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WORKING GROUP ON SOCIAL SCIENCE HEALTH
RESEARCH IN LATIN AMERICA

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1. Objectives of the Working Group

The Working Group was established as a result of the recommendations endorsed by the PAHO/ACMR at its 19th Meeting held in San José, Costa Rica between 9-13 June 1980. At its Executive Session the ACMR recommended that the Working Group on the Social Sciences continue its work. Specifically, the ACMR requested that this Working Group be asked to:

- a. Coordinate its activities within the specific program priorities of the Organization;
- b. Further develop and complete the social sciences' health research inventory;
- c. Be responsible for identifying the potential input of the social sciences by means of interdisciplinary subgroups in the fields of diarrheal diseases and malaria;
- d. Extract from the inventory, references applicable to specified program areas and prepare an annotated bibliographic series on these matters; and
- e. As a long-term objective and under the aegis of BIREME, to prepare annotated social science health research bibliographies dealing with specific diseases and health problems. These bibliographies would be included in BIREME's program of selective dissemination of information.

In conjunction with item (c) above in the 1980 ACMR recommendations, preliminary discussions were held during the ACMR meeting in June 1980. At that time it was decided to select one disease: (1) whose control was assigned a high priority by the Organization; (2) where efforts would complement the objective of the TDR/SER program; and (3) where social and economic factors were known to affect the distribution of the disease and the operation of existing control programs. It was agreed that the approach would be interdisciplinary and interagency with the general objective being to develop a conceptual and research model which would be applicable to a number of infectious and tropical diseases. It was on this basis that it was decided to select malaria as a case study

in the development of an interdisciplinary model of research identifying the social and economic variables affecting: (1) its distribution; (2) its control programs; and (3) the organization of services.

The cooperation and assistance of the TDR/SER program was requested in the work of the Subcommittee and the Regional Representative of the TDR Program joined on a two-day meeting and a visit to the malaria program of

one country (Dominican Republic). This support strengthened the work of the Subcommittee permitting it to focus on the impact of social and economic factors affecting the distribution of malaria in different circumstances and countries.

During the year the Working Group augmented the already established (1979-80) social sciences' health research inventory by the addition of over 100 general references pertaining to work done in Latin America. In connection with Point (2) of its objectives, the Working Group agreed that a requisite step would involve a listing and a consideration of the relevant work done by the Organization dealing with social and economic factors related to malaria eradication programs. The steps needed to be taken here included:

- a. A review of the recommendations made by various committees, fellowships, curriculum development and research support, consultants' reports;
- b. An identification of social science references in the 1400 item bibliography assembled between 1979/80; and a listing of social scientists known to be working in the area in Latin America.

A start was made on both of these matters with the work, as yet uncompleted, but still in progress. At the time of the 1980 ACMR meeting no programs were identified which combined interdisciplinary efforts in this field. One result of the Working Group's activities was the bringing together of social scientists and malariologists to discuss joint research interests together in those countries.

In addition to the bibliographical sources listed above, the Working Group identified several additional sources meriting review. These were:

- a. A MEDLARS/BIREME search of work completed since 1977 (already done).
- b. A review of: A Bibliography on the Behavioural, Social and Economic Aspects of Malaria and It's Control (Geneva: WHO Offset Publication, No. 42, 1978). This comprehensive source of 1178 references classifies social and economic variables for studies relating to malaria, but no analysis is given of these studies.

To extend and augment this bibliographical review which falls under the objectives generally set for the Working Group on Social Science Health Research, the Working Group considered several long-term steps which it will reconsider pending further work being done. These long-term steps may include:

- a. The assembling by PAHO of a package of the major significant studies, as a basis for further review and for distribution to researchers developing research grant applications.
- b. The involvement of collaborating social scientists and malariologists from developing and/or ongoing studies with the Working Group: (1) to work on the development of a general research strategy for this field; and (2) to contribute to the review of the relevant research literature.
- c. The preparation of a compact but detailed position paper summarizing the findings and assessing the research methods of studies relating to the social and economic factors pertaining to the occurrence and the control of malaria in Latin America. Such a position paper which should be published would list what has been done, assess its methodological adequacy, and indicate what needs to be done. It would represent the contribution of both social scientists and malariologists and detail ways that such collaborative research might be strengthened in the future.

