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STATUS REPORT
RURAL HEALTH SYSTEMS PROJECT
AID/LAC-C-1397, YEAR I

PROJECT #504-0066

BEST AVAILABLE DOCUMENT

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I. Introduction

This report focuses on inputs made by the Health Manpower Development Staff (HMDS) of the University of Hawaii during the first year of technical assistance provided by HMDS to the Government of Guyana, in accordance with AID contract LAC-C-1397, part of the Loan/Grant Agreement between AID and the Government of Guyana entitled Rural Health Systems Project. The period covered in the report is August 26, 1980 (the date the contract was signed) through September 1981.

The contract stipulates that HMDS provide technical assistance required to (1) plan and provide basic and refresher training of Medex, CHWs, and other primary health care workers and (2) develop and implement the management systems needed to support these workers when deployed in rural areas.

In the first year of the project, it was anticipated that the long-term management and training specialists would be in place. It was also anticipated that training and support of CHWs would be expanded, and that implementation of recommendations made in the PAHO/IDB management systems studies would be initiated. The long-term management and training specialists were expected to give particular emphasis to institutionalization of various components of the training and support systems.

II. Progress Toward Project Objectives

A. Management Support

1. Policy Committee

A significant step was taken in the establishment of a Policy Committee in the Ministry of Health. The long-term management specialist, George Jamieson, helped to develop the terms of reference for the Policy Committee early in 1981, and the Committee began to meet in mid-March. It now meets twice a month. The Committee was established to strengthen management efficiency and effectiveness throughout the Ministry of Health, by setting priorities and facilitating implementation of decisions in four areas: 1) national health planning and evaluation, 2) national health service delivery system, 3) management support systems, and 4) development of permanently institutionalized training programs, including continuing education. Because the Policy Committee is broad-based, fully operative, and has vested in its membership* the expertise for resolution of many Ministry of Health issues, it has been assigned, for consideration and decision, a backlog of unresolved issues that range beyond the four areas listed above. This has slowed development of policy and effective action in the areas of the Committee's intended functioning, and it is hoped that eventually the Committee will be able to return to its original focus. The twice monthly

meetings of the Policy Committee have helped to integrate the functioning of the donor-assisted IDB-PAHO Implementation Unit and the Medex Training Unit with the Ministry of Health.

2. Support Systems

During this first year, an evaluation of the two-way radio feasibility study funded by AID was completed. Technical and radio systems consultants sent in by HMDS recommended expanding the program to increase the numbers of medex linked into the system, and provided implementation guidelines. Further action is awaiting a waiver from Guyana Telecommunications Corporation of licensing and by-pass fees. A transportation consultant began a ten week consultancy in September 1981, and in his interim report has provided substantial details on forms, procedures, job descriptions, supplies and costs for implementation of a re-organized transportation system for the Ministry of Health. Health manpower planning has received considerable attention in Year I. In May, a consultant assisted in drawing up a work plan for gathering data on current health manpower training and deployment. Ministry of Health and IDB Implementation Unit staff have since then been working to collect data for analysis in early 1982. Implementation of changes in personnel training and deployment will follow.

Administrative supervision and support for deployed medex have been transferred increasingly from the Medex Training Unit to the Medex-Dispenser Secretariat in the Ministry of Health. It is anticipated that both administrative and technical back-up will be increasingly decentralized as the number of deployed medex rises. There is some concern about the lack of adequate interfacing between the urban and rural health delivery systems; insufficient feedback on patients referred from one level to another is a problem, as is the lack of communication regarding follow-up of patients returning to rural areas. It is hoped that, with completion of definitions of levels of care, and orientation of medical officers within the various levels, the rural and urban health care systems can be increasingly integrated during Years II and III of the Project.

*Members of the Committee are, by office held, the Minister of Health (who chairs the Committee), Permanent Secretary, Chief Medical Officer, Manager of Regional Health Services, Medical Superintendent of Georgetown Hospital, Principal Nursing Officer, Senior Statistician, Principal Personnel Officer, Director of the Medex Training Unit, Director of the IDB Implementation Unit, Representative of the State Planning Commission, and Operations Manager, who acts as recording secretary and who is responsible for ensuring that decisions taken by the Committee are implemented.

B. Manpower Development

1. Medex Training Unit

a. Medex Class IV

During this first year of the Rural Health Systems Project, the fourth class of Medex completed their training and were deployed in August 1981. The seventeen Medex who were graduated bring to 78 the total number of Medex now deployed, most of whom were trained during the IDRC-funded period of the training program's existence. All classes have been trained following competency-based methodologies and training materials developed by the Health Manpower Development Staff, adapted for use in Guyana, and revised periodically in Guyana.

b. Training Medex to Train CHWs

In June, Medex Class IV underwent a two-week session in training community health workers (CHWs) and working with the community. This was in anticipation of launching the CHW component of the program, under which Medex would train and then supervise CHWs deployed in communities near the Medex' own deployment sites. The CHW program is now under consideration by the Ministry of Health and may be redesigned, as explained below.

c. Medex Class V

On September 21st, 1981, the fifth class of Medex began, with twenty-eight students. After two weeks of orientation and preparatory training, the students spent two weeks in rural communities, carrying out health surveys of between twenty and thirty families each. This early community work is in keeping with the program's strong community preventive and promotive health focus.

Medex Class V will be graduated in December 1982. A sixth class of twenty-seven Medex will be started soon afterward. The total number of medex trained in classes four, five, and six largely during the three years of the Rural Health Systems Project will be seventy-two.

2. Community Health Worker Program

a. Netherlands Program Evaluation

Before the Rural Health Systems Project contract was signed in August 1980, a pilot project to train CHWs was begun by the Ministry of Health in October 1979, in collaboration

with the Netherlands and without HMDS consultation. Twenty-six CHWs completed a three-month training program and were deployed. The program was evaluated in the spring of 1981, and recommendations resulting from that evaluation will be found in a document attached as Appendix I. One of the most difficult issues to resolve is that of payment of the CHWs. Although all of the villages which selected a CHW for training agreed to pay CHW stipends, at the time of the evaluation, only two of the twelve villages were still paying their CHWs a regular stipend.

