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A REVIEW OF AID'S
HEALTH SECTOR STRATEGY IN BURMA

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During The Period:

FEBRUARY 11 - 28, 1985

TECHNOLOGIES FOR PRIMARY HEALTH CARE (PRITECH) PROJECT

Supported By The:

U.S. Agency For International Development
AID/DPE-5927-C-00-3083-00

AUTHORIZATION:

AID/S&T/HEA: 4/30/85

ASSGN. NO: SS 50

ACKNOWLEDGEMENTS

This report would not have been possible without the help and hospitality of the Burmese Ministry of Health, including the Directors-General of the Departments of Medical Education, Medical Research, and Health, nor without the support and assistance of AID/Burma. Special thanks go to Dr. Ea Tun, Dr. Than Sein, Dr. John Naponick, Mr. Charles Ward, and Mr. Richard Nelson, and also to the many officials and staff in the localities and institutions visited, for their help in facilitating our efforts to examine the Burmese health system, current health status, and current and future plans for advancing the health of Burma's population. The frankness with which discussions were conducted was deeply appreciated, as was the attitude of balanced critical appraisal maintained during the visit. In this context, it should be noted that any implied or stated views of positive and negative aspects of the health system are intended purely in a constructive vein.

The review was conducted during the period of 11 February through 28 February, 1985. The Review Team members were: David Oot (Team Leader), Chief for Population, Health, and Nutrition, Asia Technical Resources Bureau, AID/Washington; Dr. Timothy Baker, Consulting Public Health Physician; Alan Fairbank, Consulting Health Economist; Dr. John Naponick, Health Officer, AID/Burma; and Richard Nelson, Program Officer, AID/Burma.

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EXECUTIVE SUMMARY

At the request of AID/Burma, a Team of external consultants was brought to Burma to review AID-supported activities in the health sector. Specifically, the purpose of the review was to determine if the current health sector goal and strategy was appropriate, or whether modifications were needed. In addition to reviewing the existing AID strategy, the Team was asked to investigate other potential areas of health activity which would be supportive of the overall effort of improving the availability and quality of rural health services.

The Team concluded that the current AID goal of reducing infant, young-child, and maternal mortality and morbidity remains a valid goal. The goal is consistent with Burmese and AID priorities, and the bulk of the morbidity and mortality in Burma is concentrated within these segments of population.

To date, AID's health sector strategy has focused on the training and equipping of voluntary health workers (VHWs). This activity is a key element of the Government of Burma's Peoples Health Plan which is attempting to use both Government and community resources to make basic health services widely available in Burma.

In brief, the Team was very impressed with the quantitative achievements to date under the People's Health Plans. Large number of VHWs have been trained, equipped, and deployed, and the level of community involvement in the selection, supervision, and support of the volunteer workers is remarkable. The training and performance of auxiliary midwives and traditional birth attendants, in particular, has been steadily improving. Problems remain, however, with the quality of community health worker (CHW) training, supervision, resupply of essential drugs, and the generally curative orientation of these workers.

The Team also concluded that more attention needs to be given to expanding and improving the training of mid-level health workers who staff the Rural Health Centers and Sub-centers. These staff deliver immunizations, conduct growth monitoring, diagnose and treat many of the important health problems, and provide needed technical guidance and supervision to the CHWs. Further strengthening of selected disease control programs, such as malaria and diarrheal disease, is also needed. Finally, the Team found that existing teaching programs in community medicine and public health need to be strengthened and expanded.

In summary, the Team concluded that the current strategy of support for primary health care (PHC) is appropriate and should be continued, but that AID's assistance should be broadened to focus more on qualitative improvements and assist selected PHC services and support functions.

The recommended components of this expanded assistance strategy are:

1. Continued support of the training and employment of VHWs, but at a more modest level than under PHC II;
2. Further support for upgrading the quality of the broader primary health care system focusing particularly on the training of mid-level health workers, refresher training for VHWs, and support for the "model township" program;
3. Support for selected PHC services, focusing particularly on immunizable diseases (i.e., neonatal tetanus and measles), diarrheal disease control, malaria and possibly tuberculosis and pneumonia; and
4. Continued support for health information services and health services research.

If the level of AID health sector assistance is higher than currently anticipated, the Team would also recommend possible funding of programs to expand and strengthen community medicine teaching programs in medical schools and support for an expansion of post-graduate public health training. Such assistance might also be considered if one or more of the activities cited above are not funded, either because of the availability of other donor support or lack of interest on the part of the Burmese.

A REVIEW OF AID'S HEALTH SECTOR STRATEGY IN BURMA

1. TEAM ASSIGNMENT

A. Goal Assessment: The Team was asked to review the rationale for AID's health sector goal of reducing mortality, morbidity, and undernutrition, particularly among infants and young children. In so doing, the Team was to examine any changes in health sector needs and conditions which might warrant modifications in this goal.

B. Strategy Review: The Team was also asked to review AID/Burma's current health sector strategy to determine the need for changes, or possible modifications, in this strategy. In particular, the Team was asked to examine the potential need for broadening AID's involvement in the health sector beyond primary health care (PHC) to include strengthening of related health sector activities and management. The review focused on potential AID investments through 1990, which corresponds to the period covered by the Third People's Health Plan.

Based on prior discussions between the Burmese Government and other donors in the health sector, AID/Burma had identified a number of areas which might be considered either as part of a modified PHC strategy or as separate projects. The Team explored each of these potential areas of activity.

In brief, the existing AID/Burma health sector strategy is to support the Burmese Government's Primary Health Care program of training and equipping volunteer community health workers, auxiliary midwives and traditional birth attendants. The strategy focuses on the development of a system of volunteer workers who, with relatively little training, will be able to diagnose, treat, and/or make referrals for the majority of health problems which exist in rural Burma. Their responsibilities include both curative and preventive care, and they have been provided with the basic equipment and initial supply of drugs needed to perform these functions. As stated above, the primary focus of this volunteer activity is on those health problems which affect children under age five and their mothers.

C. Investment Criteria: The Team used the following criteria to identify, prioritize and recommend possible future investments in the health sector in Burma:

- the nature and magnitude of these health problems which affect infant, young child, and maternal mortality and morbidity;
- the priorities and plans of the Socialist Republic of the Union of Burma to address these important health problems;

- the resources likely to be available from the Burmese Government, other donors, and AID through 1990;
- the relationship of the strategy to Agency and Asia Bureau policies and strategies;
- the need, in part due to AID staffing constraints, to concentrate on a few key areas of activity; and
- the comparative advantage which AID, versus other donors, may possess in addressing the priority health problems identified.

II. CONCLUSIONS

A. The Goal

The current AID/Burma goal of reducing infant, young child, and maternal mortality and morbidity should be continued for the following reasons:

- the majority of mortality and morbidity continues to be concentrated in the 0-5 age group and among women of reproductive age. Estimates of infant and young child mortality, which range from the low 40's to the high 70's, constitute an excessive loss of life. Between 9 and 18 percent of children under age three are severely malnourished and maternal anemia continues to be an important problem (see Annex A, Table 4);
- the Burmese Government continues to assign high priority to this goal. Further reductions in mortality and morbidity among these vulnerable groups is the overriding goal of The People's Health Plan (PHP) III;
- the majority of mortality and morbidity continues to be caused by diseases which largely are preventable. Major causes, as identified in PHP III planning documents, are malaria, TB (all forms), diarrhea, anemia, all abortions, haemorrhage of pregnancy and child birth, and preventable early childhood diseases such as tetanus, measles, typhoid, and diphtheria (see Annex A, Table 3); malaria and TB, in particular, affect the working age population and have important direct and indirect effects on the health and welfare of the families afflicted; and
- the AID/Burma health sector goal, while somewhat broader than that of the Asia Bureau (which focuses almost exclusively on infant and young child mortality reduction), is appropriate, given the existing moderate levels of mortality, and the importance of preventable morbidity within the population.

B. The Strategy

The current AID/Burma health sector strategy focuses on the training and deployment of voluntary health workers (VHWs) whose function it is to diagnose and treat common ailments, carry out preventive and promotive health activities, and make referrals for health problems which go beyond the capabilities of the VHW.

The strategy is based on the assumption that essentially lay-persons, given relatively short-term training, can provide much of the basic curative and preventive health services needed in the community. It also assumes that the community can, and will, play a major role in the non-technical supervision and support of these volunteers. Technical support and supervision is to be provided by the staff of the Rural Health Centers (health assistants, lady health visitors, midwives, and a new category of personnel called public health supervisors) who visit the VHWs on a periodic basis. Referral points for more complicated cases are the Rural Health Centers and the Township/Station Hospitals. The CHWs, in particular, play a key role in helping to organize and implement selected elements (e.g., immunization programs, latrine construction, etc.,) of the PHC program.

