PD-AAW-451

UNITED STATES GOVERNMENT

memorandum

DATE: May 2, 1980

REPLY TO ATTN OF: Alan L. Steffen, Malaria Advisor, Consultant

SUBJECT: Final Report of Malaria Consultancy, Central Java Special Operation - January 23 to May 7, 1980.

TO: Philip E. Smart, Malaria Advisor O/HN

497K239

I. INTRODUCTION

During the period of January 23 to May, 1980 this writer served as a consultant to the USAID Mission in Indonesia on the Fenitrothion/Malathion fogging and extensive drug treatment emergency attack measures in the two areas of Wonosobo and Banjarnegara in Central Java. The U.S. Government has contributed a total of $ 360,000.00 to be used primarily in supporting the local cost component of these emergency operations. In view of the problems experienced by other USAID missions from the misuse of the insecticide malathion the use of a consultant experienced in similar problems for field monitoring was considered essential by the USAID/Indonesia staff. This consultant's primary contact within the USAID/I Mission was Mr. Philip Smart, Malaria and Public Health Advisor.

In a sense the writer was in a unique position since he had served previously in Indonesia as, first, a Malaria Specialist/Entomology and later as an Area Malaria Advisor at posts in Teluk Betung, South Sumatera; Bandung, West Java and in Surabaya, from where East Java and the island of Bali were covered. During the period of 1959 to 1965 when he was in Indonesia a full-scale eradication program had been initiated. That program far different from the present one, was run along military lines and at that time the country director of program was a Brigadier General in the Indonesian Army. That eradication program had the massive support of the Government of Indonesia, the World Health Organization and the U.S. Agency for International Development. Vehicles, insecticide and money were provided in adequate quantities. The Malaria Eradication program enjoyed at the time a top priority in

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

OPTIONAL FORM NO. 10
(REV. 7-76)
GSA FPMR (41 CFR) 101-11.6
5010-112

health and by 1965 the results of this massive program had become evident. During that year the lowest ever number of malaria cases in Java, Bali, Madura and Lampung (8348 cases) was recorded in the presence of effective surveillance. This can be compared to an estimated 30 million annual cases, with approximately 120,000 deaths prior to the eradication program.

In 1965 the U.S. Government withdrew its economic AID program to Malaria, the Ministry of Health of the Indonesian Government phased down its anti-malaria activities and by 1969 had largely completed the integration of the malaria control program within the health services at the central, provincial, regency and sub-provincial levels. During the late 1960s and the early 1970s it became obvious that malaria was making a strong comeback. For example, in East Java it had climbed from a 1965 level of 3202 positive cases to 93994 in 1972. In 1974 a Development Loan Proposal was concurred in by the Ministry of Health and submitted to AID/Washington. This loan in the amount of $ 24.7 million was to finance the principal foreign exchange costs of the project, and was matched by $ 21.5 million in local currency by the Government of Indonesia. Following the approval of the loan, a malaria control program was launched, however it has been mainly limited to the more malarious areas of Java and Bali and a few priority areas of the outer islands. The coverage was confined mainly to areas where high levels of malaria transmission had occurred during the period of 1970 - 1972 and where it could be proved that active transmission was continuing.

Although, in general, transmission was reduced there continued to be limited areas where malaria cases did not drop significantly but were found rather to rise sharply. One particularly difficult area was that of the kabupatens of Wonosobo and Banjarnegara in Central Java. There were thought to be two major factors involved here. First was the fact that the principal vector in the area, Anopheles aconitus, had developed a resistance to the insecticide being used (DDT), and a second factor was the failure on the part of the local health workers to radically treat large numbers of cases which led to additional secondary and tertiary cases. Since A. aconitus

rests and bites outside the houses, it was believed by the Indonesian health officials and their international advisors that an intensive campaign of fogging of houses and resting places with a complementary program to intensify case detection and treatment of positive malaria cases should reduce the cases to a manageable level. A limited operation in 1979 has indicated that such a program could reduce the levels of transmission in a given area. Since epidemiological data from Wonosobo and Banjarnegara previously had indicated that approximately 70% of the total malaria cases for the islands of Java and Bali were originating in this area, it was decided that this was the place where the emergency operations were most needed.