b. Polyvalent Community Worker

There is no possibility at present of the Ministry of Health meeting the recurrent costs of community health worker stipends. However, the Ministry remains committed to the concept of a community worker as the best means of providing basic health services particularly in the underserved interior and riverain areas. If villages will not provide stipends for the CHWs, some means must be found of paying them. Discussions are now underway between the Ministries of Health and Agriculture about the possibility of providing basic training in preventive and curative health care to Agriculture Field Assistants, whose positions are already funded. The field assistants could then perform both agricultural extension and community health work. There is also a proposal that the community health worker's role be expanded to include taking smears and giving presumptive treatment to people located in malarial areas. Malaria evaluators' positions are also already funded. Some of the funds could be used to support those CHWs involved in malaria identification and prevention activities.

c. Health Manpower Development Staff (HMDS) Role

The Project Paper for the Rural Health Systems project provides for the training of two hundred CHWs. HMDS Staff have assisted in laying the groundwork in various ways for the CHW program. For example, training materials and methodology for training CHWs have been developed by HMDS. In addition, members of the HMDS staff worked with two visiting Guyanese in Honolulu (one Medex, one public health nurse) in January 1981 in curriculum development and methods of teaching medex to train and support CHWs. HMDS staff also participated in the two week training Medex to train CHWs session in June 1981, mentioned above.

The HMDS training specialist and HMDS consultants, as needed, are ready to assist the Ministry of Health in developing the CHW component of Guyana's primary health care program and are awaiting the Ministry of Health's decision on how to proceed.

C. Consultations

There have been nine consultations so far during the first year of the Rural Health Systems project, five in the area of manpower development, and four in systems development. One of the consultations was in the form of two person-weeks of time devoted by four members of the HMDS core staff to work in Honolulu with Guyanese Medex Ken Davis and Public Health Nurse Yvonne Alonzo in curriculum development and teaching methodology in January 1981.

Scopes of work for the remaining eight consultations are attached as Appendix II. Details of the consultations and recommendations made can be found in the consultants' reports, which are not attached. Altogether, nearly seven person-months of consultant services have been provided to the Rural Health Systems project in the first year. Of this total, so far nearly four months have been provided by HMDS core staff and three months by outside consultants. Under the contract, HMDS is to provide twenty months of HMDS core staff consultant services, and twenty-four months of outside consultant services. This leaves sixteen and twenty-one months respectively to be provided over the remaining life of the Rural Health Systems project.

In addition to these consultations, the HMDS Guyana Project Coordinator has made two trips to Guyana. The first trip was made in November-December 1980, to accompany the management and training specialists to post and help them settle in, and to become familiar with the status of the project and Guyana generally. The second trip was made in September-October 1981, to assess progress in the systems and manpower development components of the program, write the first evaluation report of the program, and schedule short-term consultations.

III. Constraints Encountered

The management and training specialists were intended under the contract to be in Guyana for three years each. During lengthy negotiations of the contract between HMDS and the USAID/Guyana Mission, three pairs of advisors were lost. Finally in mid-November 1980, two advisors arrived at post. The training specialist was considered unsuitable and asked to leave by the USAID Mission and the Ministry of Health almost immediately. The management specialist proved to be excellent; however, after six months he accepted a UNDP offer and resigned from his Guyana position.

A second pair of training and management specialists were located and oriented by HMDS, and arrived in Guyana in late August 1981. In summary, during this first year, the program has been handicapped by the complete absence of a long-term training specialist, and by the six month absence of a management specialist.

A constraint on the effective functioning of the management specialist during the first year was that his counterpart, Operations Manager W. D. Wyatt, was not appointed until approximately three months following the management specialist's arrival. Work on the implementation of management systems was delayed for lack of a counterpart with authority to execute policy decisions on management systems revision.

The Management Specialist's focus under the contract is management systems strengthening, with the aim of adequately supporting deployed primary health care workers. It was intended that health systems studies made by PAHO consultants brought in to work with the IADB Implementation Unit would provide recommendations and systems design in adequate detail for implementation. With few exceptions, however, the PAHO systems designs need further micro-level definition of implementation schedules, written procedures for use of the system, job descriptions and forms before they can be implemented. In addition, certain management systems identified by HMDS as key areas for strengthening in the Ministry of Health are not covered by PAHO studies, and will require further analysis and the development of recommendations for implementation. These include the supervisory, continuing education, and patient referral systems.

As part of the process of strengthening management support systems, the Ministry of Health had planned to decentralize administrative authority beginning with a pilot regionalization effort in Region VI. However, the seven staff positions for Region VI were not placed on the 1981 Estimates, and the process of decentralization has been slow.

Recommendations for the expansion of the pilot two-way radio system set up between deployed medex and Georgetown for referral, consultation, and continuing education were made by technical and communications systems consultants in June 1981, and accepted by the Ministry of Health. However, Guyana Telecommunications Corporation (GTC) has not agreed to waive the licensing fees for additional two-way radios, and expansion of the system cannot proceed without the waiver. Discussions with GTC are continuing.

Constraints in developing the CHW program have been detailed in Section II B2 above.

IV. Year II (September 1981 - August 1982)

It is anticipated that, during the early part of Year II, the management specialist will be concentrating his efforts on the finance and personnel systems. He will help to revise the budget classification system and to

design formats for financial reports to management, and to implement recommendations made to strengthen the personnel administration system. He will continue to assist with the implementation of all systems strengthening policy decisions. Once decisions are made within the Ministry of Health on how to proceed with the Community Health Worker program, further development of curriculum and teaching methodology and planning for CHW training, deployment and supervision will require considerable attention.

Other concerns during the early part of Year II will be continued efforts to a) decentralize Ministry of Health operations, first in pilot region VI, including technical and administrative supervision of rural primary health care workers, and b) develop adequate detail in existing PAHO management systems studies and recommendations for their implementation.

Assuming the GTC waiver is granted, a significant expansion of the two-way radio communications system linking deployed medex with three base stations will take place. If recommendations from the transportation consultant are followed, as seems likely, the transportation division of the Ministry of Health will be re-organized and strengthened.

Consultant services anticipated for the second year of the Rural Health Systems project include 1) the second part of the transportation consultancy and consultancies in 2) evaluation, to strengthen the Ministry of Health's evaluation capacity; 3) budgeting; 4) continuing education and supervision of deployed medex; 5) the use of audio-visual materials and methodology in training health workers and in community education; and 6) two-way radio operation and maintenance.