Under People's Health Plan I (with AID support under PHC I), primary emphasis was given to the achievement of quantitative targets. The results of this effort, which are summarized in Annex B, Table 1, are impressive. Under PHP II, AID support is continuing with increased attention given to making qualitative improvements in VHW training and performance. Extending coverage remains, however, the primary goal throughout PHP II. Under PHP III, (1987-90) quantitative (coverage) targets are increased further, although specific activities to upgrade the quality of VHW performance are clearly highlighted in PHP III planning documents.

Findings The findings are based on discussions with Burmese counterparts, various studies/surveys, the recent PHC I evaluation, and the Team's observations.

- Accomplishments to date under PHP's I and II are indeed impressive. Large numbers of VHWs have been recruited, trained, equipped, and deployed. The community has been actively involved in selecting, supervising, and supporting VHWs.

- The quality of VHW training, though initially weak, has been steadily improving. The duration and content of the auxiliary midwife (AMW) and traditional birth attendant (TBA) curricula appear adequate but community health worker (CHW) training needs to be strengthened further. The training curricula need to be more problem-oriented and there is a general lack of training materials and aids.
- Some studies of AMW and TBA performance have been conducted and in general they are judged to be performing well. Little objective information on CHW performance is yet available. It is not known, for example, how well CHWs diagnose and treat the common ailments which are presented to them.
- Drug resupply continues to be a problem for the CHWs. Local funds can be generated, but often there is no place to buy the drugs.
- In general, VHWs have been given too many responsibilities. This is especially true of the CHWs who are viewed as the village contact for virtually all PHC activities. This problem is widely acknowledged within the Department of Health (DOH), but the mandate which the concerned program directors must implement makes it difficult to pare down these responsibilities.
- Technical supervision and support of the VHWs needs to be strengthened. Insufficient public health supervisors have been trained and deployed, and transportation is a constraint for those already in place.
- The staff of the rural health centers (RHC) are perhaps the key element in the delivery of basic health services. They spend 40 percent of their time doing home visits, diagnose and treat the majority of malaria, anemia, and diarrhea cases, conduct growth monitoring, and implement the immunization program. It is essential that there be adequate numbers of well trained RHC staff and that they be properly equipped and supplied to carry out these priority activities. At this time, there remains a shortage of health assistants (HAs), lady health visitors (LHVs) and public health supervisors (PHSs) need to staff the RHC and supervise VHW activities.

- Monitoring and information systems, while being studied to improve utility at the local level, need to be strengthened further so that local staff can plan, monitor, and evaluate PHC activities in their jurisdictions.
- Although improvements in the quality of the VHW program will receive increased attention under PHP III, targets for pre-service training of VHWS are projected to increase. We believe this planned expansion should proceed more gradually, particularly with regard to the CHWs. Several studies and evaluations have noted deficiencies related to the quality of training, supervision, resupply of drugs, and the competing demands on the VHW's time. A slower expansion of VHW coverage, would allow more resources to be devoted for the qualitative improvements needed.

Recommendations

- The Team strongly recommends continued AID support for PHC under the People's Health Plan III. Such support, coupled with Burmese Government and UNICEF contributions, should help to further strengthen PHC service delivery. We believe that the role and potential utility of VHWS, especially the AMWs, has been demonstrated and there is enthusiastic community participation and support for this strategy. We also believe, given the limited resources likely to be available for the foreseeable future, that the training and deployment of volunteer workers represents a strategy which is both affordable and potentially effective. The VHW system has established the critical link between the village and the formal clinic/hospital-based delivery system and should eventually lead to the most efficient use of these resources.

Based on this review, however, the Team recommends that AID decrease the level of support for the training and deployment of additional VHWS. While continuing a more modest level of support for pre-service VHW training and kits, the AID health sector assistance strategy should be modified and broadened to include greater emphasis on qualitative improvements in the VHW program, support for selected basic health services, further development of professional personnel needed in PHC, and assistance for support services. such as health information, research, and manpower planning. The Team's findings and recommendations concerning each of these potential specific areas of activity is summarized below.

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III. RECOMMENDATIONS FOR FUTURE HEALTH SECTOR PROGRAMMING

A. Training and Deployment of Primary Health Care Manpower

1. Upgrading the quality of the VHW program

Findings

The major findings have been stated above as part of the general description of the status of PHC efforts to date.

Recommendation

In concert with continued, though more modest, levels of assistance required for training and deployment of new VHWs, AID should give greater emphasis to the provision of technical and material support needed to further upgrade existing training programs. In-service refresher training for the State/Division Training Teams, and for those serving as trainers at lower levels in the system, will need to receive increased priority. Establishment of simple monitoring systems, currently being refined, should help form the basis for modifying the VHW curricula for both new recruits and refresher training. AID should also support efforts to improve VHW performance through the "model township" program. The nature and level of further AID assistance required will depend on the accomplishments in these areas under PHC II.

2. Training of mid-level health workers

Findings

Training adequate numbers of mid-level manpower (Health Assistants, Public Health Supervisors, Lady Health Visitors and Midwives) is perhaps the most important component of training in support of Primary Health Care. Mid-level professionals, who staff the Rural Health Centers and Sub-centers, are the major points of contact for supervision and technical support of volunteer health workers. The number of such mid-level workers now being trained is inadequate to meet the need. The Health Assistants/Midwifery and LHV Training Schools in Rangoon are working to capacity, performing a commendable job under severe handicaps. The Burmese hope to open a second Training School in Mandalay to meet the need for more mid-level manpower and to better distribute training resources.

Recommendation

That AID/Burma support efforts to increase the quantity and quality of mid-level health professionals. In particular, a comprehensive project for developing the new school in Mandalay would have excellent potential for a discrete AID-assisted project activity. Commodities, and facilities renovation or construction, would be the most important elements of the project.

3. Replenishment of Essential Drugs in CHW kits

Findings

Because regular and reliable replenishment of the essential drugs in the CHWs medicine chest is fundamental to long-term effectiveness of community-based volunteer health workers, serious efforts have been made to establish a workable system of procurement and distribution of replenishment kits.

The current replenishment system, which in practice has evolved into a variety of systems from one township to another, was designed by the Community Health Worker's Kit Replenishment workshop under UNICEF's sponsorship held in November, 1980.

The system recommended by the workshop has several basic features:

- financing replenishment is the responsibility of the those who use them; that is, villagers may either pay directly for the drugs or pay indirectly through funds raised by the Village People's Council and earmarked for replenishment.
- procurement orders are placed by TMOs to the DOH which places yearly orders to Burma Pharmaceutical Industries for the number of replenishment kits which BPI is able to produce from "surplus" stock;
- distribution of the kits to the CHWs either through Township Medical Officers (TMOs) or through the Cooperatives.

Because of persistent problems with the operation of this replenishment system since 1980, UNICEF commissioned an evaluation of the system, which was conducted by Dr. Aung Tun Thet of the Institute of Economics. The findings of the study were published in August 1984. However, the MOH has not yet decided on actions needed to improve the system.

The cost of replenishment is relatively low, and most villages have shown a willingness to pay the costs of using the drugs which CHWs can make available.

Besides evident gaps in the communications process regarding needs of CHWs and the ways the system can be used successfully, the most serious problem is the role of BPI in the production of the replenishment kits. Because of various organizational and production constraints, BPI currently produces replenishment kits from "surplus" drugs, i.e., lots of drugs left over from production runs for "other" customers. The result is that the kits cannot be standardized in terms of their drug composition (some replenishment kits will have certain drugs missing) and that BPI can seldom supply the number of kits for which MOH receives orders from the field.

Recommendations

1. AID should continue to monitor the effectiveness of CHW kit replenishment under the current system and should give support to efforts to improve it, where such efforts are consistent with the fundamental principles of the volunteer health worker system. It is important that AID and other donors avoid financing replenishment, even indirectly, since this would violate the goal of community-based voluntarism and self-reliance on which the system is based.
2. While many of the problems of the replenishment system seem to be systemic and ultimately manageable, the role of BPI appears to present a special problem in the supply system. It is the Review Team's conclusion, however, that resolution of this problem is likely to lie in organizational and bureaucratic adjustments to be made by the Burmese Government and that there is no fruitful role for AID in resolving the problem of producing and assembling the replenishment kits.

B. Support for Selected Basic Health Services

1. Diarrheal Disease Control

Findings

Diarrhea ranks very high as a cause of infant and young morbidity in Burma. Efforts to prevent and treat diarrhea include the provision of safe water supplies, construction of sanitary latrines, promotion of oral rehydration therapy, and hygiene education. Several donors, including UNICEF and Australia, are providing assistance in water and sanitation.

The Team reviewed in some depth current efforts to promote ORT and provide ORS packets through the PHC program. On the basis of our discussions, and the recent report prepared by PRITECH, it appears that UNICEF support planned for ORS procurement and/or production will ensure adequate supplies of packets throughout the PHP III period. Mass media communications support, both to promote ORS packet use and the use of a home-based water-sugar-salt (WSS) solution, does not appear to be getting adequate attention.

