A PRIMARY HEALTH CARE PROJECT IN SARAWAK

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SUMMARY

A joint pilot project between the Ministry of Health and the Department of Social and Preventive Medicine, University of Malaya, to test the value of village aides in extending the health care system into isolated Iban communities was started in May 1979 in the Entabai District of Sarawak. A group of 15 village aides consisting of 11 traditional Iban ***manangs*** *(medicine-men) and 4 youths were trained to provide primary health care including simple curative care, preventive care and to assist in the detection of malaria.*

Evaluation carried out 2 years later showed the following. In respect of curative care, the village aides were each, on the average, treating 70.6 patients per month, the most common illness being headaches (30.4 percent), which together with abdominal pain, constipation, bodyaches, diarrhoea, vomiting, fever, worm infestations, cough and sore throat, accounted for 89 percent of all illnesses seen by them.

Subsequent to the introduction of village aides in the project area, the number of seriously ill patients requiring admission to the rest beds of the ***klinik desa*** *dropped by 43.8 percent and the number of emergency referrals to the back-up divisional hospitals fell by 46.1 percent showing that patients were coming to the* ***klinik desa*** *for treatment at an earlier stage. The 11 traditional Iban* ***manangs,*** *who had received training had, on their own accord, drastically reduced the use of traditional Iban modes of therapy in preference for "modern" medicine.*

During the 24 months immediately after the introduction of village aides into Entabai, 9 gravity feed water supply systems together with the related "health package" advocating general cleanliness, the use of latrines and fences were effected, whereas only 6 such systems were installed in the previous 24 months, indicating that it is likely that the village aides were of some assistance in mobilizing the community is respect of these self-help efforts. During the same period, the majority of longhouses in the area successfully established a number of vegetable gardens growing foods for home consumption, and continue to vigorously advocate breast feeding of infants in opposition to bottle feeding.

During the 23 months after village aides were introduced, a total of 1,093 blood films were collected by the 15 village aides, the average number of blood films per village aide being 3.2 blood slides per month. Village aides are socially accepted by the Iban community who utilize their curative skills when mild illnesses disturb them, but who proceed directly to the ***klinik desa*** *when more serious illnesses such as fevers strike them. The project has established clear lines of communication between the health team and the community, and has stimulated the community to organize itself to achieve an increasingly high level of health through community participation and self reliance.*

Plans have been approved in principle to train a further 2000 village aides in primary health care for the state of Sarawak.

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TABLE I
EXTENT OF UNDERCOVERAGE IN MALAYSIA BASED ON GEOGRAPHICAL DELINEATION

Region	No. (%) of villages geographically underserved	No. (%) of people geographically underserved	Mean size of underserved villages
Peninsular Malaysia	2,421 (15.1%)	460,743(6.3%)	190
Sabah	2,151 (65.2%)	385,403(41.2%)	179
Sarawak	3,702 (74.7%)	563,942(68.1%)	152
Total	8,274	1,410,088(10.0%)	

INTRODUCTION

Prior to 1970, rural health services in Sarawak were provided through static dispensaries, sub-dispensaries, and maternal and child health clinics complemented by travelling dispensaries that move both by road and river to rural villages.

Since 1970, a more comprehensive health care delivery system modified from the pattern in Peninsular Malaysia has been introduced. It is a two-tier system consisting of a health centre (Sarawak type) for a population of 8,000 to 10,000, and *klinik desa* (Sarawak type) for 1,500 to 2,000 people. The health centre (Sarawak type) differs from that in Peninsular Malaysia in that it is a smaller unit and is manned by supervisory technical staff of the higher grade such as a public health inspector, a senior hospital assistant and a public health nurse. The *klinik desa* (Sarawak type) is manned by a hospital assistant, two *jururawat masyarakat* (community nurses) a rural health supervisor (sanitarian) and supportive staff such as a driver, and attendants. The *klinik desa* usually has a general clinic, a delivery room, a maternal and child health clinic, two postnatal beds and 4 "rest-beds" (in-patient beds). Quarters of the staff are usually located nearby.

By April 1980, 5 health centres, 42 *klinik desa,* and 44 maternal and child health clinics together with a number of old dispensaries and sub-dispensaries had been established in the rural areas of Sarawak.

In spite of all the developments described earlier, studies completed in 1979 indicated that 68.1 percent of the total population of Sarawak remain "underserved", being located beyond a 3-mile radius of a static health facility (Table I).