V. Observations

The writer does not wish to recommend project redesign at this time. However, there are a number of points to be made about progress in carrying out the terms of the contract. Implementation of the CHW component of the project was delayed in anticipation of drawing lessons from the Netherland's CHW program evaluation. That evaluation indicated that it is unrealistic to expect all villages to pay CHWs a stipend. In light of this, the Ministry of Health has had to reconsider the design of the program. It may be several months before it is possible to proceed with preparations to train and deploy community health workers, and so it is unlikely that two hundred CHWs, called for in the Project Paper, will be trained under the Rural Health Services project. Partly because of the absence of a training specialist for the entire first year and of the management specialist for six months, the process of scheduling needed consultant services and of arranging for consultations has been considerably slowed. There are provisions for an additional thirty-seven months of consultant services. The scheduling of workshops has no doubt been affected too by the absence of the training and management specialists; it may be that not all workshops called for in the contract can be provided in the time remaining.

An unfortunate situation in participant training developed in the fall of 1980. Two Guyanese, one medex and one public health nurse, were dispatched to the University of Southern California (USC) for an eight week certificate program in tutor training. Instead, by inexplicable oversight, the two were put into the middle of ongoing courses in a master's degree program at the university. The experience was discouraging and unhelpful. The mistake was not discovered until months after the two participant trainees returned to Guyana. If possible, the source of the error should be determined. If it was a mistake by USC, then perhaps the tutor training program can be provided again free of charge to the same or other participants. Under the contract, HMDS has no direct responsibility for participant training, an area handled by USAID itself. It is suggested, however, that more active involvement of HMDS in liaising with institutions and programs to which participant trainees are to be sent might prevent similar mistakes in the future.

The major and essential focus of the Rural Health Systems project in the next two years will be institutionalization of training and support systems for rural primary health care workers. The establishment of effective and on-going training and support systems within the Ministry of Health will be the most significant measure of the success of the Rural Health Systems project in developing a functioning nation-wide rural primary health care system.

VI. Budget Summary

Expenditures: September 1980 through August 1981

| Categories (RCUH Budget and Category Numbers) | Three Year Total Alloted | Budgeted for Year I | Cumulated & Anticipated Expenditure Thru 8/31/81 | Balance Remaining | Percentage Remaining for Year II and III |
|--|--------------------------|---------------------|--|-------------------|--|
| Salaries, Home Office 01 | 116,067 | 36,103 | 32,008 | 84,059 | 72.4% |
| Salaries, In-country 11 | 271,476 | 86,135 | 47,832 | 223,644 | 82.4% |
| Salaries, Local Hire 21 | 28,089 | 7,528 | 2,139 | 25,950 | 92.4% |
| Fringe Benefits, U.S. 02 & 12 | 77,509 | 24,448 | 9,545 | 67,964 | 87.7% |
| Fringe Benefits, Local 22 | 1,643 | 440 | -- | 1,643 | 100.0%* |
| DBA Insurance 32 | 27,409 | 8,620 | 7,718 | 19,691 | 71.8% |
| Post Differential 31 | 24,255 | 10,101 | 5,480 | 18,775 | 77.4% |
| Consultant Fees 06 | 87,450 | 29,160 | 15,842 | 71,608 | 81.9% |
| Travel, International 40 | 35,588 | 11,200 | 7,723 | 27,865 | 78.3% |
| Travel & Transport 41 | 143,860 | 50,712 | 33,761 | 110,099 | 76.5% |
| Travel, Local 42 | 27,814 | 7,936 | -- | 27,814 | 100.0%* |
| Allowances 50 | 120,834 | 34,900 | 7,058 | 113,776 | 94.2% |
| Per Diem, HMDS & Net 60 | 40,300 | 14,105 | 7,490 | 32,810 | 81.4% |
| Per Diem, Contract Consultants & Counterparts 61 | 67,502 | 26,718 | 26,843 | 40,659 | 60.2% |
| Equipment, Materials & Supplies & 04 | 25,237 | 11,862 | 6,999 | 18,238 | 72.3% |
| Vehicle Purchase 70 | 6,380 | 6,380 | -- | 6,380 | 100.0%* |
| Other Direct Costs 08 | 62,820 | 19,743 | 11,650 | 51,170 | 81.5% |
| Overhead | 170,319 | 55,152 | 31,612 | 138,707 | 81.4% |
| Totals | 1,334,552 | 441,243 | 253,700 | 1,080,852 | 81% |

*These three categories appear to have 100% of the funds alloted untouched. In the case of Fringe Benefits, Local, the housing allowance and health insurance for our local employee have been reported up to now as salary. Travel, Local: During this first year, we had one LTA in country for six months, who made few trips outside Georgetown and then in GOG vehicles. Vehicle Purchase: The purchase was made directly by USAID/Guyana and not debited from project funds until early in Year II.

THE FUTURE OF COMMUNITY HEALTH WORKERS IN THE
HEALTH CARE DELIVERY SYSTEM OF GUYANA

DEMOGRAPHIC ASPECTS

Over 90% of the population live on less than 4% of Guyana - and mainly on the coastal belt. The remaining 10% is scattered all over the country - particularly in the Mazaruni/Potaro and Rupununi areas. In these latter areas there are villages with a population of 2,000 or less, separated from each other by difficult terrain and accessible only by travelling miles over sometimes dangerous water, or by air. Many villages, except for their traditional healers, have no organised or structured health delivery service and rely, particularly in emergencies, on transport by plane to Georgetown. Because of their isolation and the peculiar geographical characteristics of these areas, the provision of health services has been difficult if not impossible in the past.

SOCIO-ECONOMIC STATUS

The majority of communities in the Mazaruni/Potaro and Rupununi regions are not economically self sufficient, although it is hoped that with regionalization of administrative responsibilities and independent regional economic development, these regions should be able to partially, if not fully support themselves.

Residents of these villages support themselves mainly through farming - growing beans, black eye peas, ground provisions - fishing - rearing small numbers of cattle, mining and bleeding balata but there are no small or co-operative businesses operating in these areas. For the foreseeable future it is unlikely that these villages or even the regions could be economically self-supporting.

HEALTH STATUS

Although the health status in these areas is not precisely known, experience and unpublished data suggest that the following conditions are common, the incidence and prevalence of these conditions varying for particular areas:-

- Malaria
- Respiratory Tract Infections
- Gastro-enteritis
- Worm infestations
- Scabies and Skin infections
- Measles
- Whooping cough
- Malnutrition
- Anaemia
- Snake bites
- Injuries
- Poor environmental sanitation

All of these conditions can be prevented, ameliorated or cured either through health education or simple technology which does not require highly skilled personnel but can be applied through appropriately trained lower level workers.