Recommendations

1. Given its limited staff and financial resources, AID/Burma should avoid direct involvement in water and sanitation projects, and other preventive activities designed to control diarrheal disease.
2. Future AID assistance under PHP III should assign high priority to support for a communications program in support of selective PHC. Given AID's limited resources, and the desire to focus resources on activities most likely to improve health status, we believe that such support should be selective. As recommended in the PRITECH report, this could include assistance to help design, test, and implement an intensive mass media WSS (or other locally, appropriate oral rehydration solution), and the importance of continued feeding during bouts of diarrhea. Provision of simple training materials for peripheral health workers, as well as distribution of technical information on diarrheal disease, perhaps through the Burma Medical Association, should also be considered.

2. Immunizations

Findings

Immunizable infant and early childhood diseases represent an important health problem in Burma. In recognition of this fact, the Ministry of

Health has assigned high priority to the Expanded Programme on Immunization (EPI). Under this program, the Government is attempting to make DPT, BCG, tetanus toxoid (TT), and oral polio vaccine (OPV) widely available. Under the PHP III, measles vaccine, which has already been used on a pilot basis, will be introduced into the program, OPV was not introduced until 1982, whereas DPT and BCG have been part of the program since 1978. Coverage of all townships is not yet complete and vaccination completion rates for DPT and TT are still low. A 1982 WHO Report found only 37 percent of the target population completing the DPT series and only 24.3 percent of pregnant women receiving the second dose of TT. Increased efforts to expand coverage and improve completion rates is planned under PHP III.

The major donors to the EPI Programme have been UNICEF, WHO, and the Save the Children Fund of the U.K. The latter has provided only polio vaccine, while other vaccines used in the program have been provided by UNICEF. BCG and tetanus toxoid are being produced locally, although the quantity of TT being produced is not adequate. The supply of TT needed by the program will rise markedly under PHP III as the Ministry plans to target all women of reproductive age. DT is produced locally, but DPT must be imported. Measles vaccine also will have to be imported, but, to date, no donor has been approached about possible aid. UNICEF has been providing virtually all of the cold chain equipment, with technical support from WHO. On the basis of a recently completed review of the cold chain system, UNICEF is seeking funding for a "noted" project which will greatly enhance the quality of the existing cold chain.

Recommendation

AID/Burma should plan jointly with the Department of Health and UNICEF to prevent shortfalls in the availability of critical vaccines. A short-term consultant should be retained by AID to explore the costs and benefits of increasing local production of tetanus toxoid vaccines through the Burma Pharmaceutical Industries. If UNICEF does not fund the measles vaccine needed under PHP III, AID should consider this a high priority area.

3. Malaria

Findings

An intensive external review of vector-borne disease control programs, including malaria, is currently underway with WHO assistance. While the Team was informed of some of the preliminary findings of the WHO review team, much more detail on the malaria situation and unmet program needs will be available following this review.

Malaria is identified as the number one disease priority in preliminary drafts of PHP III. It is clear, both from data available at the central level as well as the Team's observations in the field, that the number of suspected malaria cases is very high. The Team was struck, however, with the frequent inability to confirm the cases through slide examination. It was unclear whether this was because slides were improperly taken or examined by poorly trained technicians, or whether the incidence of malaria is in fact much lower than suspected. Virtually all fever cases in the areas visited by the Team were treated presumptively with chloroquine.

A recent Situation Analysis covering the period 1976-84 prepared by the Department of Health shows a steadily increasing percentage of P. falciparum cases, with more than 86 percent being reported as such in 1984. The slide positivity rate, while lower than in 1980-81, increased substantially in 1984. The program is faced with drug resistance problems, especially for P. falciparum, growing insecticide resistance, and most importantly, shortages of trained personnel (especially epidemiologists and medical entomologists), and more recently a shortage of DDT. Much better epidemiological and entomological data are needed so that control measures can be appropriately targeted. Gameticidal drugs, such as Primaquine, are apparently not being used in the program. Thus, an important method of interrupting transmission is not being utilized.

Recommendation

Although the role of other donors in support of malaria control under PHP III is not yet known, the Team believes that AID should give serious consideration to several potential areas of activity. These include the local training of personnel at all levels, including training in parasitology. Overseas training of entomologists and epidemiologists is also needed. Operations research and applied field research to test alternative insecticides, drug regimens, source reduction techniques, and management systems is also needed. AID would also be an excellent source of short-term technical assistance to help conduct local training programs in entomology, laboratory techniques, data management, and program evaluation. Though DDT is needed by the program, this would be difficult for AID to supply. Consideration could be given, however, to purchase of a limited number of trucks and certain types of equipment, such as microscopes.

4. Tuberculosis

Findings

Tuberculosis is a major cause of mortality and morbidity and its control is a major priority of the Ministry of Health. The toll in family disruption from early infection of small children make TB control an obvious AID priority. At present, the Ministry has adequate supplies of BCG, but lacks supplies of drugs for treatment of open cases. There is a problem, however, with resistance to streptomycin, and second-line drugs (Rifampicin and INH) are not produced locally. These drugs can be purchased in the open market, but at a high price. The result is that many persons either do not buy them or do not buy enough for a complete course of treatment.

Recommendation

The Team is uncertain of the nature and degree of unmet need in the area of tuberculosis control. Since it is a major public health problem, however, we recommend that AID/Burma consider an intensive review of the problem and support for appropriate solutions should the Ministry request assistance in this area.

5. Pneumonia

Findings

Pneumonia, to paraphrase Osler, is still "the Captain of the men of death". In terms of productive years of life lost by the working people of Burma, pneumonia overshadows malaria and even diarrhea. Its major impact is on infants and young children, and thus is a high priority health problem for AID. In addition to pneumonia, bronchitis and other respiratory diseases take a high toll in mortality. To recognize the problem is not sufficient; the basic etiology and means to prevent infection or reduce mortality must be identified. Thus, research is the first priority.

Recommendation

AID/Burma should give high priority to funding a well-planned research project to identify the factors causing the high mortality from pneumonia, and clinical trials of various affordable therapeutic protocols that can be implemented by CHWs and AMWs.

C. Health Professional Training in Support of Primary Health Care

Without qualified medical personnel to provide supervision and technical support the potential effectiveness of the basic health services program will not be realized. Training in public health, community health, and program planning and management is essential.

1. Public Health Training

Findings

Expansion of the post-graduate health course offers major promise for improving the quality of primary health care planning, supervision, evaluation, and back-up support. Without effective preventive and public health programs, efforts to deliver medical care will have a limited impact on the health of the people of Burma. The numbers of public health physicians currently being trained are inadequate to meet needs of the country. This year, barely one percent of Burma's graduating physicians will be trained in public health. Despite this, the in-service physician personnel interviewed by the Team said that they would like to receive advanced training in public health. To meet the backlog of past unmet needs in training, and to keep up with current need, the output of public health specialists should be increased to approximately 30 per year.

Recommendation

AID/Burma should consider supporting efforts to expand the post-graduate public health course, if requested to do so by the Burmese Government. Participant training and observation for up to five urgently needed new faculty members is an essential element. A small commodity component including audio-visual equipment, books, and a vehicle to transport students to the field are also recommended. Short-term consultants would be helpful only if strongly requested by the Program Director. Although such training is urgently needed, AID should not participate unless there is clear evidence that the Ministry of Health accords high priority to expansion of public health training, and the leadership is adequate.

2. Medical Education

Findings

Medical education in support of primary health care is based on the premise that most Burmese doctors will serve in rural areas in close support of mid-level health professionals and village volunteers.

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Currently there is interest in the Department of Medical Education in broadening the teaching of community medicine to include departments other than the Department of Preventive and Social Medicine. This development coincides with the need for advanced training for junior faculty members to replace senior faculty who will soon be retiring. There is also interest in strengthening the field training element of community medicine to better prepare doctors for rural assignments.

Recommendation

AID/Burma should consider participant training for faculty of the Department of Preventive and Social Medicine, and clinical faculty who are assigned responsibilities in teaching medicine. The training of pre-clinical faculty seems only remotely connected to AID's goals in health, and is not accorded high priority by the Team. The participants should be sent to places such as Gadjadara in Yogyakarta or Diponegoro (UNDIP) in Semarang, Indonesia, rather than to sites in the U.S. Specific technical training in epidemiology, biostatistics, and management science might be provided in the U.S. Short-term consultants with experience in developing community medicine training programs (e.g., John Rohde, Rob Northrup and Tony Sadjumin) might be of assistance to the Burmese faculty in helping to introduce these changes. Commodities could be provided through the post-graduate program in public health.

D. Support Services for Primary Health Care

1. Health Information Services (HIS)

Findings

The current health information system, established during PEP I to monitor and evaluate implementation of the planned VHW program, is apparently not working as it was originally intended. The time-consuming and elaborate bottom-up reporting system which was put in place now provides central decisionmakers with little of the information needed, on a regular basis, for making policy and plans. The reported data is not processed, analyzed, or reported for the benefit of those at lower levels who send in the reports.