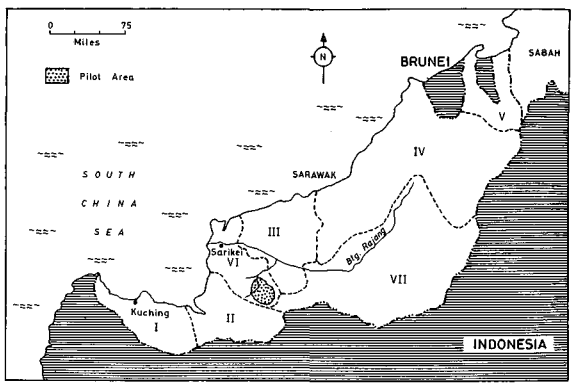

Fig. 1 Map of Sarawak showing the seven Divisions and the location of the primary health care pilot project in the Sixth Division.

THE ENTABAI PRIMARY HEALTH CARE PROJECT

With the assistance of grants from WHO and UNICEF, a joint pilot project between the Ministry of Health and the Department of Social and Preventive Medicine, University of Malaya, to test the value of village aides in extending the health care system into isolated Iban communities, was started in May 1979 in the Entabai District of the Sixth Division in Sarawak (Fig. 1). The aim was to examine whether the people, through community participation and involvement, could contribute to the betterment of their own health.

THE PEOPLE OF THE ENTABAI PROJECT AREA

The Entabai project area covers about 750 square kilometers of undulating land formed by the upper part of the basin of the Kanowit River (Fig. 2). 97 percent of the people are Ibans, most of whom live in communal longhouses, there being a total of 46 such longhouses as well as two small bazaars, Meluan and Ng. Entabai, in the area. Each longhouse is made up of from 7 to 46 households and is led by a *tuai rumah* (headman) who is much respected. The headman is consulted, together with other elders, when there are matters and problems affecting their longhouse, and to see if a new project is acceptable or not. In matters of illness, the *manang* (medicine-man) is an important leader, there being one *manang* to each 2 to 3 longhouses. Since the Iban pays careful attention to the behaviour of birds and animals, as their actions are thought to convey warnings, guidance or foretell future occurrences, augury and

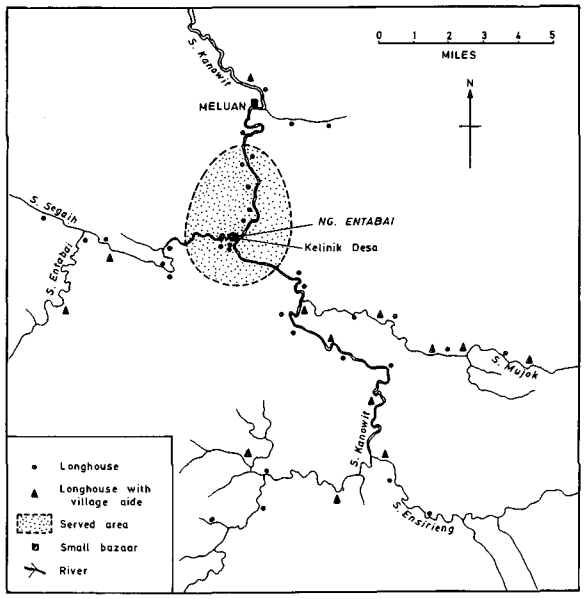

Fig. 2 Map of the Entabai operational area showing the location of the Entabai *Klinik Desa* (community clinic) and the area it "effectively serves", as well as the location of longhouses and the 15 village aides located in 13 strategic longhouses scattered in the "underserved" areas.

the *tuai burong* (the community augur) hold important places in the life of the Iban. Finally, rituals such as the harvest festival are conducted by the *lemambang* (bard), who like the *tuai burong* are few in numbers there being one in each ten or so longhouses.

It is estimated that in the Entabai area about ¼ of the population have sufficient rice crops to last a year, ½ have sufficient rice to last about 8 months while a further ¼ have sufficient rice to last only about 4 months of the year, there being variation from year to year depending on climatic conditions and the number of pests that attack the crops. Thus the economy is strictly a subsistence one with only a minimum of cash flow generated by the sale of cash crops such as pepper, rubber, some timber and a few jungle crops.