II. SCOPE OF WORK

a. Review, analyze, discuss and approve GOI plan to carry out AID supported emergency operations in Central Java involving use of Fenitrothion with special emphasis on safety precautions for users and inhabitants of the target area as well as environmental considerations.

b. Monitor personally in so far as possible activities carried out in concerned malaria control operations.

c. Report to USAID and the MOH Directorate of Vector Borne Disease Control, any health, safety and environmental consideration which need attention.

d. Report to USAID recommendations for any future operations for any future operations with emphasis on :

1. safety of user,
2. safety of target population,
3. environmental considerations,
4. observation and recommendations on integrated pest control measures observed.

III. WORK PLAN

The bulk of this consultant's time was spent in the field monitoring fogging operations, mixing stations and the

performance of the tintometric tests for the determination of cholinesterase levels in the blood of mixers, supervisors and spraymen. In almost all cases the writer was accompanied by Government of Indonesia CDC workers, the provincial CDC malaria personnel and the local health officials at the Kabupaten and sub-district health center (Pusat Kesehatan Masyarakat) levels. During the period of this consultancy the writer also worked closely with the Senior WHO Malariologist and the WHO Entomologist. Regular reports were made to the USAID/Indonesia malaria advisor, Mr. Smart, on the progress of the insecticide fogging and any problems which were encountered in the field.

IV. OBSERVATIONS

a. Logistics and Transport

Through the tenth cycle of operations there was no work stoppage due to interruption of the flow of insecticide. At one point Malathion was down to a low level in Wonosobo, however quick action on the point part of national, provincial and local authorities resulted in getting emergency supplies to cover the full scale fogging until the regular flow of insecticide and diesel oil was assured. It should be noted in connection with the movement of the ready-to-use solution from the mixing stations by special transport in Banjarnegara and Wonosobo that each day a day's supply of fogging insecticide was mixed and moved to where it would be used the same night. This daily flow of fogging solution resulted in the storage at field level of relatively small quantities of insecticide for only short periods of time. This was a very important technique to reduce drastically the possibility of accidental exposure because the insecticide was accessable to villagers for only a few hours each day.

b. Training and Recruitment

While it was often possible to recruit workers who had previous fogging experience, about half were new to

fogging operations. Intensive training was given, however to all workers both old and new. The details of the training program are included as Annexes A and B. To further improve the training, practical demonstration were held and then each worker actually did the work to make doubly sure that the procedures for safety measures could be completely understood and applied.

The writer participated in and observed all the training being given on the safe handling of the insecticide and equipment. Everyone from all levels participated in this training. In the case of Banjarnegara the assistant Chief of CDC, Dr. Marbaniati gave a lecture following which there was a question and answer session to see how much of the lecture had been observed. Although a part of the answers were given in the local Javanese dialect it was apparent that the trainees had both observed and understood the primary points. Next, toward the end of the training all personnel, foggers, supervisor, etc., were tested at the pre-operational level with tintometric tests to determine the pre-exposure cholinestease levels of each individual.

A number of briefing sessions were conducted for the medical personnel on both safety and other aspects of the program such as drug treatment, surveillance, etc. All medical personnel, surveillance supervisors, operations workers and evaluation personnel participated most willingly in these programs which often ran late in the night. Never was there any complaint about the long hours and all personnel were found to be intensely interested in the program and in how to solve possible problems.

c. <u>Mixing of Fogging Solution</u>

In the case of both Wonosobo and Banjarnegara the areas where insecticide and diesel mixing was done were physically separate from any other office and residential quarters. In the case of Banjarnegara, the mixing place was about fifty meters behind the Kabupaten Health Office.

In Wonosobo the mixing area was in a building almost a kilometer away from the Health Center. In neither case was the mixing area readily accessible to the public and all chemicals and kerosene were kept under lock and key. At first in Wonosobo the light diesel oil (solar) and insecticide were added combined in a large plastic container with a measuring can and mixed using a long stick. At the suggestion of Mr. Soenaryo and the writer, the Wonosobo mixers changed to the system used in Banjarnegara where the concentrated insecticide was put in a twenty liter jerrycan, the diesel oil added and the jerrycan agitated to put the insecticide into solution. This reduced by one significant step, a possible point of contamination. This consultant visited the mixing stations on each visit to Wonosobo and Banjarnegara. It was found that in all cases the mixers had a healthy respect for the insecticide and were using the recommended safety procedures. In the Wonosobo mixing station one of the mixers showed a low level of cholinestease. He was immediately treated, taken off any contact with the insecticide and was followed up regularly. There were no further problems.