It is clear that Health Information Services are recognized as essential for adequate planning, monitoring, evaluation, and supervision of primary health care activities. AID/Burma's PHC II project continues support to the HIS unit within the DOH. The DOH has also asked WHO to advise on possible adjustments to the monitoring and evaluation system being used by HIS based on the experience since PHP I. In discussions with HIS officials it was clear that they recognized the need to adjust the current system in order to better support management, supervision, and decisionmaking at the both the central and lower levels.

Recommendations

1. AID-Burma should continue to provide short-term technical assistance and other areas of support, as needed, such as those currently provided under the PHC II project. However, AID/Burma should consider re-orienting its short-term consultancies toward development of more decentralized management information systems of the sort recommended in the PHC I Evaluation Report. (Such assistance, of course, would be contingent upon a Ministry request, which is likely to be heavily influenced by the recommendations of the WHO Team currently in the country.)

2. AID/Burma should consider providing an enhanced computer capability to the central HIS office and, possibly, for the larger States and Divisions. The computers currently in operation at the central HIS office have been put to effective use, but the provision of newer and possibly more powerful computers (possibly a mini-computer) should be contingent upon the replacement of computer staff recently lost from the HIS office.
3. If a decision is taken to adjust the HIS role from one of collecting and compiling data to one of providing data processing support to a decentralized management information system, AID/Burma should consider participant training in support of this conversion process.

2. Health Services Research

Findings

Health services research, as well as clinical/laboratory/epidemiological research, can play a vital role in improving the quality of primary health care and the effectiveness of the service delivery system. The Department of Medical Research has been the focal point of most such research, but is not as strong or experienced in health services research as it is in clinical, laboratory, and epidemiological research activities. Its health services research unit is currently housed within the unit responsible for epidemiological research, and does not have its own full-time director.

The Department of Health has never had a separate entity for health services research, but has produced many studies and evaluations aimed at supporting decisionmaking in the planning and implementation of the People's Health Plans. Six early studies were supported by AID funds provided under PHC I. Although similar assistance has not continued under PHC II, the DOH continues to conduct studies of various aspects of its primary health care operations by using the services of an operations research specialist, Dr. Aung Tun Thet, seconded to the DOH from the Institute of Economics.

While the Department of Medical Research appears to be the most well-funded of all Departments in the Ministry and receives major support from Japan, it does not give high priority to health services research, and tends toward lengthy and elaborate studies that may be of limited usefulness to decisionmakers by the time they are produced. In contrast, the DOH's arrangement with the Institute of Economics' consultant has produced a high volume of timely and relevant studies;

Recommendations

1. AID/Burma should give strong consideration to resuming support of health services research on questions of how to improve the quality and effectiveness of primary health care services. Consideration might even be given to supporting the establishment of a health services research unit within the DOH to manage research conducted outside the Department, and to conduct some in-house research. It would be particularly appropriate if such a unit were closely related to the Planning Division proposed for DOH and DME.

2. The Team recommends that the efforts in health services research be confined to researchable questions which would yield results that would be of immediate usefulness to decisionmakers. Suggested areas for investigation, similar to those recommended by the PHC I Evaluation Team (Section 5.4.2) include, for example:
- Organization and management issues: to investigate how decisions are currently made and implemented and to examine possible alternatives to present O & M processes and structures which may lead to more efficient operations.
 - Community financing of primary health care: determinants of willingness and ability of communities to contribute collectively and individually to finance the VHW program at the village level; to examine long-term implications of the findings.
 - Roles of Basic Health Workers and Volunteer Health Workers: to investigate how various factors like training content and organizational environment affect the actual roles of health workers, i.e., how their work behavior differs from what is expected of them and what might be done to close any gaps found.
 - Supervision of health workers at all levels: examine the current system of supervising health workers and identify and test alternative methods which might improve it.
 - Role of private practice in primary health care: to examine the degree to which health workers (government and non-government, physician and non-physician) may be providing medical care privately on a fee-for-service basis and determine: 1) how these activities may be adversely affecting the People's Health Plan; and 2) how these activities and resources might be used or channeled to support PHP at little or no additional cost to the government.

3. Health Manpower Planning

Findings

Although national health planning processes and methods seem to be well-established within the MOH, it is generally acknowledged that they are not yet adequately institutionalized and that continuing refinements in the procedures are needed, particularly in linking planning and resource allocation decisions for program operations.

Health manpower planning is one component of overall planning which has been relatively neglected, but which is slated to be addressed during the PHP III. Currently, there is no single source of data on the personal, educational, and employment characteristics of the personnel in the many health manpower categories employed by the Ministry. Except for physicians, the rate at which health personnel are trained and employed by the government is primarily constrained (determined) by the rate at which the government posts are sanctioned for them - a decision which is apparently based on the current training capacity for each personnel category (except for physicians and VHWs).

However, the Ministry has already begun to study these problems, and how they relate to planning and utilizing health resources in general. An objective of the PHP III, moreover, is to establish a Health Manpower Planning Unit at the Planning Division, encompassing the Department of Health and Medical Education. This Planning Division is to be established by 1986.

The MOH's current study of health manpower development is part of an overall study of "The Development and Mobilization of Resources for Health" being undertaken by one of three inter-sectoral task forces under the Joint Committee on Health Policy (JCHP). The first report of the JCHP's Task Force I, completed in January 1985, gives a thorough analysis of the current problems in health manpower development and of some of the tasks facing the planned Health Manpower Planning Unit (see Annex C for a discussion of the (JCHP) and general issues of resources use in the health sector).

The establishment of the new health manpower planning unit is planned with assistance from the United Nations Development Program (UNDP) under a five-year \$830,000 grant entitled "Manpower Development for Primary Health Care and Basic Health Services". Under this grant, existing training institutes and schools for paramedical personnel are to be consolidated into a single entity to be known as the National Institute of Health Sciences.

The planning unit also has the objective of developing, implementing, and strengthening the training program and facilities of the new Institute. (About 50% of the UNDP grant is for supplies and equipment, about 30% for fellowships, and the rest for short-term consultancies.)

Recommendations

1. AID/Burma support for health manpower planning, in general, is not needed for the foreseeable future because the MOH has ongoing activities in this general area with the help of other donors.
2. AID/Burma should consider supporting specific efforts of a highly focused nature that would both support the Ministry's planning efforts and would be considered either complementary or a prerequisite to assistance for training mid-level professional manpower for primary health care (see Section III, A). Such focused efforts might take the form of evaluation or operations research studies, such as those related to issues of health manpower development and utilization recommended above in "Health Services Research" recommendations. An area deserving particular attention is the possible long-term effect on health manpower utilization of a growing number of (non-government) general practitioners opening private practices. These private practitioners are sure to become a major source of primary health care, if they are not already, for residents of more affluent areas, and their presence and practice patterns may adversely affect the roles and effectiveness of government health workers. Though not employed by the Ministry or the government, private practitioners should nevertheless be considered a national resource (trained at government expense) which could and should be tapped by the Ministry for any number of worthwhile public health purposes, e.g., in assisting immunization and ORT campaigns.
3. AID/Burma's support of professional health manpower development for primary health care, as recommended in Section III, A., should fit within a reasonably comprehensive long-term plan for the production and utilization of all health manpower, with adequate attention paid to the impact of physician production and to the attendant probable influence of private sector developments on public sector employment and service delivery, and vice versa. Such a comprehensive plan may not emerge from the planned Health Manpower Planning Unit if its mandate does not cover both physicians and non-physicians, or if it does not anticipate the potential for dynamic interaction between public sector health policies and private sector health activities.

E. Family Health Counseling

Our findings and recommendations would not be complete without reference to the need for birth spacing services in Burma. Throughout our visit, we were impressed with the extent to which the small family norm has been adopted in Burma. No persons interviewed wanted more than three children, and most said they want two or less. The reasons they usually cited related to the cost of raising many children. But beyond this benefit, the potential health benefits to be derived, both for mothers and children, would be enormous. Abortion, though illegal in Burma, is widely practiced and the complications of induced abortion are a major cause of hospitalization. This not only contributes to maternal mortality but at the same time drains the relatively scarce resources of the formal health system. Contraceptive supplies, while available in the market, are expensive and are not accompanied by well-informed medical advice and service.

Although we understand the sensitivity of this issue, we must conclude that the increased availability of quality birth spacing services would have a more dramatic impact on maternal and child welfare than any of the single interventions discussed above. AID should stand ready to assist in this area should such assistance be requested by the Burmese Government.

IV. PROGRAM MIX UNDER ALTERNATIVE FUNDING LEVELS

The Team considered the mix of potential health sector activities under the assumed funding levels presented in the FY 86 Annual Budget Submission (ABS). The Team also considered the program mix if somewhat higher levels of assistance, though currently not contemplated, proved to be possible.