Thus the 5,000 people of the Entabai project area can be described as an economically depressed, highly traditional but well organized Iban community, faced with many health as well as transportation problems. As there are no roads in the area, transportation is by motorised longboats or small dug-outs, both methods being slow particularly during the dry season when the water level falls to expose many shallows over which boats must be hauled. Consequently, even though a

TABLE II
POPULATION DISTRIBUTION IN THE ENTABAI PROJECT AREA

Type of sub-division	Number of longhouses/ bazaars	Number of households	Population
Central "served" area	9	154	968
Peripheral "underserved" area	39	663	4,120
Total	48	817	5,088

klinik desa is available in the small bazaar of Ng. Entabai, most of the patients coming to the *klinik desa* come from the immediate vicinity, the crucial border being a distance of 30 minutes travelling time, as both cost and time beyond this impose an increasing burden as distances increase, the cost of petrol being prohibitive in any subsistence economy.

THE KLINIK DESA

On the basis of the foregoing, all areas within a 30-minute isochron of the *klinik desa* were defined as "served" while other areas beyond this isochron were defined as "underserved" (Fig. 2). Thus, it was decided that the central "served" area would consist of the Ng. Entabai bazaar together with 8 longhouses, while the peripherally sited "underserved" area would include the Meluan bazaar and 38 other longhouses (Table II).

Subsequent studies have supported this assumption that the majority of patients coming into the *klinik desa* would come from within the 30-minute isochron. For example, during the month of March 1981, a total of 700 out-patients were seen at the *klinik desa*. Of these 319 (329.6 per 1,000 population) came from within the 30-minute isochron while 368 (89.3 per 1,000 population) came from the "underserved" areas of the Entabai project area and a further 13 came from beyond the Entabai project area.

The *klinik desa* itself is manned by a health team composed of a hospital assistant, a junior hospital assistant, two *jururawat masyarakat* (community nurses) a rural health supervisor (sanitarian), as well as a male and a female attendant, and a boatman. The *klinik desa* is backed up by the hospital at Sarekei, the divisional capital, some 3½

hours away by boat and road. A radio telephone is available should a need arise to communicate with the hospital or to evacuate any emergencies by helicopter.

TRADITIONAL IBAN HEALTH CARE

Baseline studies carried out in the "underserved" area of the project area have indicated that, most of the time, the people have depended upon traditional Iban medicine-men, the *manang,* for treatment. The occasional visit by a mobile riverine health team or a flying doctor is so rare that at best it exposes some longhouses to the health team for about 2 hours per month, while many longhouses never meet a mobile clinic more than once a year. Thus, in the "underserved" areas, the people have had to depend largely upon the traditional Iban system of medical care.

SELECTION OF VILLAGE AIDES

At the start of the project it was decided that the headman of the 39 longhouses be visited and invited to participate in the project. It was estimated that one village aide per 2 to 3 longhouses would suffice as the travelling time within such a cluster of longhouses would be no more than 15 minutes. Thus a total of about a dozen village aides would be required and they should be selected from the dozen or so clusters into which the 39 "underserved" communities would be grouped.

Thus aided by the headmen and elders, a final group of 15 village aides, consisting of 11 Iban *manangs* and 4 youths (2 men and 2 women), were selected, the 15 being located in 13 longhouses dispersed throughout the "underserved" areas as shown in Fig. 2.

It will be noted that all the 11 *manangs* are illiterate. However, each would be assisted in keeping records of treatment and activities, by a literate member of the longhouse, usually a youth, the average age of the *manangs* being 51 years. The advantage with the *manangs* was that each was a recognised leader and already had a sizeable practice, and had developed useful skills as well as the confidence of the local people. On the other hand, the 4 youths were literate, eager and quick to learn, but commanded very little respect among the people. Two of the youths, a man and a girl were from the same longhouses as two of the older respected *manangs,* while the other two youths were from clusters in which *manangs* had not been selected. Thus of the 13 clusters of longhouses, 9 would have *manangs* as village aides, 2 would only have youths while 2 clusters would combine a *manang* and a youth, as village aides.

TRAINING THE VILLAGE AIDES

It was decided that training would have to be simple and practice oriented, and be conducted at the *klinik desa* and its surroundings. It would have to consist of an initial intensive two-week period followed by regular monthly "in-service" training continued for as long as the programme was required. Lectures, demonstrations, discussions, practice sessions performed on actual patients as well as on each other were used as teaching methods. The aim was to train each village aide to assist his own community to do "things necessary for their own health". Thus each village aide would require training in simple curative and preventive care, and in case finding particularly in terms of malaria.