COMMUNITY HEALTH WORKER PROGRAMME

Since 1975 the use of the Community Health Worker has been discussed and mooted in the Ministry of Health, particularly with regard to formulating a strategy for the provision of health services to the unserved or underserved hinterland and riverain areas.

It was envisaged even then that the Community Health Worker could provide the first level of care. This would entail -

- (a) Health education, with emphasis on environmental sanitation and nutrition;
- (b) Promotion of immunization if not actual administration of vaccines;
- (c) Advice on maternal and child care;
- (d) Emergency care and first aid, such as management of cuts, haemorrhage, snake bites, fractures etc.;
- (e) Surveillance of malaria and tuberculosis;
- (f) Treatment of common illnesses e.g. upper respiratory infections, diarrhoea, worm infestations;
- (g) Collection of relevant and simple data;
- (h) Referral to a higher level of care.

After many years of discussion it was eventually decided to introduce this new category of health personnel and an agreement was reached between the Governments of Guyana and the Netherlands to jointly provide funds to train around thirty (30) Community Health Workers.

Initially twenty-six (26) villages and twenty-six (26) Community Health Workers were chosen for the start of this programme. The villages which agreed to take part in these programmes (see Appendix I) were visited and after a series of discussions it was agreed that in addition to selecting the person for the Community Health Worker Programme, the villages would be responsible for providing a monthly stipend to each Community Health Worker.

TRAINING PROGRAMME

The programme started in October 1979 with training taking place at three (3) centres -- Aishalton, Kamarang and Mahdia -- and finished in August 1980.

Each programme lasted for about twelve (12) weeks and was conducted by two (2) residential, full-time Public Health Nurses, aided in particular subject areas by part-time tutors.

EVALUATION OF PROGRAMME

An evaluation of the Community Health Worker programme has just recently been completed with twelve (12) of the communities in which Community Health Workers were located being studied. Some of the objectives of the evaluation were as follows:-

- (i) how the programme is working;
- (ii) the nature of community understanding and acceptance of the Community Health Worker programme;
- (iii) whether training was adequate and being effectively practiced;
- (iv) the social, economic and political conditions that influence or affect the functioning of the Community Health Worker.

The evaluation report came up with a list of thirteen (13) recommendations, and although it is not intended that each will be discussed here -- indeed only one recommendation (9) will be addressed -- they are listed as a matter of interest. Implicit in these recommendations is the recognition of the need for the services of a Community Health Worker and of the moderate success the programme has achieved.

RECOMMENDATIONS

1. The period of 3 months training of the Community Health Worker is inadequate in terms of the competence of the Community Health Worker is expected to acquire and sustain. This initial training programme should be extended to a period of between four and six months.
2. The practice of not evaluating Community Health Workers for success or failure at the end of a training programme is not advisable. Community Health Workers are entrusted with human life and well being and ought to be evaluated stringently to ensure effective understanding. Some Community Health Workers neither remember some of the treatment they are supposed to administer and further do not use their manual.
3. Follow up training courses for Community Health Workers should be developed. These should serve both for purposes of refresher training as well as for further training.
4. Community Health Workers be taught as a matter of urgency to:
 - a) Suture;
 - b) incise abscesses;
 - c) take malaria smears in areas where there is no malaria field assistant;
 - d) to vaccinate residents in the event of outbreaks.
5. Some scheme be worked out to provide opportunities for upward mobility for Community Health Workers in the health profession. The Community Health Workers have expressed the desire to become nurses, dispensers or Medexs.
6. That radio sets be provided to enable the Community Health Worker in the very remote villages to communicate with his/her supervisor.
7. That transportation be organised to enable Community Health Workers to visit supervisor may be once monthly.
8. That more effective supervision should be exercised over the activities of Community Health Workers both their area supervisors as well as their trainers in Georgetown should pay scheduled periodic visits to the various communities.
9. The question of payment of Community Health Workers be given urgent attention. Reliance on village authorities to pay stipends is problematic. Some centralized agency like the Regional Council should be responsible for paying Community Health Workers even if community contributions are a consideration. Stipends for Community Health Workers should be standardized.
10. Training for Community Health Workers in relation to preventive care should emphasize social engineering. This aspect of the job of the Community Health Worker training as presently organised is deficient.
11. There should be greater coordination between Health authorities and the Ministry of Education. The thrust for effecting preventive health care should be focused on children and in schools. The cohort of youth unable to change because of the formative stages of their life experiences. The cohorts of the adult and the aged are the greatest opponents of changing the attitudes that affect the state of health of the village communities.

RECOMMENDATIONS (CONT'D.)

12. That the Community Health Worker should be more carefully selected - attention being paid to the age, sex and social problems being faced by the prospective Community Health Worker. However, neither age nor sex educational background are critical issues in their present functioning.
13. The ECBS Cards should be re-examined with a view to making them fewer and simpler or else providing further instructions and their usage.

DISCUSSION

It is intended here to discuss only recommendation 9. A study of the evaluation report shows that of twelve (12) communities visited, in only two (2) - Kake and Paruina, both in the Upper Kazaruni - were the Community Health Workers paid a stipend regularly. Three (3) Community Health Workers had never received a stipend and seven were paid on one or more occasions after which payment ceased.

This state of affairs has obviously been disappointing to the Community Health Workers, many of whom would have entered the programme on the strength of the tacit agreement of the communities that they would be responsible not only for the selection of the Community Health Worker, but also for their monthly stipend. To put it strongly therefore, the majority of the communities reneged on their agreement. It is worth analysing why this happened. The question may be asked: What did the community or village think of the work of the Community Health Worker? The answer to this question can be found in the evaluation where in eleven (11) of the twelve (12) communities surveyed, there was complete acceptance of the community health worker. Indeed, although the Community Health Worker is only supposedly a part-time health worker and part earning his livelihood in another activity in many cases the community health worker was inundated with so much work, mainly of a curative nature, that the part-time concept translated itself into almost full time practice. This may be counted as an acknowledgement of the value of the Community Health Worker and also that there was, is and will be a need which requires satisfying.

If the concept of the Community Health Worker is accepted, an important question that now needs to be answered urgently, given the experience that the villages have not been able to regularly provide stipends for their Community Health Workers, is how should these personnel be reimbursed? As stated above, it is not envisaged for the foreseeable future that the villages will be economically self-supporting. If this is so, the payment of regular monthly stipends by the villages is likely to be highly uncertain, a situation which is not likely to attract applicants for Community Health Workers to the detriment of the development of a reliable primary health care system in the hinterland and riverain areas.