Scenario A

Under this scenario, the Team assumed that the annual level of health sector funding would be roughly \$3.5 million through 1990. Under this assumption, the Team recommends a single project, but expanded in scope, to support the training and deployment of mid-level and community-level health workers, and to help finance selected basic health services and support activities. The likely mix of program activities is summarized below:

1. Continued support for the training and deployment of additional VHWs, but at a more modest level perhaps in the range of \$1.0 - \$1.5 million per year;
2. Continue efforts begun under PHC II to further upgrade the quality of the VHW system. Give major emphasis to expanding and upgrading the training of mid-level health workers, refresher training for VHWs and support for the "model township" program;
3. Support for Selected Primary Health Care Services:
 - (a) immunization
In conjunction with UNICEF, support the procurement and/or local production of tetanus toxoid. If unmet needs exist, assist in financing procurement of measles vaccine needed under the PHP III. Help design and support a public information campaign to improve vaccination completion rates.
 - (b) diarrheal disease control
Support the design, fieldtesting, and implementation of communication, to promote the use of ORS packets, home preparation of locally appropriate oral rehydration solutions, and feeding during bouts of diarrhea. Support efforts to disseminate diarrheal disease research findings to the medical community.

(c) malaria

Depending on the outcome of the malaria program evaluation currently underway, consider financing selected elements of the malaria control program. Potential areas of support include local training, overseas training in epidemiology and parasitology, operations research, short-term technical assistance, and some limited commodity support (possibly for vehicles and microscopes).

(d) tuberculosis and pneumonia

Both of these diseases are serious health problems. Although the Team does not feel well enough informed to suggest specific areas of support, we believe that a more intensive review of unmet needs should be made if AID is requested to do so.

4. Support Services for Primary Health Care

(a) health information services (HIS)

Provide support for the continued development of the Department of Health's HIS unit through the provision of short-term technical assistance and participant training.

(b) health services research

Support local workshops to identify topics, develop proposals, and teach operations research methods. Provide short-term technical assistance and financing of local research costs.

Scenario B

Under this scenario, the Team assumed the level of health funds annually available at roughly \$4.5 million. In addition to activities described above, the program content would be expanded to include the strengthening of community medicine teaching programs in the medical schools and to expand and strengthen the existing Master of Public Health training program. Such assistance might also be considered if one or more of the activities cited above are not funded, either because of the availability of other donor support or lack of interest on the part of the Burmese Government.

Programming Considerations

Both scenarios imply an increased workload for the limited U.S. direct-hire staff currently in place. Should scenario A be pursued, we would recommend the addition of a qualified foreign service national (FSN) to the staff of the AID/Burma Health Division.

In our view, implementation of scenario B would require either an additional U.S. staff (perhaps a local contract with a qualified spouse) or one or more full- or part-time contracts with Burmese technical specialists.

If scenario A is chosen, the Team would not recommend the development of separate projects. The majority of activities proposed would fall within the purview of the Department of Health and well established coordination mechanisms are already in place. If scenario B is selected, a separate project should be established for the community medicine and MPH programs.

V. AID CENTRALLY - FUNDED ASSISTANCE

Population

The collection, analysis, and utilization of reliable population statistics is of critical importance to the Burmese Government. Through the Bureau of the Census and Westinghouse Health Systems, AID is currently providing support to evaluate and analyze the results of the 1983 Census and the 1984 Post-Enumeration Check.

The Team recommends that AID continue and perhaps expand this support, if requested to do so by the Government. Potential areas of future support include training, to cover demography, use of the micro-computer, and development planning. Support for research might also be considered. Multi-year research plans might be developed with the Census Division, Ministry of Health and other Ministries interested in population and health issues. The target audience for these activities would be the technical staff of these various units. Funds for these activities could be obtained from AID/Washington sources.

ANNEX A

HEALTH PROBLEMS IN BURMA

Table A-1 shows the estimated Productive Years of Life Lost in Burma from eight important diseases. Productive Years of Life Lost is a far more relevant measure for planning for national development than crude, total mortality and morbidity, which includes deaths and illness past retirement age. This Productive Years Lost approach follows the new system of appraisal of disease importance recently introduced by the U.S. Center for Disease Control. It was used in the model National Health Plan of Kuwait. Standard economic procedures for discounting were used for correction and modification.

The death data was obtained from Burma's Central Statistical Office (CSO) for 1980 (latest available) from 146 reporting towns (pop. 6.8 million). There is some bias from under representation of the rural population, but most of the towns are more rural than urban in character. A four percent discount rate was used and the sample was expanded to represent the nation.

As a rough comparison, the mortality data from a 1982 Household Sample Survey was analyzed in a similar manner, and expanded by the sampling fraction, to represent the magnitude of productive years lost for the entire country.

Morbidity was calculated from the household survey of 12,000 households covering the four geographic areas of Burma. Years lost from morbidity equals occurrences times average duration divided by 365 days. The sampling fraction was used to expand the data to represent the whole country.

Although the estimated years lost from mortality is the same order of magnitude in both samples, the CSO data provide almost twice as high an estimate of years lost as do the Survey data. It was not possible to include deaths 60-65 from the Survey data, but this is not the whole reason for the difference.

The absolute magnitude of disease problems is not the only factor in setting priorities. The ability to do something to reduce the toll of disease is the second factor. To estimate "room for improvement" we compared the age-specific death rates in Burma with a typical developed country's rates. The results are presented in Table A-2.

It is not unexpected that virtually all of the lost years from infectious disease and pneumonia could be salvaged. The productive years lost through cancer, and to a lesser extent heart disease (not shown) are really not salvageable no matter what control programs are mounted. However, injuries have some promise in control programs.

Table A-1: Productive Years of Life Lost/Year
For Major Diseases in Burma

	<u>Productive Years of Life Lost/Year</u>		
	<u>From Mortality</u>		<u>From Morbidity</u>
	<u>Household Survey</u>	<u>Vital Statistics</u>	<u>Household Survey</u>
	<u>Data</u>	<u>Data</u>	<u>Data</u>
Pneumonia	130,000	238,000	4,500
Cardio-vascular disease	-	227,000	-
Intestinal infections	135,000	180,000	18,200
Tuberculosis	42,000	142,000	7,200
Injuries	130,000	136,000	64,500
Malaria	78,000	107,000	33,800
Tetanus	-	39,000	-
Measles	-	12,000	-

Table A-2.; Age-Specific Death Rates in Burma
Compared to those of a Typical Developed Country (D.C.)

<u>Type of Illness</u>	<u>Locale</u>	<u>Mortality by Age Groups (in Years)</u>						
		<u>0-1</u>	<u>1-4</u>	<u>5-14</u>	<u>15-24</u>	<u>25-34</u>	<u>35-44</u>	<u>45-54</u>
Infectious Disease	Burma	630	160	50	70	100	110	180
	D.C.	30	5	2	0.3	0.3	3	1
Pneumonia	Burma	580	160	30	6	6	10	.20
	D.C.	30	0.5	0.2	0.2	0.6	1.2	4
Cancer	Burma	-	-	-	4	30	80	180
	D.C.	-	-	-	6	60	140	320
Injury	Burma	-	-	14	32	36	31	33
	D.C.	-	-	4	14	12	20	31

Table A-3PRIORITY LISTING OF DISEASES AND CONDITIONS III PHP

- | | |
|--|---|
| 1. Malaria | 31. Nephritis, Nephrotic syndrome & Nephrosis |
| 2. TB(all forms) | 32. Toxaemia of pregnancy |
| 3. Diarrhoea | 33. Diseases of the skin |
| 4. Anaemia | 34. STD |
| 5. All abortions | 35. Poisoning other than food poison |
| 6. CVD | 36. Whooping cough |
| 7. Tetanus | 37. FUO |
| 8. Injuries | 38. Rabies |
| 9. Viral Hepatitis | 39. Chronic liver diseases and cirrhosis |
| 10. Haemorrhage of pregnancy and child birth | 40. Ascariasis(other than intestinal) |
| 11. Trachoma | 41. Poliomyelitis |
| 12. PEM | 42. Dog bite |
| 13. Complication occurring mainly in the course of labour and delivery | 43. Helminthiasis |
| 14. Drug addiction | 44. Birth injuries and asphyxia |
| 15. DHF | 45. Appendicitis |
| 16. Snake bite | 46. Alcoholism |
| 17. Burns | 47. Bronchitis |
| 18. Pneumonia | 48. Complications related to pregnancy |
| 19. Typhoid fever | 49. Glaucoma |
| 20. Measles | 50. Psychiatric disorders |
| 21. Cancer(all organs) | 51. Peptic ulcer |
| 22. Plague | 52. Other disorders of female genital tract |
| 23. Cholera | 53. Acute respiratory tract infection |
| 24. Dysentery(Amoebic & Bacillary) | 54. Other oral and dental diseases |
| 25. Leprosy | 55. Haemorrhoids |
| 26. Meningitis | 56. Filariasis |
| 27. Food poisoning | 57. Chicken pox |
| 28. Diphtheria | 58. Uterovaginal prolapse |
| 29. Dental caries | 59. Japanese Encephalitis |
| 30. Influenza | 60. B P H |

In addition to the "room for improvement" one must consider "cost of improvement". On this basis, measles and tetanus will move up in priority for control programs.