Training therefore included elements of simple curative care in terms of the recognition of common medical conditions such as scabies, lice, gastroenteritis, malaria, upper respiratory infections, anaemia, "red eyes", worm infestations, cuts and sores, together with the use of a selected group of common and simple drugs such as ferrous fumerate, vitamins, chloroquine, sulphadimidine, chloromycetin eye ointment, analgesics, antacids, piperazine, and a number of drugs and ointments for external application. First aid, bandaging and the toilet of wounds were also taught to the village aides, each of whom was supplied with a metal box, bandages and a supply of drugs at the end of the course. As the *manangs* were all illiterate, symbols were devised, with their help, to distinguish medicines meant for internal use (non-poisons) and for external use (poisons). For example, a drawing of a bowl (representing food) was their suggestion of a non-poison whereas a machette (used for hunting) was preferred as a symbol of a poison, since a skull and cross-bones represented the dead and should not be used on medicines. As a final test each village aide had to be able to distinguish between various unlabelled medicines, know the dosage, and when the drug should or should not be used.

Each village aide also had to maintain a log book of all patients seen by him indicating the name, age, sex, longhouse, principal symptoms, treatment and outcome, the log book being brought back for inspection, each time the village aide returned for

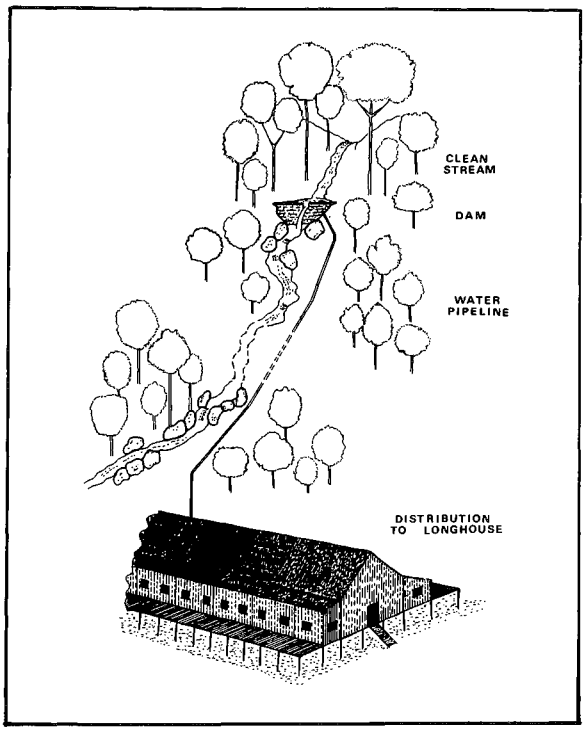

Fig. 3 Diagram of the gravity feed water supply system used in Sarawak to provide rural inland areas with clean water.

his monthly supervision and in-service training session. It was also emphasized to him that he should refer any patients, who did not show any improvement within 48 hours or who were seriously ill, to the staff of the *klinik desa*.

Even more important than his curative role is his role in respect of preventive care. Each village aide was shown how the longhouse community can achieve a more healthy environment by the use of proper latrines, the installation of gravity feed water supply systems (Fig. 3) and the maintenance of the clean compound. Pigs should be fenced out or located on the opposite side of the river while vegetable gardens should be grown within the fenced-in compound of the longhouse or in fenced-in plots elsewhere. Breast feeding should be encouraged while bottle feeding should be vigorously resisted. In addition, the village aides were shown the elements of immunization, maternal and child care and how families can be planned, and asked to encourage mothers and children to seek maternal and child care whenever possible.

Each village aide was also trained to collect blood films for malaria parasites, before he begins to treat fever patients, and to collect sputum smears from those with a chronic cough.

The actual training was carried out over an intensive two-week period when the village aides were housed in the premises of the *klinik desa*. A total of 90 hours of instruction, practicals and demonstrations were given in the Iban language by the *klinic desa* staff and the chief hospital assistant of Sarawak, under the direction of the principal author, the village aides being paid a nominal allowance to compensate them for loss of income while attending the course.

SUPERVISION AND CONTINUED TRAINING OF VILLAGE AIDES

Each village aide returns to the *klinik desa* once a month to replenish his supplies, submit his blood and sputum smears, receive further in-service training, review his log book with the hospital assistant in charge of the *klinik desa* and to receive a nominal monthly allowance equivalent to his transport cost and a per diem to compensate him for loss of income for the two days he is away from his longhouse, this being from M$25 to M$30 per month.