It is at the mixing station when the greatest danger of accidental poisoning can be found since mixers deal with the most concentrated and hence the most dangerous materials. The fact that there were no accidents in the mixing stations indicates that the instructions for mixing procedures were understood and applied.

When the insecticide was delivered to the village it was put under the custody of the village chief in his office from where it was distributed directly to the fogging machines. In addition the village leader and the general population were warned of the safety measures to be observed during the period of fogging such as prohibition of food, water, pets, domestic animal and personal exposure. See Annex C.

d. <u>Personal safety measures</u>

While it was not always possible to observe the regularity or irregularity of matters of personal hygiene

as far as the contact with insecticide was concerned, personal observations indicated that the washing of both hands and clothing was usually a standard practice. In one case a MOH/CDC malaria supervisor found that one squad was drinking tea probably without washing their hands and instructions were given that eating drinking was forbidden during fogging to prevent possible toxic results. In most other squads observed it was found that personal hygiene was understood and observed. It should be pointed out that here, as elsewhere, this is probably the most difficult thing to supervise since it is impossible to observe the foggers and supervisors at all times.

All foggers and supervisors were provided with 2 sets of clean overalls, masks, caps, and shoes or rubber boots. In the case of mixers there was a distribution of rubber gloves. In the case of protective coveralls, all were found to be kept clean and the workers reported that they were washed on a regular basis. At no time were coveralls found to be dirty from the insecticide solution.

In only one case was it found that a fogger did not wear a pair of boots or shoes. According to the fogger he "lost them in the rain". The CDC man accompanying the writer gave instructions that he must get a pair immediately.

As far as safety clothing is concerned the biggest problem was with the supply of protective gloves. Thin rubber gloves were provided initially to the mixers but they were soon full of holes from the handling of the drum and containers. Heavier and more durable gloves were found locally which proved to be satisfactory.

e. <u>Resting Place and Village Fogging</u>

There were two distinct types of fogging done. The first resting place fogging,was generally begun about 4.30P.M. This was applied primarily to areas of heavy foliage around the villages where vector mosquitoes could be expected to rest. The second, village fogging, began at approximately

6.00 p.m. and continued until all houses and yards had been fogged which might be until 9.30 or 10 p.m. depending largely on rainfall.

During most of the period of fogging there were heavy showers and fogging was often interrupted and restarted entirely after the rain abated. In general there were few problems observed in the field except those mentioned above.

f. Tintometric Tests

Tintometric tests were conducted both before, as indicated previously, and at two week intervals throughout the entire cycle of fogging on all foggers, supervisors and mixers. The results of these tests were carefully monitored and in those few cases where there was a definite reduction in cholinestease levels, the workers were treated by the doctor with atropine and taken away from all contact with insecticide until levels returned to normal.

All the tintometric tests were conducted by laboratory services of the Provincial Health Department from the province headquarters in Semarang. Personal observations indicated that accepted procedures were being followed by these laboratory technicians and that possible toxicity problems were being marked for further action. Where tintometric values were questionable, the tests were always repeated. The provision of test kits were complete and adequate.

g. Community Participation

One of the most heartening aspects of the program was the excellent cooperation of all those connected with the program. The administrative officials at the various government levels such as camats, kepala desas and kepala kampungs assisted in contacting the people for the fogging, stored the insecticide solution and fogging machines in safe places and even often carried lanterns to light the way for the foggers. In Wadaslintang the writer and others from Malaria team addressed a meeting of Kepala Desas. In Banjarnegara a part of the regular kabupaten newsletter was devoted to a report on the reasons for and procedures to be followed in the fogging.

The health workers themselves worked long hours often working the entire normal work day then going to the field to see and supervise the fogging operations. They participated enthusiastically in group meetings on the importance of proper surveillance activities and drug treatment.

h. Conclusions

This consultant was able to follow the progress of the entire operation from the beginning of training until the scheduled completion of the fogging operations. Some of the problems such as children playing in the fog and lapses of personal hygiene on the part of the foggers and supervisors were never entirely solved, however, the writer is personally convinced that everything possible was done by the health personnel and local government officials to make sure that there would be no accidents in the use of the two insecticides, Malathion and Fenitrothion. The proof that the measures were adequate is that there were no incidents of illness. The cooperation of all those concerned was excellent and every effort was made to make it possible to see as much of the operations under as many conditions as possible. In the final analysis the important thing to be remembered is that during the entire operation there was not one accidental poisoning due to improper use of the insecticide nor to unsafe personal work habits. It is also this consultant's opinion that the insecticide fogging did not present a significant environmental danger to the people in the villages where the fogging was being done. In most cases observed, the village people remained out of their homes until the fog had dissipated and were quite cooperative in following instructions given by the foggers and supervisors.