Assuming therefore, that the Ministry of Health is strongly committed to the Community Health Worker's programme, as an expression of its determination to promote the primary health care approach, it is recommended that the Ministry of Health should undertake the financial responsibility of providing the stipends for the trained Community Health Workers. This may be for a period of 3 years, starting in 1982, with the expectation that the Regional Councils will eventually be responsible for this.

FINANCIAL IMPLICATIONS

It is recommended that the Community Health Worker should continue to work on a part-time basis and that they should be given a stipend of one hundred dollars (\$100.00) monthly. There are now about twenty-five (25) Community Health Workers functioning at present. It is recommended that for 1982 at least another seventy to eighty Community Health Workers should be trained (Appendix 2) and absorbed into the health care delivery system. The approximate cost to the Ministry of Health would be as follows:-

| | |
|---|--------------------------------|
| Stipend for one (1) Community Health Worker per annum: | \$100.00 x 12 = \$1,200.00 |
| Total cost for one hundred (100) Community Health Workers per annum: | \$1,200.00 x 12 = \$120,000.00 |

In the Ministry there are presently over seven hundred (700) unfilled posts. It is suggested that these posts be urgently scrutinized and that the emoluments of posts which are not considered to be of high priority, be utilized in financing the cost of the Community Health Worker stipends.

Alternatively, the justification for the financing of the programme (without reference to the above alternative) could be submitted and discussed with the State Planning Secretariat for their possible approval.

Walter A. Chin, F.R.C.P.,
CHIEF MEDICAL OFFICER.

September, 1981

APPENDIX 1

Villages originally selected for the training of Community Health Workers.

South Ruoununi

Achweib
Awarewaunau
Aishalton
Ambrose
Katoonarib
Karadanau

Machushi/Shulinab
Mauranau
Sawariwau

Upper Mazaruni

Chinoweing
Jawalla
Kaikan
Kako
Paruina
Phillipai

Quebenang
Waramadon
Shea

Lower Mazaruni

Campbelltown
Chenapau
Issano
Karisparu
Micobi
72 Miles
Potaro Road
Sand Hills
Sand Creek

APPENDIX 2

Villages identified for future Community Health Workers.

REGION IX

| <u>LOCATION</u> | <u>VILLAGE</u> |
|----------------------------|--|
| Central and North Savannah | Nappi Parashara Yupukari Annai |
| Rupununi Districts | Massara Toka Yakarinta Kuru Pukari |
| South Pakarimas | Karasabai Tiger Pond Yarong Paru Yiperu |

REGION I

| | |
|---------------------|--|
| North West District | Akakaka Port Kaituma Sebai Baramita |
| Matthews Ridge | Annie Creek Five Star |
| Port Kaituma | Mazawanni Landing |
| Baramita | Towa Kama Betsy Hill |
| Mabaruma | Wauna |
| Acquero - Moruca | Varanuri Manavarin |
| Acquero | Moruca River Mouth Kumaka Six Miles Kamwatta Kwebana Assakata Kuniaballi Barana mouth Wona Poka Waikenebi Chinese Landing Kokerite Yakisshuro Mabaruma |

REGION VII

| | |
|---------|---|
| Bartica | Essequibo River Saxacalli Cuyuni River Eteringbang Kurutuku |
|---------|---|

Kurupung

Enachu
Rumereng
Arenapi
Amandi

North Pakanimas

Kato
Kurukabaru
Naikwak
Kopinang
Kamana
Orinduik
Waipa
Kaiberupai
Itabac
Kanapang
Puva Mouth
Monkey Mountain
Taruka
Paramakatoi
Tuesening

SCOPE OF WORK
 for Curriculum Planning and Evaluation
 Consultation (Joyce Lyons, March 2-27, 1981)
 and Community Health Curriculum Development
 Consultation (Sharry Erzinger, March 2-16, 1981)

4. REF 007 #5. LYONS ETA ANF ETD 23 FEB - 27 MARCH FOR CONSULTATION RE EDUCATIONAL SYSTEM DESIGN AND DEVELOPMENT OF CHW CURRICULUM. SCOPE OF WORK: (A) PARTICIPATION IN NCE SEMINAR FOR MEDEX, ASSISTING CE EFFORTS TO DEVELOP COMMUNITY HEALTH SKILLS AMONG GRADUATE MEDEX, (E) ASSISTING IN DESIGN AND PREPARATION OF TRAINING SYSTEMS FOR CHWS BASED ON PREVIOUS EFFORTS AND FUTURE NEEDS, (C) PARTICIPATION IN MX/IDE PLANNING WORKSHOP FOR CHW PROGRAM, (D) PROVIDING INPUT IN REVISION/PREPARATION OF TRAINING MATERIALS FOR MX AND CHWS AS AGREED UPON BY GUYANA MX AND IDE STAFFS AND AS FOLLOW UP TO ALONZO/DAVIS VISIT IN HNL. IN ADDITION, UWASH NETWORK MEMBER SHARRY ERZINGER (YOU HAVE CV) TO ACCOMPANY LYONS ETA AND ETD 23 FEB - 06 MARCH. SCOPE OF WORK TO (F) ATTEND NCE SEMINAR, (F) REVIEW AND ASSIST IN ADAPTATION OF INSTRUCTOR'S MANUAL FOR COMMUNITY HEALTH MATERIALS; MANUAL WAS DEVELOPED BY ERZINGER, (G) REVISE THE DRAFT MATERIALS ON COMMUNITY HEALTH TO INCLUDE INPUT OF GUYANA/MX STAFF AND MX WHO HAVE USED THIS MODULE IN TRAINING.

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SCOPE OF WORK FOR AL NEILL'S MANPOWER ANALYSIS CONSULTATION

PROJECTED DATE: 11th - 31st May, 1981.

A PURPOSE:

To develop a plan for a manpower analysis for the health services and to initiate its implementation.

B SCOPE OF WORK:

To work in collaboration with the Ministry of Health and IDB Implementation Unit to plan and initiate implementation of a systematic analysis of health manpower needs and the production of workers, to conform to the definition of proposed levels of health services. Manpower needs will be examined for all cadres and levels of service. The plan will include the following:

1. Identification of current and future health personnel available.
2. Suggested manpower utilization patterns and the specification of staffing requirements for each level of service.
3. Review of existing training resources and future plans for the production of health workers, including retraining and continuing education.
4. Suggested alternative patterns for providing peripheral health services manpower including:
 - (a) forecasts of community level manpower needs for the coastal and interior areas;
 - (b) feasibility of voluntary, community supported or Government employed community level health workers;
 - (c) assessment of Government interest in intersectoral support of community level health workers.

