better chance for the improvement and continuation of the health management information systems.

In Myanmar, in line with the national health and population policy, a phased extension of activities to cover all townships was envisaged, through strong government commitment towards improving the living conditions of the population with active support and collaboration by INGOs, NGOs and the private sector. In Pakistan, the existing population welfare and health infrastructure could easily be readjusted and prevalent data collecting formats modified without much additional financial burden. With the requisite training of service providers, plus adequate supervision and monitoring, the project could be replicated and sustained. It was recommended that a committee be set up for the new data collection format of this project to be used by both the Ministry of Health and the Ministry of Population Welfare.

Viet Nam noted that the use of the RH indicator set would increase the sense of ownership and improve coordination among managers, providers and end users, thus generating enthusiasm and support for extension and expansion. A significant outcome is that in Viet Nam, the Ministry of Health and the National Committee for Population and Family Planning have recognized the set of indicators

developed by the project as being a comprehensive tool that would be helpful in planning and promoting the government RH programme. At the central level, the Ministry of Health has authorized the use of a new reporting form in all 61 provinces of the country.

The long-term objective of improving and strengthening national capacity to plan, formulate, monitor and evaluate the progress of RH/FP programme capabilities was partially achieved through the identification of indicators, training and guidance, and a review of the system that brought out the strengths and weaknesses. However, some institutional and bureaucratic bottlenecks remained, such as vertical programmes, non-integrated services and little coordination with the private sector, thus necessitating policy decisions.

On the basis of the experience gained from the project, several lessons were learned and the following recommendations were adopted for improving the RH/FP MIS:

- The selection of indicators should be based on the policy needs, goals, priorities and resources of individual countries. The indicators should be sustainable and replicable.
- Existing MIS should pay attention to emerging issues such as RTIs, STDs and the human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), adolescent health and abortion.
- Efforts should be made to integrate MIS with all existing systems in order to ensure sustainability, and MIS should be strengthened and optimally utilized.
- Duplication of service and work should be avoided, thus improving efficiency and decreasing workloads.
- The number of recording/reporting forms needs to be minimized.
- The data collection process should be standardized and regularly monitored to ensure quality.
- Built-in refresher courses and on-the-job training should be introduced for all cadres in data collection, processing, analysis and interpretation.
- Clear guidelines for data utilization by different levels of programme managers should be introduced and followed.
- Teamwork among service providers, producers and decision makers should be ensured.
- Close liaison and cooperation with NGOs and the private sector at all levels and in all efforts should be promoted. NGOs and the private sector should be brought under the umbrella of the new MIS.
- Analyses should use simple techniques and the results presented in non-technical language.
- Feedback should be an integral part of MIS, including the dissemination of findings and regular feedback at all levels. Maximum and timely dissemination of information should be made to all levels, both vertically and horizontally, and should be carried out according to the requirements and capacity to understand at each level.
- A sense of ownership should be created among those who generate data at the grass-roots level by involving them in data processing, interpretation and analysis.
- Efforts should be made to develop and strengthen cooperation and

collaboration in the implementation of MIS at the intraministerial and interministerial, departmental and organization levels. Coordination and collaboration are crucial and need to be institutionalized where vertical health and family planning programmes are operating concurrently.

- MIS should be cost-effective and sustainable. In that regard, the experiences in data collection should be replicated. If that cannot be done in one step, it should be undertaken in phases with necessary changes and modifications being made to suit the needs and capabilities of individual countries.

ANNEXES

Annex I
List of papers/documents presented at the expert group meeting

"Management information systems for the family planning programme in Bangladesh", by Tofayel Ahmed.

"Performance monitoring and evaluation system of the family planning programme in China", by Zhang Erli.

"Strengthening performance monitoring and evaluation systems for measuring the progress of reproductive health and birth spacing programme in Myanmar", by Thet Thet Zin.

"Monitoring and evaluation system of the population welfare programme of Pakistan", by Abdul Hakim.

"Strengthening the performance monitoring and evaluation systems for measuring the progress of reproductive health and family planning programme in Pakistan", by Khalil A. Siddiqui.

"Country report on the Philippines family planning programme", by Jovencia B. Quintong.

"A monitoring and evaluation system for measuring the progress of reproductive health and family planning programmes in the Philippines: a pilot study", by Zelda C. Zablan.

"Thailand family planning monitoring and evaluation systems", by Suthon Panyadilok.

"Reproductive health in Viet Nam", by Do Trong Hieu.

"Strengthening performance monitoring and evaluation systems for measuring the progress of reproductive health and family planning programmes", ESCAP secretariat.

Annex II
List of papers presented at the regional seminar

1. Papers presented by six countries participating in the project

"Monitoring and evaluation systems for measuring the progress of reproductive health and family planning programmes in Bangladesh", by Tofayel Ahmed.

"Strengthening performance monitoring and evaluation of reproductive health and family planning programmes in the Islamic Republic of Iran", by Farid A. Shahreza.

"Strengthening performance monitoring and evaluation system for measuring the progress of reproductive health/family planning in Nepal", by Dharanidhar Gautam.

"Country report on strengthening monitoring and evaluation for the progress of reproductive health and family planning programmes in Myanmar", by Htay Htay Aye.

"Strengthening performance monitoring and evaluation system for measuring the progress of reproductive health and family planning programmes in Pakistan", by Abdul Hakim.

"Strengthening performance monitoring and evaluation system for measuring the progress of reproductive health and family planning programmes in Viet Nam", by Do Trong Hieu.

2. Papers presented by other countries participating in the seminar

"Country report of Bhutan", by Nawang Dorji.

"Cambodian current government policies and programmes designed in connection with the reproductive health/family planning database", by Mam Bunheng.

"Development of a monitoring and evaluation system of reproductive health and family planning programmes in China", by Wang Qiang.

"Country report of Fiji", by Lepani Waqatakirewa.

"Indonesian reproductive health/family planning monitoring and evaluation system", by Mazwar Noerdin.

"Monitoring and evaluation system for the progress of reproductive health and family planning programmes in the Lao People's Democratic Republic", by Oudom Manisone.

"Country report of Malaysia", by Nik R.Bt Nik Aboul Rashid.

"Mongolia country report", by Sandag Otgontsetseg.

"Strengthening monitoring and evaluation for the progress of reproductive health and family planning programmes in the Philippines", by Jovencia B. Quintong.

"Country report of Sri Lanka", by D.L.C. Galwaduge.

"RH/FP indicators for monitoring and evaluation in RH/FP Programmes in Thailand", by Worasarp Chitprasert.