Although not a part of the writer's responsibility, it is the opinion of this consultant that the emergency operations have had a very beneficial result as far as the reduction of malaria is concerned. These operations were well planned, well supervised and had adequate financial support. Most importantly they had the full support of both Indonesian health and officials, and also the local people.

i. Recommendations

Assuming that fogging operations will continue in the future as during the current period, the following recommendations are presented:

1. The fact that there were no toxicity problems during the February to May 1980 fogging does not not mean that insecticide safety monitoring can be disregarded. Two potentially dangerous chemicals are being used and all efforts should be continued on the part of those involved to make sure that future fogging operations are conducted as safely as those just completed.

2. Because of its lesser toxicity and lower cost it is suggested that malathion be used on all areas where entomology tests indicate it is effective. Efforts should also be made to maintain an adequate and timely flow of insecticide from the supplier, through the various health agencies to where it will ultimately be used in the villages.

V. PERSONS CONTACTED

a. Government of Indonesia National Headquarters

Dr. Arwati - Chief, CDC
Mr. Sunarjo - Chief of Malaria Operations, CDC
Mr. Santiyo - Entomologist, CDC

Provincial Headquarters - Semarang

Dr. M. Hariadi - Chief, CDC CentralJava
Mr. Sukamto - Chief Malaria Unit, CDC
Mr. Ngestiono - Chief Malaria Evaluation, CDC
Mr. Wasisto Utomo - Asst. Entomologist, CDC

Kabupaten Wonosobo

Dr. Subagiyo - Kabupaten Doctor and Chief Kabupaten CDC
Dr. Istiono - Puskesmas/Kaliwiro
Dr. Meta Suryani - Puskesmas/Selomerto
Dr. Muntafiah - " /Leksono
Dr. Sumintarti - " /Wadaslintang
Mr. Sembiring - Chief, Malaria Unit

Kabupaten Banjarnegara

Dr. Arief Haliman - Kabupaten Doctor
Dr. Marbaniati - Deputy Chief of CDC
Dr. Sumandhi, Chief of Malaria Unit

b. World Health Organization

Dr. P.G. Kesavalu, Senior Malariologist
Dr. Jun Akijama, Entomologist

c. U.S. Agency for International Development/Indonesia

Mr. Robert G. Pratt, Chief Health and Nutrition Division
Mr. Philip E. Smart, Malaria and Health Advisor.

VI. ACKNOWLEDGEMENTS

This consultant wishes to express his thanks for the assistance given to him by Dr. Arwati, Chief of the Malaria unit, CDC; Mr. Sunarjo, Chief of Operations, CDC; Dr. Soebagio of Wonosobo Kabupaten and Drs Arief and Marbaniati of the Kabupaten health office in Banjarnegara and all the Health Centers doctors who contributed so much to the success of the operations. Thanks also must go to Dr. P.G. Kesevalu, Senior Malariologist and Dr. Jun Akijama, Entomologist both of the World Health Organization who spent a great deal of time in the field and provided support. Within USAID the writer appreciates the assistance given in getting his consultancy started by Mr. Ray Dropik and Mr. Douglas Owen. Last but not least my thanks go to Mr. Philip E Smart, USAID/Indonesia Malaria and Health Advisor who gave me excellent support both in providing a comprehensive background briefing and in dealing with the national health officials.

HN:ASteffen:5/2/80-md

ANNEK A

LIST OF LESSONS ON TRAINING OPERATION AND TEAM OF P2 MALARIA OF WONOSOBO ON FEBRUARY 11 - 16, 1980 AT LEKSONO

Monday, February 11, 1980

08.00 - 08.40	- Opening/purpose of fogging	dr. Sam Santoso dr. Soebagio
08.40 - 10.00	- Transmission & Eradication of Malaria.	- ditto -
10.00 - 10.10	break	
10.10 - 11.00	- P.K.M.	R. Soeprapto
11.00 - 11.50	- Organization of Health Service	T. Kardhana B.Sc.
11.50 - 12.00	- break	
12.00 - 12.50	- Safety Measures and Properties of Insecticide	dr. Istiana
12.50 - 14.00	- afternoon 's break.	
14.00 - 15.50	- Instruction on fogging devices.	Widodo
16.00 - 17.00	- Safety Measures and solution fuel and getting the machine started/stopping the machine.	Widodo