The hospital assistant also sees the village aide each time the hospital assistant conducts a mobile clinic into the "underserved" areas. On such trips he will be accompanied by one of the community nurses who provides maternal and child care services. Quite separately, the rural health supervisor (sanitarian) makes regular visits to the "underserved" areas to meet longhouse leaders and to obtain their participation in efforts to improve the health environment of longhouses. On such occasions, he also seeks the assistance of the village aide to organise the longhouse in respect of the construction of latrines, water supplies, fences and in the general maintenance of a clean environment.

The staff of the *klinik desa,* with the assistance of the agricultural officer, also provide the longhouse with some vegetable seeds and encouragement to grow vegetables. To set an example, some of the *klinik desa* staff grow vegetables in their own backyards, and share some of these with in-patients and their families in exchange for "wild" ferns and bamboo shoots brought in when they are admitted to the "rest beds" (in-patient facilities of the *klinik desa).*

TABLE III
OUT-PATIENT CLINIC ATTENDANCES AT THE ENTABAI *KLINIK DESA*, 1977 - 1980

Type of patients	No. of attendances during: 1977	1978	1979	1980
New cases	10,671	9,934	9,705	12,101
Old cases	426	641	488	348
Repeat cases	2,365	1,039	1,295	2,189
Total	13,462	11,614	11,488	14,638

FINANCIAL SUPPORT OF VILLAGE AIDES

Beyond the nominal monthly allowance of M$25 to M$30 which is equivalent to his transport cost and two days' per diem, the village aides receive no financial support for their contribution to the welfare of the community. Each village aide continues to farm his plot and contributes his skills only in his spare time. The *manangs* have the advantage that they are traditionally allowed to collect a nominal fee, the patient paying according to his financial means. On the other hand, the 4 youths do not charge any fees and must therefore contribute their services gratis.

EVALUATION OF THE ENTABAI PROJECT

CURATIVE CARE

Out-patient Attendances at the Klinik Desa

For the 4-year period 1977 to 1980, out-patient clinic attendances are shown in Table III. It will be noted that, despite fluctuations, there was a small overall increase in the number of out-patients seen over the 4 years. As noted in Table III, the population within the project area totals 5,088 but it is estimated that a further 900 people from outside the area utilize the *klinik desa,* so that the total population covered by the *klinik desa* amounts to about 6,000 people. Thus the *klinik desa,* in 1980, treated a total of 14,638 illnesses or 2.4 illnesses per person.

Ambulatory Patients seen by the Village Aides

As noted earlier, each village aide is required to maintain records of all patients seen by him. Even though all the 11 *manangs* are illiterate, they were assisted in this task by literate youths from their own longhouses.

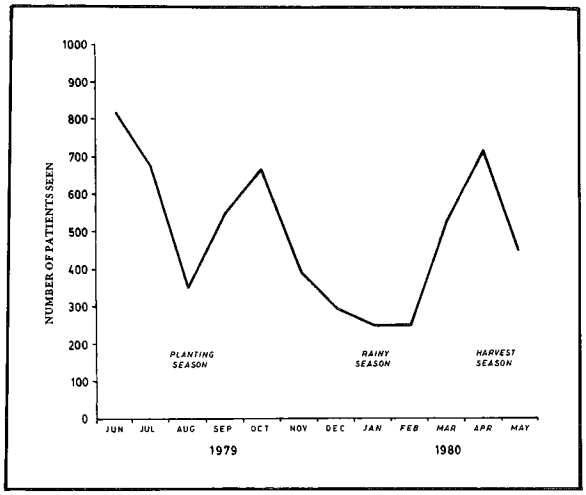

Fig. 4 Frequency distribution of the number of ambulatory patients seen by 7 of the village aides over a 12-month period, showing that the drops in the number of patients seen coincide with the planting and harvest seasons as well as with the rains.

(1) Number of patients seen

Analysis of the record books of 7 of the village aides (6 *manangs* and one youth) showed that the total number of patients seen by the 7 amounted to 5,933 during the 12-month period June 1979 to May 1980, and that the total estimated number of patients seen by all 15 village aides would amount to about 11,000 per year or about 900 per month. It will also be noted that the mean number of patients seen by the 7 village aides, whose records were examined in detail, is 70.6 patients per month the range being 44.3 to 109.7 patients per month.