CONSULTATION: DEVELOPMENT OF COMMUNITY EDUCATION MATERIALSCONTENT:

The Consultant, in collaboration with the Guyana/Medex Program will address the following issues:

1. Review institutional resources which are available for developing community education materials.
2. Review and test community education materials which are currently available.
3. Assist in conceptualization and development of community education materials.
4. Assess production resources for preparation of community education materials.
5. Assist training staff to design, pretest, produce, use and evaluate educational media.
6. Demonstrate the use of low-cost media for community education.

DURATION:

3 weeks: 17th May through 6th June, 1981.

CONSULTANT:

Mr. Sunil Mehra,
University of Hawaii,
Health Manpower Development Staff.

DATE: 21st April, 1981.

PREPARED BY: George Jamieson After Meeting with Dr. Williams and USAID.

APPROVED BY: Dr. L. Lion - 22nd April, 1981.

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CONSULTATION: DEVELOPMENT OF MEDEX CURRICULUM MATERIALS

CONTENT:

The Ministry of Public Welfare - Health, has requested assistance in the continuing review of curriculum materials and teaching approaches to be used while preparing Medex for their role in the community.

A Consultant is desired to review a curriculum addressing the following curriculum content areas:

- A. Individual and health team approaches to working in communities.
- B. Definition of health interventions.
- C. Approaches to solving community health problems.
- D. Teaching methods for preparing community health workers.

ACTIVITIES TO BE CARRIED OUT:

Consultant will work with Medex teaching staff and carry out the following activities:

- 1. Planning, staffing and sequencing the Medex classroom and field experience.
- 2. Preparing the Medex student text and evaluation materials.
- 3. Preparing student learning activities for classroom and field experience phase.
- 4. Preparing updated community health worker materials.

DURATION:

18th May through 5th June, 1981.

CONSULTANT:

Mrs. Joyce Lyons,
University of Hawaii,
Health Manpower Development Staff,
Curriculum Development Officer.

PREPARED BY: George Jamieson after discussion with Dr. Williams on 5th May, 1981.

CONSULTATION: COMMUNICATION SYSTEMS PLANNER

I CONTENT:

The Ministry of Public Welfare - Health is interested in exploring the feasibility of utilizing a two-way radio communication system to augment the technical and administrative support services provided to rural health facilities. A pilot study has been conducted to assess the value of radio support to health personnel. The results have encouraged the Ministry to investigate the feasibility and potential for systematic implementation of radio communications.

A consultant is desired to collaborate with the Manager of Regional Health Services for the Ministry of Health, the Guyana Medex Program and the Guyana Telecommunications Corporation in preparing a study to:

1. Specify the needs and requirements for radio communication services in the proposed Health Services structure for the rural, riverain and hinterland areas.
2. Identify radio communication networks presently in use to support government services.
3. Investigate the feasibility of sharing existing radio communication equipment taking the following issues into consideration: inter-ministerial relationship, compatability of equipment, location of equipment.
4. Investigate the expenditures associated with initiation of the system as well as recurrent financial implications; especially with regard to personnel, equipment, maintenance and training.
5. Comment on the feasibility of an earth satellite communication system to support health service needs.
6. Comment on the feasibility and cost effectiveness of utilizing alternative sources of energy to power the system.

DURATION

3 weeks: Preferably prior to or in coordination with Technical Consultation by S. Burns.

CONSULTANT:

To be named.

TECHNICAL CONSULTATION: RADIO COMMUNICATION SYSTEM

I CONTENT:

After reviewing the technical evaluation of the Medex two-way radio pilot study and the proposed design for an expanded radio network, the consultant, in collaboration with Guyana/Medex Program and the Guyana Telecommunications Corporation will address the following issues:

- 1. Technical performance of the radio equipment presently in operation and recommendations for modifications if required.
- 2. Operational feasibility of the proposed expanded system which calls for phone patches, and mobile radios.
- 3. Review of the technical specification for the expanded system and recommendations for selection of appropriate hardware.
- 4. Feasibility of utilizing alternative sources of energy in the expanded system.
- 5. Technical guidelines for utilization and maintenance of the expanded system.
- 6. Plans and timetable for the implementation of the expanded system including procurement and installation of equipment, training of headquarters staff and training of Medex and C.H.W. radio operators.

II DURATION: 2 weeks - May, 1981.

III PREFERRED CONSULTANT: Stan Burns.

SCOPE OF WORK
for Rural Transportation Consultancy
(David Crichton, August 31-October 9, 1981
Part II: January 11-30 Approximately)

1. SOW RURAL TRANSPORTATION CONSULTANCY FOLLOWS:

A CONSULTANT IS DESIRED TO COLLABORATE WITH THE MANAGER OF REGIONAL HEALTH SERVICES, GOG PROJECT MANAGER OF THE AID RURAL HEALTH SYSTEMS PROJECT, THE GOG PROJECT COORDINATOR OF IDB INSTITUTIONAL STRENGTHENING PROJECT AND HMDS MANAGEMENT SPECIALIST TO:

- A) SPECIFY THE NEEDS AND REQUIREMENTS FOR FOUR-WHEEL DRIVE VEHICLES, STANDARD TWO-WHEEL DRIVE VEHICLES, MOTOR CYCLES AND BOATS FOR THE PROPOSED HEALTH SERVICES STRUCTURE FOR THE RURAL, RIVERAIN AND HINTERLAND AREAS.
- B) IDENTIFY POPULATION CENTERS WHERE VEHICLES WILL BE DEPLOYED.
- C) DEVELOP STANDARDIZED POLICIES REGARDING USE OF VEHICLES FOR INCLUSION IN FACILITY OPERATIONS MANUALS.
- D) ASSESS THE TYPES AND QUANTITIES OF SPARE PARTS REQUIRED TO MAXIMIZE VEHICLE OPERATIONAL HOURS.
- E) DESIGN A MAINTENANCE AND REPAIR SYSTEM TO HANDLE THE VEHICLE PROGRAM PROPOSED IN (A) ABOVE INCLUDING LOCATION OF MAINTENANCE AND REPAIR FACILITIES, THEIR ORGANIZATIONAL, STAFFING AND TRAINING REQUIREMENTS.
- F) PREPARE OPERATING AND MAINTENANCE POLICIES AND PROCEDURES FOR INCLUSION IN STANDARDIZED OPERATIONS MANUALS.
- H) EVALUATE THE MAGNITUDE OF EXPENDITURES FOR MEETING TRANSPORTATION REQUIREMENTS FOR PRESENTLY DEPLOYED HEALTH WORKERS INCLUDING RECURRENT FINANCIAL IMPLICATIONS WITH REGARD TO COST OF VEHICLES AND SPARE PARTS, CONSTRUCTION OR RENOVATION OF ASSOCIATED MAINTENANCE AREAS, PURCHASE OF MAINTENANCE EQUIPMENT AND MAINTENANCE TRAINING.