Tuesday, February 12, 1980

08.00 - 08.40	- Method of filling the solution fuel and getting the machine started/stopping the machine.	Widodo assisted by Head of Accident Operation, Leksono and Selomarto,
08.40 - 10.00	- Maintenance of fogging devices.	- ditto -
10.00 - 10.10	- break	
10.10 - 11.00	- P.K.M.	- ditto -

11.00 - 11.50	- Organization of Health Service.	- ditto -
11.50 - 12.00	- break	
12.00 - 12.50	- Practise getting the swing fog started.	- Widodo
12.50 - 14.00	- Afternoon's break	
14.00 - 15.50	- Instruction on fogging device.	- Widodo
16.00 - 17.00	- Method of filling the solution fuel and getting the machine started/stopping the machine.	- Widodo

Wednesday, February 13, 1980.

08.00 - 08.40	- Practise getting the swing fog started.	- Widodo assited by 3 Kp.Op.
08.40 - 10.00	- Maintenance of fogging devices.	- Widodo & his friend.
10.00 - 10.10	- break	
10.10 - 11.00	- P.K.M.	- ditto -
11.00 - 11.50	- Organization of Health Service	- ditto -
11.50 - 12.00	- break	
12.00 - 12.50	- Knowledge on poison of insects	- ditto -
12.50 - 14.00	- Afternoon's break	
14.00 - 15.50	- Target of fogging/observing the resting place on the field.	- Sanityo M.Sc. /Warsito.
16.00 - 17.00	- Method of filling the solution and fuel and getting the machine started/stopping the machine.	- ditto -
19.30 - 21.00	- Reporting/recording	- G.Sembiring/ Head of Kec. Opr. Leksono and Kaliwiro

Thursday, February 14, 1980

08.00 - 08.40 -	Directives of fogging	Soekamto SKM
08.40 - 10.00 -	Transmission & Eradication of Malaria.	- ditto -
10.00 - 10.10 -	break	
10.10 - 11.00 -	Duties and responsibilities of the fogging Team.	- ditto -
11.00 - 11.50 -	Practise getting SN.11 started	- Widodo assisted by 3 Kep. Opr and Kepl. Machine Leksono.
11.50 - 12.00 -	break	
12.00 - 12.50 -	Safety measures and Knowledge on poison of insects.	- Widodo and his firends
12.50 - 14.00 -	Afternoon's break	
14.00 - 15.50 -	Knowledge on fogging device.	- ditto -
16.00 - 17.00 -	Method of filling the solution fuel and getting the machine started/stopping the machine.	Widodo and his friends.
19.30 - 20.30 -	Reporting/recording	G.Sembiring/ Kepl. Op. Leksono and Selomerto.

Friday, February 15, 1980.

08.00 - 17.00 -	Field practise	Widodo assisted by Kep. Op. Selomerto & Leksono.

Saturday, February 16, 1980.

08.00 - 13.00 -	Field practice for each 4 operators (2 machines) and each machine 30-40 r.h.	Widodo and his friends.
13.00 - 16.00 -	break	

14.00 - 16.00 - Division of Working Areas,
equipments/question-answer, closing.

Wonosobo, February 8, 1980.

Seen:

Head of PKB, Regency
of Wonosobo.

signed.

(dr. Soebagio G.)
Nip.: 140051619.

Head of P2.Malaria Section,

Regency of Wonosobo,

signed.

(G. Sembiring)
Nip. : 140020553.