(2) Seasonal variation

It will be noted (Fig. 4) that there is a wide seasonal variation in the number of patients seen, there being three low periods. The first occurs in August when planting takes place, the second in the months of December to February when the rains are heavy, and the last in May during the harvest period. In respect of the planting and harvest periods, most of the adults in the longhouse, including the village aides, live away in their rice plots. Consequently, the part-time nature of their contribution becomes most obvious during these periods as they busy themselves with their own farming activities.

During the rainy season, those with mild illnesses prefer not to travel as it is believed that exposure to the elements negates any benefits that may be obtained from medicines. Consequently, only more

TABLE IV
TYPES OF ILLNESSES TREATED BY 3 VILLAGE AIDES DURING A 36-MAN-MONTH PERIOD

SYMPTOMS OR DISEASE	NO. OF MALE PATIENTS BY AGE (YEARS)							NO. OF FEMALE PATIENTS BY AGE (YEARS)								
	0-	11 -	21 -	31 -	41 -	51 +	Total	0 -	11 -	21 -	31 -	41 -	51 +	Total	NO.	%
Headache	27	71	115	35	20	54	322	24	109	106	52	37	48	376	698	(30.4)
Abdominal pain/ Constipation	36	38	64	42	37	48	265	38	49	66	44	27	27	251	516	(22.5)
Body aches	2	17	18	6	4	7	54	13	54	63	21	7	14	172	226	(9.9)
Diarrhoea/ vomiting	45	16	21	14	2	13	111	35	22	17	11	6	21	112	223	(9.7)
Fever	24	12	27	8	2	11	84	18	23	12	6	7	4	70	154	(6.7)
Worm infestations	27	18	11	6	4	1	67	18	15	8	8	3	0	52	119	(5.2)
Cough/sore throat	13	22	10	3	1	7	56	11	8	11	8	5	7	50	106	(4.6)
Dermatitis/boils/ sores/scabies/tinea	4	9	7	1	5	3	29	6	7	7	1	2	3	26	55	(2.4)
Anaemia	1	2	1	2	0	0	6	4	13	11	5	5	1	39	45	(2.0)
Burns/wounds/sprain	6	3	11	1	1	1	23	3	2	8	1	1	1	16	39	(1.7)
Toothache/dental abscess	0	3	10	0	0	0	13	0	1	12	1	3	9	26	39	(1.7)
Sore eyes	2	1	2	2	1	0	8	2	7	3	6	3	3	24	32	(1.4)
Ear discharge	1	1	1	0	0	0	3	2	3	0	2	0	2	9	12	(0.5)
Lice	0	1	0	0	0	0	1	0	2	2	3	2	1	10	11	(0.5)
Assist child-birth	-	-	-	-	-	-	-	-	4	2	2	1	-	9	9	(0.4)
Other conditions	0	3	2	2	0	1	8	0	0	0	(	1	0	1	9	(0.4)
TOTAL	188	217	300	122	77	146	1050	174	319	328	171	110	141	1243	2293	(100.0)

serious illnesses are seen during the rainy seasons.

(3) Types of illnesses

The types of illnesses treated by three of the village aides (2 *manangs* and 1 youth) over a 36-man-month period are shown in Table IV. It will be noted that the first three categories of illnesses, namely, headaches, abdominal pain/constipation, and bodyaches, account for 62.8 percent of illnesses seen, and that these together with the next four categories of illnesses, namely, diarrhoea/vomiting, fever, worm infestations, and cough/sore throat, account for 89 percent of all illnesses seen. In the majority of instances, the illnesses are mild and remission occurs within 48 hours of being seen. Symptomatic treatment is given to provide relief, and specific treatment given where appropriate. For example, worm infestations are treated with piperazine, anaemia with ferrous fumerate, sore eyes with chloromycetin eye ointment,tinea with Whitfield's ointment, scabies with benzylbenzoate, lice with D.D.T. in oil, sores and cuts are washed with 10% cetavalon solution, and malaria is treated with chloroquine. However, malaria is not an important problem in the Entabai area. Nonetheless, blood films are taken if malaria is suspected.

Number of Seriously Ill Patients

Prior to the introduction of the primary health care project, it was noted that a number of seriously ill patients were arriving at the *klinik desa* as a result of delays in seeking treatment. For example, fever patients would sometimes arrive at the *klinik desa* only after they had been ill for several weeks. Diarrhoeal patients would arrive when dehydration was severe. Respiratory tract infections often were delayed until bronchopneumonia had set in.