Such a review by itself would constitute an important contribution. At present, while a substantial number of social and economic variables have been identified by experienced malariologists as affecting in one way or another the occurrence of this disease or the success/failure of eradication programs, no coordinated analytical synopsis is known which deals with all of these variables together or which considers the adequacy and the relevance for application of the work which has been done. Such a summary document would provide a useful starting point for researchers undertaking collaborative work in the future.

One of the members of the Working Group has started to prepare an annotated bibliography identifying the major social and economic variables related to malaria. This work is continuing. Under point (5) of the objectives set for the Working Group, the Director of BIREME has agreed in principle to review the assembled social science health research inventory (1979-80) with a view that when its listings have been reviewed for their accuracy and uniformity of style, the inventory will be processed by BIREME.

2. Establishment of a Group on Social Science Research Related to Malaria Control Programs

Following the 1980 ACMR meeting, four meetings of the subcommittee focussing on malaria were held. The first meeting of three members was held to prepare the background papers and an agenda for a fuller two-day meeting. Persons attending the meeting held in Washington, D.C. between 17-18 December 1980 were:

Dr. R. F. Badgley, Chairman, (University of Toronto, Canada)

Dr. J. Ellinson, (Columbia University, USA)

Dr. R. H. Lennox (Department of National Health and Welfare, Canada)

Dr. J. C. García, PAHO

Dr. J. Nájera, PAHO

Dr. F. J. López-Antuñano, PAHO

Other participants at the meeting included:

Dr. A. Pérez-Miravete, PAHO

Dr. G. Schumuñiz, PAHO

Dr. B. Walton, WHO/TDR Liaison

Between 10-23 May 1981 several members of the Subcommittee visited the malaria programs in México, Nicaragua and the Dominican Republic. A close contact through PAHO/WHO Malaria Program and the TDR is being established with Brazil where a workshop has just met to study the problems of migration on malaria and schistosomiasis.

Representing an interdisciplinary approach (malariologists and social scientists), the principal purpose of the Working Group is to achieve a more effective control of the occurrence of malaria in high risk areas. The specific purposes of the Working Group include:

a. Occurrence and Control of Malaria: Social and Economic Correlates and Determinants. To identify from completed research and to foster research to be undertaken on issues central to malaria eradication programs, inter alia:

- How social and economic factors affect the occurrence and the distribution of malaria.
- The social factors affecting the malaria control programs.
- The organizational factors involved on the effectiveness (short-term and long-term) of different malaria control programs.

b. Strengthening Research Capacity. To develop ways that effective collaborative research can be strengthened including inter alia:

- The collation of major known studies involving research on social and economic factors related to the occurrence and the control of malaria.
- The preparation of a summary appraisal of such studies in terms of major findings and research methods.
- The development of a comprehensive research strategy identifying the major disease, ecological and social/economic factors affecting the distribution and control of malaria.
- To consider how support may be most effectively given to existing interdisciplinary efforts involving malariologists and social scientists in terms of:
 - The design of research applications prior to their submission for funding.
 - The fostering of communication between emerging collaborative research interests in different countries.

c. Training and Resources. To consider and document the needs of interdisciplinary work in terms of:

- The requisite training in knowledge of malaria for social scientists.
- The inclusion of social and economic factors in the curriculum of health workers in malaria control programs.
- The resources required in terms of equipment and facilities for interdisciplinary collaborative research.
- The experience based derived from actual case studies of teamwork factors that facilitate and/or hinder effective research collaboration.

- d. Coordination of Programs. To foster more coordination between the various programs and branches of WHO/PAHO, and between these collaborative research programs within the Member Countries.