The criteria used by the Ministry of Health to rank disease problem priorities is difficult to understand. As shown in Table A-3 this ranking system shows drug addiction and snake bite to be higher priorities than pneumonia. Priority setting mechanisms have problems in both the "subjective scoring as well as the objective scoring". For example when we reviewed the Rangoon Division Priority Setting data in detail, the errors in computation made it clear that the priority setting process has major problems (e.g., pneumonia, with the highest death rate, was accorded a low mortality score).

Infant Mortality

The infant mortality rate in Burma is a subject of considerable debate, even among the Burmese experts in the Ministry of Health. Estimates of infant mortality derived from a wide variety of sources are presented in Table A-4 below:

<u>Table A-4</u>		
<u>Estimates of Infant Mortality Rate</u>		
(Burma)		
<u>Source</u>		<u>Infant Deaths per 1,000 Live Births per Year</u>
CSO Vital Statistics (1980):	146 towns	44
	Small rural sample	47
Household survey (1982): (12,000 households using 1-yr recall)		
	range	19-53
	average	40
Auxiliary midwife reporting		70
Midwife reporting: total (1982-83)		39-46
	survey townships (1983-84)	46-54

The true infant mortality rate is probably in the range of 50-60 per thousand--which is remarkably good for a country at Burma's level of economic development.

ANNEX B

PRIMARY HEALTH CARE IN BURMA1. People's Health Plan (PHP) I and II

On the basis of a WHO-assisted Country Health Programming exercise completed in 1976, the Government of Burma decided to proceed with the development of the People's Health Programme to cover the period 1977-1982. The objectives of this Programme were to establish a primary health care system and related basic health services program, to reduce infant, young child, and maternal morbidity and mortality by:

1. encouraging communities to recognize their health needs and participate in the solution of these health problems;
2. training volunteer health workers to provide simple curative and preventive care, and to serve as a catalyst for health activities at the village level; and
3. training basic health and special disease control workers to function as multi-purpose workers at the Rural Health Center and Sub-center level.

Under PHP I, the primary health care program was to reach 147 of the country's 287 townships. Specific quantitative objectives included training and equipping 9,418 community health workers (CHWs), 1,787 auxiliary midwives (AMWs), and 4,000 traditional birth attendants (TBAs). UNICEF, WHO, and AID were the major external donors for this Programme.

A recent external evaluation of the AID-supported component of PHP I found that quantitative targets for pre-service and in-service training of VHWs were either met or exceeded. (see Table B-1)

Studies of VHW performance indicate that the AMWs and TBAs are performing well, especially in providing care to pregnant women and infants. There is still a need to up-grade the quality of CHW training, improve supervision, and to remedy the problem of drug re-supply. Curative care, especially with respect to the CHWs, seemed to get the most attention.

The second People's Health Programme (PHP II) covers the period 1983-1986, and reflects the revised Burmese strategy to strike a better balance between preventive and curative care. In continuing to pursue the goal of reduced infant, young child, and maternal morbidity and mortality, the PHP II gives priority to the following objectives:

1. Expansion of the availability of basic health services in the rural areas;
2. Increased community involvement and self-reliance in planning and solving local health problems;
3. Increased attention to preventive measures, especially communicable diseases;

Table B-1: Volunteer Health Worker Training Under PHC I

<u>Pre-service Training</u>	<u>Planned</u>	<u>Actual</u>
CHWs (3 weeks)	9,418	9,383
AMWs (6 months)	1,787	1,654
Let-thes (30 days)	4,000	5,710
<u>In-service Training</u>		
CHWs (12 days)	21,812	21,748
AMWs (12 days)	6,300	6,300
<u>Coverage of 147 townships</u>		
Village (CHWs)	55%	54.7% (1984)
Village tracts (AMWs)	100	76.5% (1984)

Table B-2: PHC Manpower and Facilities Planned for
PHP II and PHP III

<u>MANPOWER</u>	<u>EXISTING (1982)</u>	<u>EXPANSION (1982-86)</u>	<u>ADDITIONAL (1986-1990)</u>	<u>TOTAL (end 1990)</u>
BHWs	14 , 390	5 , 310	6 , 100	25 , 800
CHWs	14 , 000	18 , 400	24 , 000	56 , 400
AMWs	4 , 600	5 , 800	6 , 000	17 , 400
TBAs	2 , 500	15 , 000	12 , 000	29 , 500
<u>FACILITIES</u>				
RHCs	1 , 267	280	280	1 , 827
Sub RHCs	5 , 219	1 , 040	1 , 400	7 , 659
MCH centers	336	48	-	384
Urban Health Centers	62	8	8	78
School Health Teams	72	32	40	144

- 3.
4. Provision of essential medical care to reduce mortality due to disease and injuries; and
 5. Improving environmental health, by increasing the availability and use of clean water and sanitary latrines.

Training of basic health workers (BHWs) and VHWs continues to receive high priority under PHP II. Increased efforts are being made to improve the quality of the VHW program, both through improved pre-service and refresher training. Table B-2 shows the specific manpower and facility targets under PHP II.

Studies and evaluations completed to date again suggest that quantitative targets are largely being met. Significant improvements have been made in the training system of VHWs, through the establishment of State/Division mobile training teams. Supervision of VHWs, drug re-supply, and timely provision of CHW kits continue to be problems. The expansion of BHS support staff (lady health visitors, midwives, health assistants, and public health supervisor II) has not kept pace with the rapid increase in the number of CHWs. As a result, the persons who are needed to provide technical support and supervision, and to respond to VHW referrals, are sometimes not in place.

2. People's Health Plan III

The Ministry of Health is currently finalizing plans for PHP III which will cover the period 1986-1990. Stated objectives, contained in draft PHP III documents, are to continue to focus on the reduction of morbidity and mortality among women, children, and working people. This will be accomplished through the further expansion of PHC coverage and accessibility, and improvements in the quality of basic health services.

Because all townships will have been "covered" by 1986, increased emphasis can be given to improvements in the quality of the program. One strategy for doing this is the development of "model townships" in each State/Division to be used as catalysts for introducing program improvements into other townships. Although draft Plan documents state that increased attention will be given to qualitative improvements, more CHWs are projected to be trained under PHP III than under PHP II.

Table B-2 summarizes these targets.

ANNEX C

RESOURCE DEVELOPMENT AND UTILIZATION IN THE HEALTH SECTOR1. Planning in the Health Sector

Burma's experience in national health planning dates from the WHO-sponsored Country Health Programming exercise which assisted in the development of the First People's Health Plan (PHP I) in 1978. Since that early experience, Burmese health officials have endeavoured to establish permanent mechanisms for health planning, programming, monitoring, and evaluation. In December, 1984, the broad program planning phase in development of the Third People's Health Plan (PHP III) was completed; detailed program formulations are currently being developed.

While considerable progress has been made, institutionalization of health planning is still only partial and fragmented. Planning processes currently are the responsibility of one of the four MOH departments (Department of Planning, Finance, Administration, and Training). Decisionmaking on projected requirements is often made independent of decisionmaking on budgeting and actual resource use. Adequate arrangements for management and administration of operations lag behind initial implementation stages of programs and projects. It is hoped that the establishment of a Planning Division to encompass the DOH and DME, including a Health Manpower Planning Unit, will serve to alleviate some of the evident problems. This is one of the objectives of the Health Manpower Development Support Program of the PHP III.

Long-term institutional solutions to the planning, programming, and budgeting problems are being addressed by the Intersectoral Task Forces formed under the Core Group of the Joint Committee of Health Policy (under the sponsorship of UNICEF and WHO). These task forces have begun work on intensive examination in three areas relevant to making and implementing health policy in support of the People's Health Plan (for primary health care):

1. Development and Mobilization of Resources for Health
2. Health System Management
3. Intersectoral Collaboration and Community Involvement

It is intended that the analyses and recommendations produced by these task forces during the next two or three years will be synthesized into some concrete proposals for changes in the way health policy is planned and implemented in support of primary health care. Much of what follows in this Appendix is taken from the first report of Task Force I on "Development and Mobilization of Resources for Health" which was completed in January, 1985.

2. Health Sector Financing*

This Section summarizes the recent trends in allocation of financial resources to and within the health sector. It describes the government's financing, community contributions, and financing made available for external donor agencies. Private financing of medical care services on a direct-pay, fee-for-service basis is increasingly important in Burma, because more than half of Burma's estimated 9,000 medical doctors practice exclusively as private practitioners, and the remaining medical doctors in government service are permitted to practice privately in their off hours. There is also a substantial and growing black market in a wide variety of medicines and drugs. No reliable estimates of the magnitude of this private financing, however, are currently available.