Subsequent to the introduction of the project, it was found that the number of seriously ill patients had dropped. This is shown by the 43.8 percent reduction in the number requiring admission into the in-patient facilities in the *klinik desa* (Table V) as well as by the 46.1 percent reduction in the number of emergency referrals to the back-up divisional hospitals (Table VI). This seems to be due to the fact that the ill no longer delay before coming to the *klinik desa* or wait until all hopes are lost, and that

TABLE V
NUMBER OF ADMISSIONS TO THE IN-PATIENT "REST-BEDS" OF THE *KLINIK DESA* BEFORE AND AFTER THE INTRODUCTION OF THE USE OF VILLAGE AIDES IN MAY 1979

Longhouse of in-patient	No. of admissions* during: Jan. 1977 - June 1978	July 1979 - Dec. 1980	Percentage difference
"Served" area near *klinik desa*	35	36	+2.9
"Underserved" area peripheral to *klinik desa*	378	196	−48.1
Total	413	232	−43.8

* excluding those from outside the pilot project area.

TABLE VI
NUMBER OF REFERRALS TO DIVISIONAL HOSPITALS FROM THE *KLINIK DESA* BEFORE AND AFTER INTRODUCTION OF THE USE OF VILLAGE AIDES IN MAY 1979

Longhouse of referred patient	No. and type of referrals* in: 1977 Emerg.	1977 Cold	1980 Emerg.	1980 Cold	Percentage decrease in no. of emergencies
"Served" area near *klinik desa*	27	1	12	6	55.6
"Underserved" area peripheral to *klinik desa*	49	6	29	9	40.8
Total	76	7	41	15	46.1

* excluding those from outside the pilot project area.

village aides are referring at an earlier stage those with no signs of improvement. In this respect, it is pertinent to note that 11 of the village aides are also traditional Iban medicine-men who themselves admit that, since their training as village aides, they had drastically reduced the use of traditional Iban modes of therapy in preference for "modern" medicines and that their own faith in "modern" medicine had increased.

PREVENTIVE CARE

In respect of the preventive role of the village aides, each was expected to work with the health team, particularly the rural health supervisor, in achieving a clean and healthy longhouse environment, by the use of latrines, the installation of clean water supplies, the general cleaning of the compound, the construction of fences, and the relocation of pig breeding sites. As these are communal activities that involved not only the village aide but also the *tuai rumah* as well as all heads of households, it becomes difficult to assess the specific contribution of the village aide.

TABLE VII
NUMBER OF WATER SUPPLY SYSTEMS INSTALLED IN THE ENTABAI AREA AND THE PERCENTAGE OF POPULATION WHO BENEFITTED

Type of area	No. of water supply systems installed: 1971 - May 1977	Jun. 1977- May 1979*	Jun. 1979- May 1981	Total	Population coverage:
"served"	4	0	2	6	(61.6%)
"under-served"	9	6	7	22	(67.9%)
Total	13	6	9	28	(66.7%)

* village aides introduced in May 1979.

Table VII shows the number of clean water supply systems that were installed in the Entabai project area from 1971 to 1981. It will be noted that, relatively the largest number of such water supply systems were installed in the 24-month period (June 1979 to May 1981) after the village aides were introduced. However, as the installation of water supply systems as well as the related clean environment efforts are the result of multiple and complex factors, it becomes impossible to attribute it to any one factor. All that can be safely said is that it is likely that the village aides were of some assistance in respect of the construction of latrines, water supplies, fences and drains, and in self-help efforts by the community. It will be noted that by May 1981, 66.7 percent of the population of the Entabai project area were in receipt of clean water supplies and the related clean environment "package".

In addition to advocating a clean environment, efforts were directed to the planting of vegetables for self consumption. As this is a household affair, it is equally difficult to assess. Nonetheless, it can be said that the majority of longhouses in the area now cultivate home grown vegetables for self consumption. However, in most instances only a