DURATION: APPROX. 10 WEEKS. THE OPS. MANAGER IS REQUESTED TO

DEVELOP A LIST OF REPRESENTATIVE SITES WHERE HEALTH WORKERS ARE PRESENTLY DEPLOYED AND TO ARRANGE TRANSPORTATION TO THESE SITES DURING WEEKS 2 AND 3 OF THE CONSULTANT'S VISIT.

THE FUTURE OF COMMUNITY HEALTH WORKERS IN THE
HEALTH CARE DELIVERY SYSTEM OF GUYANA

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DEMOGRAPHIC ASPECTS

Over 90% of the population live on less than 4% of Guyana - and mainly on the coastal belt. The remaining 10% is scattered all over the country - particularly in the Mazaruni/Potaro and Rupununi areas. In these latter areas there are villages with a population of 2,000 or less, separated from each other by difficult terrain and accessible only by travelling miles over sometimes dangerous water, or by air. Many villages, except for their traditional healers, have no organised or structured health delivery service and rely, particularly in emergencies, on transport by plane to Georgetown. Because of their isolation and the peculiar geographical characteristics of these areas, the provision of health services has been difficult if not impossible in the past.

SOCIO-ECONOMIC STATUS

The majority of communities in the Mazaruni/Potaro and Rupununi regions are not economically self sufficient, although it is hoped that with regionalization of administrative responsibilities and independent regional economic development, these regions should be able to partially, if not fully support themselves.

Residents of these villages support themselves mainly through farming - growing beans, black eye peas, ground provisions - fishing - rearing small numbers of cattle, mining and bleeding balata but there are no small or co-operative businesses operating in these areas. For the foreseeable future it is unlikely that these villages or even the regions could be economically self-supporting.

HEALTH STATUS

Although the health status in these areas is not precisely known, experience and unpublished data suggest that the following conditions are common, the incidence and prevalence of these conditions varying for particular areas:-

- Malaria
- Respiratory Tract Infections
- Gastro-enteritis
- Worm infestations
- Scabies and Skin infections
- Measles
- Whooping cough
- Malnutrition
- Anaemia
- Snake bites
- Injuries
- Poor environmental sanitation

All of these conditions can be prevented, ameliorated or cured either through health education or simple technology which does not require highly skilled personnel but can be applied through appropriately trained lower level workers.

COMMUNITY HEALTH WORKER PROGRAMME

Since 1975 the use of the Community Health Worker has been discussed and mooted in the Ministry of Health, particularly with regard to formulating a strategy for the provision of health services to the unserved or underserved hinterland and riverain areas.

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It was envisaged even then that the Community Health Worker could provide the first level of care. This would entail -

- (a) Health education, with emphasis on environmental sanitation and nutrition;
- (b) Promotion of immunization if not actual administration of vaccines;
- (c) Advice on maternal and child care;
- (d) Emergency care and first aid, such as management of cuts, haemorrhage, snake bites, fractures etc.;
- (e) Surveillance of malaria and tuberculosis;
- (f) Treatment of common illnesses e.g. upper respiratory infections, diarrhoea, worm infestations;
- (g) Collection of relevant and simple data;
- (h) Referral to a higher level of care.

After many years of discussion it was eventually decided to introduce this new category of health personnel and an agreement was reached between the Governments of Guyana and the Netherlands to jointly provide funds to train around thirty (30) Community Health Workers.

Initially twenty-six (26) villages and twenty-six (26) Community Health Workers were chosen for the start of this programme. The villages which agreed to take part in these programmes (see Appendix I) were visited and after a series of discussions it was agreed that in addition to selecting the person for the Community Health Worker Programme, the villages would be responsible for providing a monthly stipend to each Community Health Worker.

TRAINING PROGRAMME

The programme started in October 1979 with training taking place at three (3) centres - Aishalton, Komarang and Mahdia - and finished in August 1980.

Each programme lasted for about twelve (12) weeks and was conducted by two (2) residential, full-time Public Health Nurses, aided in particular subject areas by part-time tutors.

EVALUATION OF PROGRAMME

An evaluation of the Community Health Worker programme has just recently been completed with twelve (12) of the communities in which Community Health Workers were located being studied. Some of the objectives of the evaluation were as follows:-

- (i) how the programme is working;
- (ii) the nature of community understanding and acceptance of the Community Health Worker programme;
- (iii) whether training was adequate and being effectively practiced;
- (iv) the social, economic and political conditions that influence or affect the functioning of the Community Health Worker.

The evaluation report came up with a list of thirteen (13) recommendations, and although it is not intended that each will be discussed here - indeed only one recommendation (9) will be addressed - they are listed as a matter of interest. Implicit in these recommendations is the recognition of the need for the services of a Community Health Worker and of the moderate success the programme has achieved.

RECOMMENDATIONS -

1. The period of 3 months training of the Community Health Worker is inadequate in terms of the competence of the Community Health Worker is expected to acquire and sustain. This initial training programme should be extended to a period of between four and six months.
2. The practice of not evaluating Community Health Workers for success or failure at the end of a training programme is not advisable. Community Health Workers are entrusted with human life and well being and ought to be evaluated stringently to ensure effective understanding. Some Community Health Workers neither remember some of the treatment they are supposed to administer and further do not use their manual.
3. Follow up training courses for Community Health Workers should be developed. These should serve both for purposes of refresher training as well as for further training.
4. Community Health Workers be taught as a matter of urgency to:-
 - a) Suture;
 - b) incise abscesses;
 - c) take malaria smears in areas where there is no malaria field assistant;
 - d) to vaccinate residents in the event of outbreaks.
5. Some scheme be worked out to provide opportunities for upward mobility for Community Health Workers in the health profession. The Community Health Workers have expressed the desire to become nurses, dispensers or Medexs.
6. That radio sets be provided to enable the Community Health Worker in the very remote villages to communicate with his/her supervisor.
7. That transportation be organised to enable Community Health Workers to visit supervisor may be once monthly.
8. That more effective supervision should be exercised over the activities of Community Health Workers both their area supervisors as well as their trainers in Georgetown should pay scheduled periodic visits to the various communities.
9. The question of payment of Community Health Workers be given urgent attention. Reliance on village authorities to pay stipends is problematic. Some centralized agency like the Regional Council should be responsible for paying Community Health Workers even if community contributions are a consideration, Stipends for Community Health Workers should be standardized.
10. Training for Community Health Workers in relation to preventive care should emphasize social engineering. This aspect of the job of the Community Health Worker training as presently organised is deficient.
11. There should be greater coordination between Health authorities and the Ministry of Education. The thrust for effecting preventive health care should be focused on children and in schools. The cohort of youth enable change because of the formative stages of their life experiences. The cohorts of the adult and the aged are the greatest opponents of changing the attitudes that affect the state of health of the village communities.