15

ANNEX B

TIME-TABLE OF TRAINING SUBJECTS FOR
FOGGING OFFICER FOR FEBRUARY-MARCH 1980
D.K.K. SECOND LEVEL AREA OF BANJARNEGARA

Date	Time	Training Subjects
Monday, Feb. 11, '80	1. 08.00 - 08.50	- Registration of assistant candidate for equipments. The opening is by Mr. Dokabu.
	2. 09.00 - 09.50	- Principales of Malaria Eradication (Wife of dr. Harbaniati)
	3. 10.00 - 10.50	- Operational organization of fogging (Mr. Soemadi BA)
	4. 11.00 - 11.50	- Knowledge on fogging machines (Mr. BonaS.)
	5. 12.00 - 12.50	-Working method of fogging operation (Mr. Purwadi).
	6. 13.00 - 14.30	- Break
	7. 14.30 - 15.20	- Recording & Reporting (Mr. Bone)
	8. 15.30 - 16.20	- Method of filling the solar oil and premium by Mr. Yusuf.
	9. 16.30 - 17.20	- Method of filling the solar oil and premium by Mr. Yusuf.
	10. 17.30 - 18.30	- Break
	11. 18.30 - 19.30	- Transmission of Malaria (Mr. Soemadi BA)
Tuesday, Feb. 12, '80	1. 08.00 - 08.50	- Method of getting the machines started (Mr. Bona S.,Mr. Purwadi and Mr. Yusuf).

Date	Time	Training Subjects
Tuesday, Feb. 12,'80	2. 09.00 - 09.50	- Method of getting the machines started. (Mr. Bona S., Mr. Purwadi and Mr. Yusuf)
	3. 10.00 - 10.50	- Method of getting the machines started (Mr. Bona.S.,Mr. Purwadi, Mr. Yusuf)
	4. 11.00 - 11.50	- P.K.M. (Dentist Saifuddin AA. SKM).
	5. 12.00 - 12.50	- Poison of insects and prevention of poisoning. (Wife of d. Marbaniati).
	6. 13.00 - 14.30	- Break
	7. 14.30 - 15.20	- Relationship between surveillance and Fogging (Mr. Broto HP).
	8. 15.30 - 16.20	- Implementation of fogging operation (Mr.Dono)
	9. 16.30 - 17.20	- Target of fogging (Mr. Soemadi BA).
	10. 17.30 - 18.30	- Break
	11. 18.30 - 19.30	- Dropping system of solution (Mr.Dono).
Wednesday, Feb.13, '80	1. 08.00 - 08.50	- Practice on machines (Mr. Bona S, Mr. Purwadi, Mr. Yusuf)
	2. 09.00 - 09.50	- Practice on machines (Mr. Bona S, Mr. Purwadi, Mr. Yusuf).
	3. 10.00 - 10.50	- Practice on machines (Mr. Bona S, Mr. Purwadi, Mr. Yusuf).
	4. 11.00 - 11.50	- Practiceeon machines (Mr. Bona S, Mr. Purwadi, Mr. Yusuf).

Date	Time	Training Subjects
Wednesday, Feb. 13, '80	5. 12.00 - 12.50	- Practice on machines (Mr. Bona S, Mr. Purwadi , Mr. Yusuf).
	6. 13.00 - 14.30	- Break
	7. 14.30 - 15.20	- Administration of fogging (Mr. Sulistyo).
	8. 15.30 - 16.20	- Method of repairing of the machines (MR. Yusuf, Mr. Purwadi).
	9. 16.30 - 17.20	- Method of repairing the machines (Mr. Yusuf, Mr. Purwadi).
	10. 17.30 - 18.30	- Break
	11. 18.30 - 19.30	- Practical Instructions (Mr. Soekamato SKM).
Thursday, Feb. 14, '80	1. 08.00 - 08.50	- Practice on machines (Mr. Bona S, Mr. Purwadi, Mr.Yusuf).
	2. 09.00 - 09.50	- Practice on machines (Mr. Bona S, Mr.Purwadi, Mr. Yusuf).
	3. 10.00 - 10.50	- Practise on machines (Mr.Bona S, Mr. Purwadi., Mr. Yusuf).
	4. 11.00 - 11.50	- Practice on machines (Mr. Bona S, Mr. Purwadi, Mr. Yusuf).
	5. 12.00 - 12.50	- Practice on machines (Mr. Bona S, Mr. Purwadi & Mr. Yusuf).
	6. 13.00 - 14.30	- Break
	7. 14.30 - 15.20	- Test on fogging machines (mr. Bona S, Mr. Yusuf)
	8. 15.30 - 16.20	- Test on fogging machines (Mr. Bona S, Mr. Yusuf)
	9. 16.30 - 17.20	- Test on fogging machines (mr. Bona S, Mr. Yusuf).