(a) Government Spending on Health

Table C-1 shows several summary statistics on the levels of government expenditures on health during the past decade. It is evident that although per capita spending has increased 2½ times in the decade, the level of spending relative to gross domestic product (GDP) and to the total state budget has been relatively steady. Government spending for health has not been far from 1% of (GDP) or from 8% of the total budget at any time during the decade. Chances of any appreciable increases in these levels in the future are reported to be slim.

(b) Allocation of Government Budget and Spending Among Health Programs

The allocation of the government health budget among planned programmatic activities has been calculated (from the line-item budget documents) and presented in Table C-2 for 1981-82 and the four years of (1982-83 - 1985-86). Notable are planned increases in the shares allocated to Community Health Care (24% to 25%) and to Disease Control (12% to 14%), compared to a planned decrease in the allocation to Hospital Care (54% to 51%). These allocations are estimates of planned spending only, and actual expenditure typically differs both in allocation among programs and in percentage of budgeted funds actually spent.

* The main source for the data analyzed in this section reported that difficulties were encountered in the assessment of finance for national health development. Budget statements made by different reports gave different figures for different points of time. Some statements failed to specify whether the figures were original allocations, final allocations, or actual expenditures, each of which would naturally exhibit varying figures. In other statements, part of externally assisted funds were, unintentionally or otherwise, incorporated into government health expenditure figures without mention of such accounting. Best efforts were made to reconcile the statements to be consistent.

Table C-1

Changes in Government Health Expenditure by Year

YEAR	Government Health Expenditure			
	Annual Increase Rate Percent	as % of GDP	as % of State Budget	Per Capita
1974-75		1.0	7.7	6.3
1975-76	3.8	0.8	7.7	6.4
1976-77	17.8	0.8	7.3	7.3
1977-78	4.7	0.8	8.1	7.5
1978-79	32.1	1.0	7.7	9.7
1979-80	3.7	0.93	6.8	10.3
1980-81	2.9	0.8	6.8	
1981-82	34.0	1.0	6.5	12.3
1982-83	27.7	1.18	8.4	
1983-84	2.5	1.13	8.7	15.7

Table C-2
TOTAL GOVERNMENT INPUTS BY PROGRAMME (Planned)

PROGRAMME	SECOND PHP/FOURTH 4-YEAR PLAN (Kyats)					Total Fourth 4-Year Plan
	1981-82	1982-83	1983-84	1984-85	1985-86	
Community Health Care <u>Percentage</u>	87 727 490	95 030 520 23.94	103 116 780 24.98	111 554 430 24.98	120 424 240 25.29	430 125 970 24.8
Disease Control <u>Percentage</u>	27 950 560	47 711 450 12.02	52 766 680 12.71	60 310 380 13.50	66 753 190 14.02	227 541 700 13.1
Environmental Sanitation <u>Percentage</u>	575 780	1 866 060 0.47	2 544 450 0.61	3 090 590 0.69	3 355 460 0.70	10 856 560 0.6
Hospital Care <u>Percentage</u>	176 281 060	214 395 960 54.00	216 293 980 52.08	229 439 980 51.37	241 485 080 50.72	901 615 000 52.0
Support Services <u>Percentage</u>	15 535 270	27 013 270 6.80	29 425 400 7.09	29 326 150 6.57	31 563 120 6.63	117 327 940 6.7
Administrative Services <u>Percentage</u>	9 911 810	11 002 520 2.77	11 138 430 2.68	12 929 440 2.89	12 577 510 2.64	47 647 900 2.7
TOTAL: <u>Percentage:</u>	317 981 970	397 019 780 100.00%	415 285 720 100.00%	446 650 970 100.00%	476 158 600 100.00%	1 735 115 070 100.0

Table C-3 shows that the total of budgeted funds actually expended by the Ministry of Health dropped from virtually 100% to 1981/82 to 81% in 1983/84. Differences by program shares are not available.

3. Community Contributions

Community financial inputs are an important component of total public resources used in the health sector. There is a strong Burmese tradition of communities contributing to their own social welfare through voluntary contributions of goods and services, as well as cash donations. These contributions are particularly important in the support of the community-based VHW program, both through village contributions for the essential drugs supplied by the VHWs and through village efforts in constructing their own rural health center buildings. Hospital functions are also supported partly through donations, most of which are focussed inputs for which no hard data exist. Table C-4 gives planned or estimated community inputs by program for the four-year period of PHP II; no information is available about the extent to which these plans/estimates may have been realized. But it is important to recognize that the estimate for 1982/83 of Kyats 75 million (including the hospital estimate) is more than 20% of the total government budgetary input to the health sector in that year.

4. External Financing of Health Programs

External donor sources of funding for health programs has increased significantly in recent years, particularly since bilateral aid programs were reemphasized by the government in 1980. The total from all external sources rose from \$4.8 million to 1979/80 to \$13.5 million in 1983/84, as shown in Table C-5. Most of the increase was from bilateral donors, particularly USAID and JICA, as can be seen in Table C-6, which shows the levels of funds provided from various external sources during the past decade. The expected amount of \$19.1 million for 1985/86 is itself more than a 40% jump over the \$13.5 million total received in 1983/84.

The majority of external funding goes toward programs in preventive and primary health care, although there are significant amounts being funneled toward hospital improvements also.

Multilateral Agencies*

UNICEF's current program of assistance (for 1982-86) is funded at an average yearly level of more than \$5 million, with more than half of that going toward rural water supply projects, almost one-third supporting preventive and primary health care, and the rest aiding nutrition projects.

* The source for most of this information on external donor fundings and priorities is: United Nations Development Programme, "Annual Report on Development Cooperation with the Socialist Republic of the Union of Burma, 1983." Office of the Resident Representative, Rangoon, July, 1984.

Table C-3

PLANNED BUDGET AND ACTUAL EXPENDITURE, DEPARTMENT OF HEALTH

BUDGET / EXPENDITURE	P H P (I I) Million Kyats					Total PHP (II) 1982-86
	1981-82	1982-83	1983-84	1984-85	1985-86	
1. Planned Health Budget	318.0	397.0	415.3	446.7	476.2	1735.2
2. Actual Health Expenditure	317.6	342.6	337.0			
3. (2) as percentage (%)	99.9%	86.3%	81.1%			

Table C-4

TOTAL COMMUNITY INPUTS BY PROGRAMME (Planned)

	SECOND PHP / FOURTH FOUR-YEAR PLAN (Kyats)				Total Fourth 4-Year Plan
	1982-83	1983-84	1984-85	1985-86	
Community Health Care	14 660 000	17 720 000	20 280 000	23 840 000	76 500 000
Disease Control	-	-	-	-	-
Environmental Sanitation	11 117 400	17 334 000	22 473 400	27 483 800	78 403 600
Hospital Care *	-	-	-	-	-
Support Services	-	-	-	-	-
T O T A L :	25 777 400	35 054 400	42 753 400	51 323 800	154 908 600
Percentage increase		35.99	21.96	20.05	

* Hospital Care : Annual estimate is at least K. 50 million

Table C-5External Inputs to Department of Health

(in U.S. \$ millions)

<u>Source of Funds</u>	<u>1979-80</u>	<u>1983-84</u>	<u>Appx. Times Increased</u>
Multilaterals (UN)	3.53	5.00	X 1½
Bilaterals	1.31	8.51	X 6½
TOTAL EXTERNAL FUNDS	4.84	13.51	X 3

Table C-6
EXTERNAL SOURCE OF FUNDS RECEIVED BY THE DEPARTMENT OF HEALTH

A G E N C Y	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1985-86
<u>U N AGENCY</u>								
- WHO	861	889	997	1554	1492	1933	1521	2320
- UNICEF		1639	1953	2703	3041	1953	2478	2874
- UNFDAC	190	190	190	190	190	175	175	175
- UNDP		8	397	284	436	557	828	1842
	1051	2726	3537	4731	5159	4618	5002	7211
<u>BI-LATERALS</u>								
- USAID				274	2290	2199	1458	3415
- CIDA	200	867	1130	3202	1716	1130	1130	
- JICA					3361	9719	5720	7794
- NETHERLAND							115	226
- ITALY								462
- Inter. assistance to Rodent Control (FRG)	56	191	180	133				
- Save the Children Fund						11	90	
	256	1058	1310	3614	7367	13048	8513	11897
TOTAL :	1307	3784	4847	3345	12526	17666	13515	19108

WHO's ongoing projects from its regular budget currently amount to about \$1.7 million per year. Virtually all of this assistance is in support of planning and implementing various PHC components of the People's Health Plans.

UNDP is currently supporting health manpower planning and development and a community-oriented program for disability prevention and rehabilitation

The Asian Development Bank has granted an \$18.5 million loan in support of a \$27 million project to upgrade and equip state/divisional and station hospitals.