3. Field Visits

Considering the developments of research initiatives within the Continental Plan of Action against malaria three countries were selected for on-site visits by the Subcommittee: Mexico, Nicaragua, and the Dominican Republic.

Mexico has recently reviewed its antimalaria strategy basing it on a stratification of the malaria problem. Selection of appropriate technologies adapted to the local situations and prioritization of areas and concentration of efforts according to the intensity of the problem and the expectation of results.

An important component of this strategy is the operational and epidemiological research which will better define the factors for the stratification of areas and selection of attack measures.

For this latter objective a field research project has been set up in Tapachula, Chiapas (Mexico), with the collaboration of the PAHO Regional Project on Malaria Field Research. The plan of action of this project calls for the development of operational methods for typification of malaria based on the main biological, ecological, and sociocultural factors.

The Subcommittee visited the project area where it could observe in representative localities of the main types of agricultural activities in the malaria problem areas, such factors as physical village structure types and distribution of human dwellings and animal shelters and their relationships to potential and actual malaria vector breeding places.

Front lines health services, malaria coworkers and voluntary collaborators were visited and interviewed. The Subcommittee was invited to collaborate in the selection of research objectives and methods in the study of sociocultural and economical factors affecting malaria and its control.

The visit of the Subcommittee served as a catalyst for discussing the program of work in social sciences and malaria with other institutions collaborating in the research project of Tapachula, particularly the Center for Ecological Research of the Southeast (CIES) and the Center for Disease Control of the United States of America.

The great wealth of information obtained by the socioeconomic studies of the CIES and the high degree of technology competence available at this institution working in the State of Chiapas was particularly impressive.

Finally the Subcommittee collaborated in the presentation of the project general program of work to CONICIT, aimed at the integration of the project within the research policy of the country. The obtention of research support and the establishment of effective linkages with relevant research institutions.

During the discussions in Mexico the following were considered as the main areas, where the contribution of social sciences research is considered more relevant to the malaria control effort:

- a. Study of migration and its social and economic forces which may help to predict its impact on disease distribution, establishment of local transmission and applicability of control measures.
- b. Estimation of selectivity of present sources of information on malaria incidence and a better identification of the actual populations from which identified cases belong, i.e. improved estimations of numerators and denominators in incidence and prevalence estimations.
- c. Identification of high risk communities and the factors determining their degree of participation in antimalaria and health services activities.

Nicaragua reviewed their antimalaria strategy with the collaboration of PAHO/WHO in January 1980, following the guidelines of the Continental Plan of Action, and had expressed their interest in studying in-depth the socioeconomic factors affecting the intensity and distribution of malaria and its control. It has been recognized that these factors may play a decisive role in their main malaria problem areas and will greatly affect the orientation of the government antimalaria strategy which intends to use to its maximum potential the developing primary health care system.

Of particular interest to Nicaragua is the evaluation of the efficiency and acceptance of the health programs being conducted and planned through their mass organizations (Jornadas Populares de Salud), one of which will be aimed at reducing the malaria reservoir through a radical antimalaria treatment of the whole population.

The group visited the main malaria problem areas in the Pacific Coast including the largest sugar cane plantation where again observations were made on the social and ecological factors of the malaria problem and visited front-line health workers and volunteers.

A Working Group was constituted consisting of representatives of the Research Office of the Ministry of Health, the Antimalaria Program, the UNDP and PAHO, and the members of the Subcommittee.

The Group set itself the general task of analyzing the possibilities of conducting socioeconomic research in connection with the Malaria Program.