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RECOMMENDATIONS (CONT'D.)

12. That the Community Health Worker should be more carefully selected - attention being paid to the age, sex and social problems being faced by the prospective Community Health Worker. However, neither age nor sex educational background are critical issues in their present functioning.
13. The ECHS Cards should be re-examined with a view to making them fewer and simpler or else providing further instructions and their usage.

DISCUSSION

It is intended here to discuss only recommendation 9. A study of the evaluation report shows that of twelve (12) communities visited, in only two (2) - Kake and Paruina, both in the Upper Mazaruni - were the Community Health Workers paid a stipend regularly. Three (3) Community Health Workers had never received a stipend and seven were paid on one or more occasions after which payment ceased.

This state of affairs has obviously been disappointing to the Community Health Workers, many of whom would have entered the programme on the strength of the tacit agreement of the communities that they would be responsible not only for the selection of the Community Health Worker, but also for their monthly stipend. To put it strongly therefore, the majority of the communities reneged on their agreement. It is worth analysing why this happened. The question may be asked: What did the community or village think of the work of the Community Health Worker? The answer to this question can be found in the evaluation where in eleven (11) of the twelve (12) communities surveyed, there was complete acceptance of the community health worker. Indeed, although the Community Health Worker is only supposedly a part-time health worker and part earning his livelihood in another activity in many cases the community health worker was inundated with so much work, mainly of a curative nature, that the part-time concept translated itself into almost full time practice. This may be counted as an acknowledgement of the value of the Community Health Worker and also that there was, is and will be a need which requires satisfying.

If the concept of the Community Health Worker is accepted, an important question that now needs to be answered urgently, given the experience that the villages have not been able to regularly provide stipends for their Community Health Workers, is how should these personnel be reimbursed? As stated above it is not envisaged for the foreseeable future that the villages will be economically self-supporting. If this is so, the payment of regular monthly stipends by the villages is likely to be highly uncertain, a situation which is not likely to attract applicants for Community Health Workers to the detriment of the development of a reliable primary health care system in the hinterland and riverain areas.

Assuming therefore, that the Ministry of Health is strongly committed to the Community Health Worker's programme, as an expression of its determination to promote the primary health care approach, it is recommended that the Ministry of Health should undertake the financial responsibility of providing the stipends for the trained Community Health Workers. This may be for a period of 3 years, starting in 1982, with the expectation that the Regional Councils will eventually be responsible for this.

FINANCIAL IMPLICATIONS

It is recommended that the Community Health Worker should continue to work on a part-time basis and that they should be given a stipend of one hundred dollars (\$100.00) monthly. There are now about twenty-five (25) Community Health Workers functioning at present. It is recommended that for 1982 at least another seventy to eighty Community Health Workers should be trained (Appendix 2) and absorbed into the health care delivery system. The approximate cost to the Ministry of Health would be as follows:-

| | |
|---|-------------------------------------|
| Stipend for one (1) Community Health Worker per annum: | --- \$100.00 x 12 = \$1,200.00 |
| Total cost for one hundred (100) Community Health Workers per annum: | --- \$1,200.00 x 100 = \$120,000.00 |

In the Ministry there are presently over seven hundred (700) unfilled posts. It is suggested that these posts be urgently scrutinized and that the Emoluments of posts which are not considered to be of high priority, be utilized in financing the cost of the Community Health Worker stipends.

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Alternatively, the justification for the financing of the programme (without reference to the above alternative) could be submitted and discussed with the State Planning Secretariat for their possible approval.

Walter A. Chin, F.R.C.P.,
CHIEF MEDICAL OFFICER

September, 1981

APPENDIX 1

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Villages originally selected for the training of Community Health Workers.

South Ruoununi

Achweib
Awarewaunau
Aishalton
Ambrose
Katoonarib
Karadanau

Machushi/Shulinab
Mauranau
Sawariwau

Upper Mazaruni

Chinoweing
Jawalla
Kaikan
Kako
Paruima
Phillipai

Quebenang
Waramadon
Shea

Lower Mazaruni

Campbelltown
Chenapau
Issano
Karisparu
Micobá
72 Miles
Potaro Road
Sand Hills
Sand Creek

APPENDIX 2

Villages indentified for future Community Health Workers.

REGION IX

| <u>LOCATION</u> | <u>VILLAGE</u> |
|----------------------------|--|
| Central and North Savannah | Nappi Parashara Yupukari Annai |
| Rupununi Districts | Massara Toka Yakarinta Kuru Pukari |
| South Pakarimas | Karasabai Tiger Pond Yarong Paru Yiperu |

REGION 1

| | |
|---------------------|--|
| North West District | Arakaka Port Kaituma Sebai Baramita |
| Matthews Ridge | Annie Creek Five Star |
| Port Kaituma | Mazawanni Landing |
| Baramita | Towa Kama Betsy Hill |
| Mabaruma | Wauna |
| Acquero - Moruca | Waranuri Manawarin |
| Acquero | Moruca River Mouth Kumaka Six Miles Kumwatta Kwebana Assakata Kuniaballi Barama mouth Wona Poka Waikenebi Chinese Landing Kokerite Yakisshuro Mabaruma |

REGION VII

| | |
|---------|---|
| Bartica | Eseequibo River Saxacalli Cuyuni River Eteringbang Kurutaku |
|---------|---|

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Kurupung

Enoch
Tuereng
Aranspat
Amasawi

North Pakarimas

Kato
Kulukabaru
Maikwak
Kopinang
Kamane
Orinduik
Waipa
Kaibarupai
Itabac
Kanapang
Puna Mouth
Monkey Mountain
Taruka
Paramakatoi
Tuesening