Date	Time	Training Subjects
Thursday, Feb.14, '80	10. 17.30 - 18.30	- Break
	11. 18.30 - 19.30	- Fogging directives (Mr. Sunaryo).
Friday, Feb. 15, '80	1. 08.00 - 08.50	- Field Practice (Mr. Bona S, Mr. Purwadi, Mr. Dono).
	2. 09.00 - 09.50	- Field Practice (Mr.Bona S, Mr. Purwadi, Mr. Dono).
	3. 10.00 - 10.50	- Field Practice (Mr. Bona S, Mr. Purwadi, Mr. Dono).
	4. 11.00 - 11.50	- Field Practice (Mr. Bona S, Mr. Purwadi, Mr. Dono).
	5. 12.00 - 12.50	- Field Practice (Mr. Bona S, Mr. Purwadi, Mr. Dono).
	6. 13.00 - 14.30	- Break
	7. 14.30 - 15.20	- Test on fogging machines (Mr. Bona S, Mr. Yusuf).
	8. 15.30 - 16.20	- Test on fogging machines (Mr. Bona S, Mr. Yusuf).
	9. 16.30 - 17.20	- Test on fogging machines (Mr. Bona S, Mr. Yusuf).
	10. 17.30 - 18.30	- Break
	11. 18.30 - 19.30	- Question-Answer (Mr. Soemadi BA, Mr. M. Kusma, Mr. Dono).
Saturday, Feb. 16, '80	1. 08.00 - 08.50	- Discussion (all Trainers)
	2. 09.00 - 09.50	- General Explanation (Wife of dr. Marbaniati).

Date	Time	Training Subjects
Saturday, Feb.16, '80	3. 10.00 - 10.50	- Distribution of assigments (Mr. Soemadi BA).
	4. 11.00 - 11.50	- Closing by Mr. Dokabu.

Banjarnegara, February 9, 1980

Seen:	Seen:	Head of P2 Malaria DKK Dati II Banjarnegara,
Head of DKK Dati II Banjarnegara,	Head of P3M Section DKK Dati II Banjarnegara,	
signed	signed	signed
dr. Arif Haliman NIP:140048397	dr. Marbaniati NIP: 140061907	Soemadi BA NIP: 1400204604

ANNEX C

DIRECTIONS FOR PUBLIC IN FACING FOGGING

* 1. Open doors and windows wide in order that the fog can enter into the house.

2. First remove eating utensils, kitchen utensils or foods. Cover them. Store them upstairs or in a central room, which is far from windows and doors.

3. Don't put dining instruments, kitchen utensils or foods outside the house. First, remove cattle food from the fooged area.

4. Close cages of birds or pets and first remove or hide them in a central room.

5. Cover aquarium and tubs for potable water supply.

* DURING THE FOGGING

1. The residents/occupants of houses are requested to get out of their houses for a while and wait at the places which are not fogged/which have not been fogged. Upon completion of the fogging, approximately 15 minutes later, they may return to their houses.

2. If they are not willing to leave their houses because of the fear that nobody watches their houses or they are not feeling well, they had better stay in the central room, which is far from windows or doors, to avoid direct fog.

3. It is suggested not to dry clothes, paddy, copras, etc, in the sun on the yard first, during the period of fogging Upon completion of the fogging, all of them may be dried in the sun.

4. Parents, teachers and village heads are expected not to allow children/adults to follow the fogging officials just for "watching".

5. Prevent your body form being affevted by the medicine of fogging. The affected part of your body should be immediately washed with water and soap.

* AFTER THE FOGGING

1. Approximately 15 minutes upon completion of the fogging, you may enter into your house. Allow the fog to kill mosquitoes inside the house.

2. Upon completion of the fogging, anything can be done. There are no prohibitions for you to do everything.

3. Occasionally we feel our eyes somewhat "irritated/painful" This does not create problems. In a while such a feeling will disappear. It is the same as you walk where someone is burning the rubbish. If you are doubtful, you can wash you face and eyes. The feeling of being irritated will soon dissapear.

4. If you or your relatives feel or experience the following symptons, please contact the nearest health officials for necessary aid.

INDOCATIONS OF BEING AFFECTED BY FOG/MEDICINE FOGGED

A. Continuous sweating occurs upon completion of the fogging.

B. Headache, blurry vision.

C. Stomach is sick or vomitting.

D. Body shivers with cold.

E. Speaking not in a clear way (rather dumb).

F. Body feels very powerless.

PLEASE CONTACT PUSKESMAS (PUBLIC HEALTH CENTER) OR NEAREST HEALTH OFFICIALS FOR INQUIRY OR NECESSARY AID.

PUBLIC HEALTH INFORMATION

22