In accordance with the established program, the Group visited different places, held interviews, and reviewed studies in progress at different levels in the MINSA. On the basis of these activities the following recommendations were drawn up:

- a. That studies be done on socioeconomic determinants of malaria such as migration, modes of production, social behavior, etc., by:
 - Setting up a multidisciplinary group in the MINSA to draft a project for presentation to different financing institutions, for example, the Special Program for Research and Training in Tropical Diseases (TDR).
 - Promoting the establishment of an interministerial group (the Ministries of Labor, Planning, and others) to analyze the possibility of doing research on human migration and relate them to the health problems of the population.
- b. That arrangements be promoted for cooperation and exchanges of experience between countries engaged in similar programs.
- c. That closer collaboration be established between the research office and the ACEM (malaria control and eradication area) with a view to maximizing exchanges of information on the social aspects of malaria in current research (popular participation and the development of health areas) and to incorporating, whenever feasible, the social aspects of malaria into studies now in the planning stage.
- d. With a view to documenting the experience of the fourth national antimalaria mobilization, it was decided:
 - To analyze the existing information on health areas by degree of malarial risk.
 - To analyze the health workshops and the National Literacy Crusade so as to correlate the action of the brigade members in both activities and its effects on the incidence of malaria.

- To select a sample of brigade members by simple, random sampling in order to interview them and classify their experiences, and to use this information in preparing them for malarial work.
- To devise a system for evaluating the fourth national antimalaria mobilization so as:

To systematize the mobilization process.

To prepare a report evaluating the results for subsequent use in planning the complementation of coverage.

- To hold a workshop for MINSA central-level staff with the help of experts in order to analyze the social, methodological and clinical implications of malaria and to chart future strategies for the program.
- As Chairman of the Research Subcommittee on Social Aspects of Malaria, Dr. Badgley will convey the recommendations of this group to the Advisory Committee on Medical Research of PAHO with the recommendation that the Director continue recognizing the importance of this area in PAHO programs.
- It is recommended to the MINSA authorities in the Government of National Reconstruction that they request PAHO, through the Governing Bodies of that Organization, to continue its support in this area and to contribute to the conduct of the program of social research on malaria.

These recommendations were presented to the Vice-Minister of Health, who gave his full support to these principles of interdisciplinary inquiry.

The Dominican Republic, after a virtual interruption of malaria transmission for several years it has experienced since 1977 a gradual increase and spread of the malaria problem. This has been attributed to the influence of migration of Haitian laborers for sugar cane and other crops.

The Ministry of Health has been very concerned with the increase of the malaria problem and considered that a long-term antimalaria strategy should be based on a better knowledge of its socioeconomic determinants.

A Working Group on Social Sciences and Malaria has been working for the last eight months, bringing together malariologists, general epidemiologists, sociologists, and educators from the antimalarial campaign, the general health services and the university. The Working group has prepared a research proposal which has been submitted to the Tdk.

The Subcommittee worked with this multidisciplinary Working Group and visited malarious areas, in sugar cane and rice-growing areas visiting labor camps, malaria workers, and voluntary collaborators.

The Subcommittee had also the opportunity of visiting a rural health centers and interviewing the primary health workers of a sector and their supervisors, discussing with them their work and problems as well as the attitudes of the population towards malaria and its control.

The Subcommittee had also the opportunity of discussing this field research program with the Secretariado Técnico de la Presidencia.

The Subcommittee and the National Working Group has arrived at the following recommendations:

- a. The Group feels that the effectiveness of the malaria control efforts in the Dominican Republic and other countries could be enhanced if more were known about the socio economic determinants of the conditions for transmission of the disease, the attitudes of the population to the disease and its treatment, and the factors determining the structure and functioning of the control institutions and their intra-and-extra sectoral relations.
- b. It is also felt that a study of these factors could provide a basis for complimentary studies to determine the causes of other diseases and plan for their control.
- c. The study of the social aspects of malaria is a good example of the kind of study that could meet some of the problems that arise in malaria control.
- d. In view of the foregoing, it is recommended that the Secretariat for Health and PAHO continue providing all necessary support to enable the Group to continue conducting the project and its own training.
- e. It is also recommended that the experience acquired in training the group be incorporated into the study of other tropical diseases.