Bilateral Agencies*

USAID's PHC II project focuses its health aid in support of primary health care, particularly the training deployment of VHWs under PHP II. Australian Development Assistance Bureau (ADAB) focuses its health-related assistance in rural water supply, helping to finance tubewells in the dry zone.

Japan International Cooperation (JICA) has been giving aid toward construction of the new Rangoon General Hospital and a new Nursing Training School, as well as training and technical assistance in starting their operations.

Canadian International Development Agency (CIDA) is currently funding the purchase of insecticides for vector-borne disease control.

Aid from the Government of Italy is helping to finance a major nutrition project in conjunction with UNICEF.

Aid from the Netherlands has supported vector-borne disease control and rural water supply projects.

Save the Children Fund has helped in the procurement of polio vaccines for EPI.

* See footnote on previous page for source.

C. Resource Utilization in the Health Sector

The effectiveness and efficiency with which health services are delivered depends upon the way resources, once financed and made available, are utilized to produce services. The report of the JCHP Task Force I provides up-to-date information and analyses, and it is beyond the scope of this Review to repeat or summarize them here. For information purposes, however, we present several excerpts in the following pages. Table C-7 shows statistics on professional manpower comparing the situation in 1983/84 with that in 1979/80. Table C-8 shows selected DOH manpower and facility ratios for 1983/84. The findings of the JCHP Task Force I are presented following Table C-8.

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Table C-7

Comparison of National Health Manpower for the Years 1979-80
and 1983-84

<u>Manpower Category</u>	<u>1979-80</u>	<u>1983-84</u> (a)
Doctors (No.)	6816	8931
- Public	3176	4212
- Private and Others	3640	4719
- Per 10000 Population	2.07	2.50
- Per 10000 Population (Public)	0.98	1.19
- Per 10000 Popn. (Private & Others)	1.12	1.34
Dental Surgeons (No.)	317	531
- Public	190	317
- Private & Others	127	214
Dental Nurses	-	52
Nurses (No.)	4063	4791
- Per 10000 Population	1.23	1.34
Lady Health Visitors	1283	1733
Midwives	6426	8519
Health Assistants	1300	1396
P H Supervisor I	250	516
P H Supervisor II	114	991
Indigenous Medical Practitioners	147	449

(a) : Provisional figures

Source : - Report to the Pyithu Hluttaw, 1984-85

Table C-8Selected DOR Manpower and Facility Ratios, 1983-84

1.	Available Beds / 10,000 Popn.	8.8
2.	Available Beds / Sq. Mile	0.12
3.	PHC Workers / Sq. Mile	0.09
4.	PHC Workers + VHWs / Sq. Mile	0.23
5.	Doctors / 10,000 Popn.	1.01
6.	Clinical Nurses / 10,000 Popn.	1.18
7.	Doctor : Available Beds	1: 8.6
8.	Clinical Nurse : Available Beds	1: 7.4
9.	Doctor : Nurses (Clinical)	1: 1.2
10.	Doctor : Nurses (Public Health)	1: 2.5
11.	Doctor : All Nurses	1: 3.7
12.	RHCs / 10,000 Popn.	0.49
13.	Population / RHC	20317
14.	Village Tracts / RHC	10.4
15.	Villages / RHC	49.5

(Findings of the JCHP Task Force I)

V. DISCUSSION ON SOME OF THE OBSERVATIONS*

70. The primary purpose of the study in Phase I is to generate base-line information regarding health resources, and to describe the situation as it exist in 1983-84. Having accomplished the task, the Task Force deemed fit, at this stage, to highlight on some of the observations without going into the analytic depths of the situation. The observations are presented here-under :

- (1) The DOH is conspicuous by the absence of a formal manpower planning mechanism for undertaking sustained manpower planning activities in order to facilitate strategic decision (35)
- (2) DOH manpower is made up of a multitude of categories; 794 post designations have been identified. No agreed system of health manpower classification is in existence, Task Force I has developed two tentative Health Manpower Classification Codes (HMCC), Lists A. and B. ; the latter is recommended for use in future health manpower planning activities. (40, 41)
- (3) 6.2% of DOH manpower undertake managerial frunctions at central and state & division level; the remaining 93.8% operate at the implementation level. (37)
- (4) Only 9% of DOH manpower is constituted by medical personnel, Nursing and non-medical personnel, represent about one third each of the DOH manpower; one quarter are unskilled personnel. (Table 3.)
- (5) The Hospital Care Programme followed by the Community Health Care Programme enjoyed most of the DOH manpower, while the Health Education and Environmental Health Programme enjoyed the least. (42)

* Source: The JCHP Task Force (I), "Development and Mobilization of Health Resources (Burma), Ministry of Health, JCHP-TFI. Cyc.I/Pha.I/R.I/84, Rangoon, January 1985, pp. 41-43. (Numbers in parentheses refer to previous paragraph numbers. Previous Tables C-1 through C-8 are from the same report.)

- (6) 53% of DOH manpower are actually engaged in first level health care or PHC functions. (44)
- (7) While Rangoon and Mandalay Divisions enjoyed most of the DOH resources, Karen State and Sagsing Division enjoyed the least. (46, 57, 65)
- (8) 9.3% of DOH manpower remained vacant or unfilled in June 1984 (47)
- (9) Both over-production and under-production are observed in respect of some categories of health manpower. (48) Realistic manpower projection is hindered by inadequate information regarding personal characteristics, service records and attrition experiences. (51)
- (10) During the five year period 1979/80 to 1983/84, the number of hospitals have increased by 21%, and available hospital beds by 9%. (55)
- (11) A recent study on hospital bed demand report that, at the present rate of hospitalization, bed expansion is not an urgent requirement during PHP (III). (56)
- (12) Kayah and Chin States are conspicuous by the absence of Urban Health Centres in their capital towns. (59)
- (13) Criteria for determining the number of Rural Health Centres required should not only consider population and villages covered, but also take into account " accessibility " on terms of travel time. (60)
- (14) Per capita government health expenditure has increased from K 6.3 to K 15.7 during the decade 1974/75 - 1983/84; however, expenditure expressed as percentage of GDP has remained somewhat constant at around 1.0%. (63)

- (15) Total community inputs to the health sector in 1982/83 is estimated at around K 66 millions, which represent some 20% of the total government health expenditure. (66)
- (16) During the five year period 1979/80 to 1983/84, total external inputs to the DOH increased by 3 times; while inputs from the UN system increased by 1½ times, the same from bilateral sources increased by 6½ times. (68)
- (17) The organization structure of the DOH is yet to be geared to support functions it has to perform. (49)
- (18) Voluntary Health Workers are contributing significantly to the delivery of primary health care; however, ambitious plans to train more than the manageable numbers are to be restrained. (36)

ANNEX D

The Health Strategy Review Team had meetings and discussions with the following officials:

A. GOVERNMENT OF THE SOCIALIST REPUBLIC OF BURMA

Department of Health

Dr. Tin U, Director-General
 Dr. Thein Nyunt, Deputy Director-General
 Dr. Lun Wai, Director (Planning, Budgeting, Administration, and Training)
 Dr. Ba Tun, Director (Public Health)
 Dr. Kyaw Lwin, Director (Disease Control)
 Dr. Mya Win, Deputy Director (Rural Health/MCH/School Health.
 Dr. U Thaug, Deputy Director (Epidemiology, EPI)
 Dr. Nyunt Hlaing, Deputy Director (Vector Borne Disease Control)
 Dr. Tin Myint, Deputy Director (Leprosy)
 Dr. Tin Tin Hmun, Assistant Director (MCH)
 Dr. Thyra Po, Assistant Director (Nutrition)
 Dr. Tin Oo, Assistant Director (Traditional Medicine)
 U Myint, Assistant Director (Environmental Sanitation)
 U Min Swe, Assistant Director (Health Education)
 Daw Molly Lonele, Assistant Director (Nursing)
 Dr. Daw Khin May Kyi, Epidemiologist (CEU)
 Daw Saw Yi, Deputy Nursing Chief
 Dr. Daw C. Hla Shein, Director, Health Assistants Training School
 Dr. Myint Myint Win, Deputy Director (Laboratory)
 Dr. Mahn Soe Myint, Director (Laboratory)
 Dr. Aye Kyu, Specialist (EPI)
 Dr. C. Khin Min, Senior Lecturer, Health Assistants Training School
 Dr. Than Sein, Assistant Project Manager, PHC

Department of Medical Research

Dr. Aung Than Ba Tu, Director-General
 Dr. Than Toe, Deputy Director-General

Department of Medical Education

Dr. Pe Thein, Director-General
 Dr. Daw Win May, Assistant Director
 Dr. U Tin Pe, Deputy Director

Burma Pharmaceutical Industries Corporation

U Ban Yi, Deputy Director

Foreign Economic Relations Department

U Set Maung, Director-General
 Daw Myo Nwe, Head of Section