TABLE VIII
SOURCE OF TREATMENT OF 156 ILLNESSES SUFFERED BY THE PEOPLE OF 8 LONGHOUSES IN THE "UNDERSERVED" AREAS

Symptom or disease	Source of initial treatment: None	*Klinik Desa*	Village aide	Trad.* med.	Self med.	Total no. of illnesses No.	%
Headache	1	4	9	0	4	18	(11.5)
Abdominal pain/ constipation	3	4	4	0	0	11	(7.1)
Bodyaches	5	3	7	1	2	18	(11.5)
Diarrhoea/ vomiting	0	4	4	0	0	8	(5.1)
Fever	5	29	12	6	1	53	(34.0)
Worm infestation	0	0	1	0	0	1	(0.6)
Cough/sore throat/ asthma	3	7	4	1	2	17	(10.9)
Skin diseases	0	9	0	0	0	9	(5.8)
Anaemia	0	1	1	0	0	2	(1.2)
Toothache	5	2	4	0	3	14	(9.0)
Sore eyes	0	1	0	0	0	1	(0.6)
Old TB patients	2	2	0	0	0	4	(2.6)
TOTAL	24	66	46	8	12	156	
Percentage	(15.4)	(42.3)	(29.5)	(5.1)	(7.8)	(100.0)	

*Traditional Iban medicine as provided by untrained *manangs*.

small proportion of innovative families have started this, but it is hoped that others will follow suit.

CASE FINDING

The village aides were taught to collect blood films for malaria and to collect these from fever patients particularly those suspected of suffering from malaria. The 15 village aides collected and submitted for examination a total of 1,093 blood films during a 23-month period, the average number collected by each over the 23-month period being 72.9 slides, or 3.2 slides per month per village aide. From types of illnesses treated (Table IV) it will be noted that 6.7 percent are fever patients. It will also be noted that eacn village aide sees about 70 patients a month. Thus it can be estimated that, on the average, each village aide would be seeing 4 or 5 fever patients a month. Thus the collection of 3.2 blood slides a month means that the village aides are collecting blood films from at least 2/3 of the fever patients.

SOCIAL ACCEPTABILITY

There is no doubt that the Iban village aides are accepted by the people. The very fact that the people utilize their services when they are mildly ill is proof. Nonetheless it is also clear that when they are more seriously ill, the sick will proceed directly to the *klinik desa*. Thus, it will be noted (Table VIII) that for the 156 recent illneses that were studied in detail, based on a recall period of two weeks, 42.3 percent were initially treated at the *klinik desa,* 29.5 percent were initially seen by the village aides, while 15.4 percent were mild enough to be ignored by the patients, 7.8 percent were self treated, and 5.1 percent were treated by traditional Iban *manangs* not trained as village aides. It will also be seen from Table VIII that of the 53 persons who suffered from fever, 29 (54.7 percent) proceeded directly to the *klinik desa,* and only 12 (22.6 percent) initially visited the village aide, showing that, on the whole, when something serious is perceived, it is likely that the patient and his family will proceed directly to the *klinik desa.*

Perhaps, even more important than the fact that village aides do offer simple medicines for mild illnesses, is the fact that the acceptance of these simple measures opens the door to the acceptances of even less easily demonstrable health measures such as preventive care particularly in respect of maternal and child care. Immunization, antenatal and child care, the consumption of fruits and vegetables especially during childhood are not easily accepted. The use of simple symptomatic treatment, that the people appreciate, can open the door to the hearts and minds of conservative and traditional rural people. The use of the Iban *manang* as a village aide is particularly useful since he is already a trusted and familiar leader. The very fact that most of the *manangs* who received training eventually began to discard traditional Iban medicine, on their own will, in preference for "modern" medicine is an important achievement in this respect. The fact that the village aides looked up to members of the health team for advice, guidance and leadership, is an important factor in the increasing acceptance of "modern" medicine particularly the less demonstrable aspects of preventive medicine and environmental health. Thus the social acceptance of the village aide has also meant the social acceptance of members of the *klinik desa* staff and the subsequent acceptance of preventive measures.

SOCIAL ORGANIZATION FOR SELF RELIANCE

One of the benefits of the Entabai project will be the fact that it will have left behind clear lines of communication between the health staff and the longhouse community. Not only do some of the longhouses have resident village aides, but the participation of the *tuai rumah* and the heads of households of all the people of the Entabai area has meant that a social organization with clear lines of communication, between the health team and the people, has been established. The community's ability to organize itself to seek and provide simple curative care and construct, in collaboration with the health team, water supplies, latrines, fences and vegetable gardens is a clear indication that the health team has found ways to link up with the community and to help them to help themselves through community participation and self reliance.

Plans have been approved in principle to train a further 2000 village aides in primary health care for the state of Sarawak.

As health is the product of an individual's way of life, much depends upon his own actions to achieve and maintain health. Thus the community's ability, even if only embryonic, to help itself achieve an increasingly high level of health is fundamental to HEALTH FOR ALL BY THE YEAR 2000.

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