- f. There is recognition of the need that the Research Group on the Social Aspect of Malaria begin a series of measures for coordination with institutions concerned with the subject of study, which could culminate in a national meeting on the social aspects of malaria. An important measure should be the establishment of an advisory group made up representatives of different interested institutions.
- g. The Secretary of Health should arrange for PAHO support to the national working group.
- h. The observed existence in several countries of studies of the social factors of malaria has prompted the group to regard as desirable exchanges of experiences and a comparison of the results of these research projects and recommendations:
 - That PAHO hold a meeting researchers currently studying the social aspects of malaria, and
 - That the Secretariat for Health establish contacts with other countries where studies of the problem are in progress for the purpose of setting up a program of technical cooperation in this field.

Similarly, the Secretariat could, at its discretion, urge upon the Governing Bodies of PAHO the need of support from the Organization for initiatives of this kind.
- i. To request the ACMR and the Scientific Working Group in Social Sciences of the TDR to support the development of conceptual guidelines on a methodology for the study of the socioeconomic factors in the epidemiology and control of the disease. It is also recommended that the formulation of these guidelines be coordinated by PAHO/WHO.
- j. To request PAHO and the ACMR to continue and, to the extent possible, to intensify their current technical cooperation in social studies of malaria in the Dominican Republic and other countries.

4. Development of a Conceptual and Research Framework

The Working Group has identified a number of social and economic factors which may be involved in the control of malaria. The purpose of this review is to develop a framework which identifies the significant variables as they relate to specific problems involved in control

programs and to isolate some of these issues for special consideration. In addition to its utility in identifying relevant variables, the Working Group believes that the development of a broad research strategy in which specific national studies could be seen in perspective would serve a number of additional purposes.

Based on its review of reports, its site visits and meetings, the Working Group began its identification of the major dimensions of the ecological and social system/cultural/economic variables impinging upon both vector and host factors.

From the accumulated experience of the malaria control programs a mapping of high-low malarial risk areas or regions can be assembled based on the quantification of the main biological factors related to the host, the vector and the parasite, within the frame of the general macroecological determinants such as climate, altitude, topography, presence of swamps, lakes, rivers, estuaries, etc. This mapping will provide an essential information background for any collaborative research venture analysing the relationship of social variables.

The ecological and biological factors constitute the boundaries within which social and economic factors may influence the distribution of malaria, the heightened risks for some groups, and the effectiveness and the acceptance of control measures.

It was recognized that certain socially determined ecological modifications could have profound consequences in raising or reducing subsequent risks involving the incidence of malaria.

In turning to the intervening social and economic factors, the Working Group acknowledged that while these had long been recognized, the prevailing concern in malaria eradication programs had been to seek directly applicable curative or preventive solutions (a "technological fix"). While as a result of existing control measures, considerable strides had been taken in the worldwide containment of malaria following a marked decline after reaching its nadir, its incidence had risen in recent years.

The Working Group undertook a preliminary identification of the social and economic variables which may affect the distribution and the control of malaria. These included:

A. Variables Affecting Mainly the Intensity of Transmission and its Distribution:

- (1) Economic Modes of Production. The prevalent forms of economic production in a region may affect the spread or the limiting of the occurrence of malaria. These include:

- Type of crop cultivation (e.g., sugar, rice).
- Mode of irrigation of crops.
- Degree of mechanization extent to which a sizeable labor force or machinery are used.
- Size and ownership whether farms/plantations are large or small, owned by resident or absentee farmers, etc.

(2) Labor Force Arrangements. Contingent upon the prevailing means of economic production, attributes of the manpower resources may significantly influence the selective occurrence of malaria in some regions and some population groups.

- Migration. Because of the seasonal flow of a migrant labor force, often on an across-the-border clandestine basis, disease risks may be substantially increased. The development of indicators to document the ebb and flow of such migration and its attendant consequences merit a high priority.
- Women and children in labor force. Risks may be influenced by the extent to which men are employed exclusively, or whether women and children are customarily employed in the harvesting of crops.
- Living arrangements. Whether living in labor camps, in makeshift localities in the neighborhood of the farm, or in various settled localities from where they collect daily to the farms, it is also important to ascertain the type of dwelling, whether bunkhouses, hostels, individual dwellings; the density and adequacy of housing; sanitation arrangements, completeness of walls, proximity to mosquito-breeding places.

(3) Community Organization and Social Attributes

- Housing - adequacy of housing, water supply, sanitation, etc.
- Social life - neighboring customs, types of entertainment, 'night life', etc.
- Economic standard of living - which social classes are most affected by malaria; to what extent are some of the poor more 'at risk' than others.

B. Variables Which Mainly Affect the Effectiveness or Acceptability of Control Measures

On the side of the people who may be at risk, their circumstances and values may significantly influence their evaluation of malaria as a problem, what they do about it, the nature of self-protective measures taken, and their attitudes to control measures.

- a. Cooperative participation, to what extent are the people at risk accustomed to participate in cooperative community or public ventures or operate on a basis of individual responsibility. In what types of social activities do people work effectively together. What is the prevailing view held by the people about government-sponsored malaria control programs - as they feared, rejected, seen to be imposed or costly, or as a necessary public benefit. From the people's side, how do they see the operation and the effectiveness of malaria control programs. What 'unexpected' liabilities (e.g., inconvenience, extra costs, intrusion into domestic privacy, etc.) do they attribute to these public programs.

- b. health beliefs and attitudes. How do the people involved who may be 'at risk' of contracting malaria perceive this disease, alternately either as a major condition to be avoided, or as an inevitable and accepted outcome which little can be done? Is it feared or accepted as a 'fact-of-life' nuisance? What are the direct costs involved to people in adopting control strategies, viz., improving sanitation, protection in housing, or changes in personal perception of therapy/preventive measures, i.e., degree of acceptance of drugs and their attendant distasteful effects?

When a case of malaria is suspected, to what extent are its symptoms clearly recognized? What is usually done and who is usually turned to for assistance, and when? How do informal 'pathways' of care speed up or hinder the seeking of modern medical care? To what extent are these informal pathways recognized and incorporated in malaria control programs?

- c. Established institutional arrangements. For the people affected, frequently subsistence level migrants, what is the range of institutional services which reach out to serve them, viz., the church, police, etc. What potential contribution might these services play in facilitating and/or hindering the effectiveness of malaria control programs?

C. Organizational Aspects of Antimalarial Programs and their relations to General Health Services

Malaria Control Programs

Field experience with malaria control programs indicates that these may vary considerably in terms of: the strategies which may be adopted; the characteristics of the persons whom it is intended to serve; and the prevailing ecological and social conditions. In addition to a consideration of the other factors listed, the organization of these control programs and their application may influence their chances for 'success'. These may include the following attributes of control programs.

- a. Sporadic or continuous application. Are these measures (spraying, education programs, etc.) based on a sporadic focal attack, or undertaken on a routine and continuous basis?
- b. Program or people convenience. When implemented, are control measures introduced to meet the convenience of the people to be protected or to meet program targets?
- c. Enforcement or cooperative model. To what extent are control measures enforced for all persons, selectively introduced, or based on the elicited cooperation of the persons to be protected; are these health workers feared, trusted, or worse, ignored?
- d. Social visibility. What prewarning strategies are adopted by control measures - are they well known before actual measures are applied, or brought in without much advance publicity or prewarning?
- e. Attributed of control program health manpower. Who are the people involved in providing control measures - are they seen as intruders, local trusted persons; are they seen to know local circumstances? What are their professional training skills - M.D.'s, nurses, etc.? Who monitors the adequacy of the work which is done?
- f. Costs involved. To what extent do control measures involve additional, perhaps substantial, costs for small farm owners, plantation owners, or homeowners? What are the informal but expected additional costs which may be involved, viz. expected gratuities, 'tips', etc.

- g. Attendant production and lifestyle changes. To what extent to achieve reasonable success does the control program involve - none, or substantial changes - in established ways of farming, housing or living arrangements (e.g., irrigation-immersion; obtaining water supply; living and sleeping arrangements, etc.).
- h. Technical proficiency and health promotion. To what extent are health education programs built in to the malaria control program? How well adapted are these programs to meet the needs of the people involved? (i.e., if pamphlets, can the people read; do they have the money to be able to comply with the recommended changes in their housing)? To what extent are health promotion programs superimposed or built-up from an intimate knowledge of the people whom it is intended to serve? What instances are known where such health promotion programs have been well recognized as being highly successful, or alternately, as programs failures?

Organization of Health Services

How medical care services are organized, paid for, and seen to operate by a population may influence the delivery and the effectiveness of both curative and preventive programs. In the instance of malaria eradication programs, it would appear relevant to document, inter alia:

- a. Prevailing mode of health services. Centralized vs. local; government vs. private; universally available vs. selective distribution; extent of health manpower resources; continuous vs. sporadic coverage, etc.
- b. Cost of health services. Whether directly paid for by government, central or local; extent to which communities, farmers or plantation owners pay or do not pay for health services including malaria eradication; extent to which individuals/patients incur direct recognized medical service charges, or the extent of accepted informally-made payments, e.g., to have homes sprayed for protection.
- c. Philosophy of preventive regulation. The extent to which disease control services are backed up by legal powers, the extent to which control enforcement is implemented, or exists only on paper; the exemptions to control measures which may be allowed and under what circumstances; the extent to which the control of malaria is seen as a significant priority or a necessary pro forma public health service obligation - all on the side of how health services actually operate.

- d. Integrated or separate specialized services. Both strategies - unified and the separate organization of malaria control programs occur. Among the former such programs become part of the broader provision of health services, while under the latter, autonomous control strategies are followed. There is a debate in the field as to which strategy may be more effective.
- e. Traditional medicine. To what extent are traditional sources of health care turned to for assistance and with what results? To what extent are traditional and modern medicine sources compatible or at variance with each other? To what extent are traditional resources ignored, bypassed or incorporated in modern malaria control measures? What is the range of traditional cures used in a region in connection with preventing and curing malaria?

5. General Conclusions

The Working Group recognizes that, in addition to developing a conceptual and research framework for the study of the social aspects of malaria, it would be useful to lay down general lines for the conduct of programs of research on pathological entities in which social and economic factors are of importance.

Research in the social aspects of a given pathological entity would require, in the judgment of the Working Group:

- a. A research program, that is a set of interrelated projects combining basic and applied research at different levels.
- b. A multidisciplinary approach, for addressing the relationship between biological and social variables.
- c. Cooperation among developing countries, inasmuch as malaria and similar diseases occur in several countries and in association with social conditions that are not confined to any single country and, therefore, make it necessary to consider certain subregions as social and ecologic units.
- d. The participation of different national and international institutions, in view of the variety of the sectors and institutions operating in the social and ecological units in which the pathological phenomenon under study occurs.

The Working Group also feels that a program of research in the social aspects of the given disease should take account of the following strategies:

- a. Beginning the program of research with the studies of the social factors that affect the effectiveness of control programs and taking up later the more complex analysis of the determinants of the generation and distribution of the disease. This strategy would permit an immediate contribution to health programs and, at the same time, the acquisition of some experience in multidisciplinary work before more ambitious studies were undertaken.
- b. Establishing a data bank on the social, economic and health variables of the political-administrative subdivisions (localities, municipalities, provinces, etc.) of subregions identified as social and ecological units. This information, based on secondary data, would permit an exploration of relations between biological and social variables in a social area and the identification of areas on which further information were required.
- c. Making searches of the literature to identify the socio-economic variables that have already been studied in relation to the generation, distribution, and control of the disease on which research is to be done. For each identified variables, the conceptual and working definitions used and the instruments employed to measure them, and the reliability and validity of those instruments, should be compiled. In addition, this search should bring out the existing findings in the literature on the contribution of each variable to an explanation of the phenomenon studied.

Finally, the Working Group is of the view that it should continue its general examination of the social sciences in health and, specifically its analysis of the social aspects of malaria.