1989-368

Inge Verdonk

Department of Environmental and Tropical Health

lib

822
IDJA89

Primary health care and hygiene education and extension in Indonesia

a case study in Indramayu

februari 1989

LIBRARY
INTERNATIONAL REFERENCE CENTRE
FOR COMMUNITY WATER SUPPLY AND
SANITATION (IRC)

Wageningen Agricultural University

822-IDJA89-5239

PRIMARY HEALTH CARE

AND

HYGIENE EDUCATION AND EXTENSION

IN INDONESIA

A CASE STUDY IN INDRAMAYU

LIBRARY, INTERNATIONAL REFERENCE
CENTRE FOR COMMUNITY WATER SUPPLY
AND S...
P.O. B... Hague
Tel. (07... t 141/142
RN: 5239
LO: 822 IDJA89

Inge Verdonk

Februari, 1989

LIBRARY, INTERNATIONAL REFERENCE
CENTRE ... SUPPLY
AND ...
P.O. B...
Tel. (070) 8... 141/142
RN:
LO:

Vakgroep Gezondheidsleer

PREFACE

I wish to thank all the people who made it possible for me to do this research and who gave me a wonderful time in Indonesia.
I want to thank IWACO for giving me the opportunity to do this research and for all the help they gave to me, especially the OTA 33 staff.
The medical faculty of the UNPAD university I want to thank for the quidance and for the support they gave me.
I am grateful to the staff of puskesmas Plumbon, the Dinas Kesehatan Indramayu and the village heads and PKK cadre, for their hospitality and for answering all my questions.
George thank you for all the advise and support you gave me for the research and also for the company and everything you gave me during my time in Indonesia.
Shaba was a great help during the interviews and the socializing. Besides she could tell me many interesting aspects of Indonesia, thank you for everything.

SUMMARY

This report gives a description how hygiene education and extension is organized in the Indonesian health care and implemented in the villages.

A case study is done in the regency Indramayu, at the healthcentre (puskesmas) Plumbon.

The Indonesian health care is organized at five level: national-, provincial-, regency-, sub-district and village level.
The health department at each level is responsible for the planning and evaluation of the health program in its area. The higher level give support and supervision to the lower levels.

National health programs are based on the national policy and nationally spread health problems.
The implementation of the national health programs can be adapted to the local situation. The priority which given to each program by a head of a health service is important. The head decides how the often scarce, money, personnel and means are divided over the programs.

In this report the following health services are described: the DKK (regency level), the puskesmas (sub-district level) and the posyandu (village level).

The kabupaten health service (DKK) is responsible for the organization of the health programs in the kabupaten. The programs of the DKK are based on the national programs and the health situation in the kabupaten.
The DKK head is the dokabu (a doctor). The DKK consists of six sections, each with its own program. Three sections of the DKK are linked with hygiene education.
The Education and Extension section organizes the education and extension program, distributes education material and gives some health education. The Environmental Health section organizes the programs of the sanitarian of the puskesmas. The section Developing a Healthy Society coordinates the School Health program (UKS).

The main function of the DKK is to organize the monthly meeting with the puskesmasses, to pass information and materials of the government to the puskesmas and to send the reports of the puskesmasses to the government.
The task of the DKK is to advice the puskesmas. The people at the DKK do not have a much better education or more experience though than the staff of the puskesmas.

The cooperation between the sections of the DKK is not always well, possibly due to lack of budget or lack of motivation. Most personnel of the DKK have another job as well, so they do not always have time for their work at the DKK.

The puskesmas is the spill of the Indonesian health care, it is the service by which most of the health programs are implemented. The head of the puskesmas is the doctor he organizes the healthprograms in the sub-district (kecamatan). He works together with the Camat, the kecamatan departments, the village heads and the family welfare movement (PKK). The doctor is responsible to the DKK.
There is a monthly meeting of the DKK and the heads of the puskesmasses. This is an important meeting because the doctors have together much knowledge and experience. During the meetings the policy of the new programs and the experience with old programs are discussed.

The puskesmas has a highly qualified staff (many people, some with a high education) compared to other departments.

Medical care and medicines are given at the puskesmas. With a mobile clinic far away places are reached.
Several preventive health care programs are implemented at the puskesmas and in the villages. How the programs are implemented depends on the staff of the puskesmas.

Health education is an integrated part of each health program. Health workers give education about the implemented health programs and the local health problem.
Health education is given during most of the health activities. Information is often concrete and linked to the home situation of the people.
Education is also given at meetings, trainings and through the traditional media.
Hygiene education is mainly given by the sanitarian.
Through the school health program health care and health education are given to the school children.
Not much education material is available.

The posyandu, an integrated service post, is supposed to be developed by the village people themselves through the family welfare organization, the PKK.
In many villages the PKK is not strongly organized. Only the Mother and child care and Family Planning which is organized and stimulated by the puskesmas is implemented through the posyandu. A posyandu service is done once a month in each quarter of a village. Children under five are weighed and health education is given by the PKK cadre. Regularly staff of the puskesmas comes to help a posyandu service and to give immunization.
PKK cadre give also health education to their neighbours and friends during visits.

The quality of the PKK organization and the posyandu service can be very different between villages.

To improve the posyandu a better community involvement is needed. This can be initiated by activities which are based at the local problems

The area of one puskesmas is too big for an optimal health care. Because of lack of money, transport and staff not the whole area can be reached.
Expansion of the health service at village level is necessary to reach the people more frequently and thus effectively. This is especially important for education and extension, as this asks for an intensive approach. Other health programs might therefor also be implemented through the posyandu.

The impact of education and extension is difficult to measure. Habits of people change slowly so it takes a long time before impact of education can be found. It is difficult to prove that changes are due to education and extension. Therefor the importance of education and extension is often disputed, and curative health care with its measurable results is preferred. Still the causes of many diseases are not in the medical field, and so cannot be solved by curative health care. To eradicate these diseases other changes are needed, in the field of economics, environment, food, etc.
Education and extension stimulate these changes.

Recommendations for further research

- Asses the knowledge, attitude and behavior of the village people; their problems and priorities concerning clean water, sanitation, hygiene and related health problems.

- To study the experience in Indonesia with other education methods, like Paolo Freire's method: this method makes the people aware of the own situation. This kind of methods are interesting because they lead to a community participation; the people become aware of their own problems and solutions.

- Many questions how and why things were done kept unanswered. Problems with implementation of programs and cooperation with other organization are probably known at OTA 33. It might be a good idea to write down these experiences.

GLOSSARY

APBD I	Budget from provincial level
APBD II	Budget from kabupaten (regency) level
APBN	budget from national level
APK	Health technical academy
Arrisan	Rotating lottery organized by the PKK
Bahasa Indonesia	The Indonesian language
Balai desa	Village hall
Balita	Child under five years old
Binkesmas	Development of a healthy society
Bupati	Head of a kabupaten (regency)
Camat	Head of a sub-district
Dalang	The player of the wayang play
Dasa Wisma	PKK cadre per 10-20 households
Dharma wanita	Organization of the wives of civil servants
DKK	Health service at kabupaten (regency) level
Dokabu	Head of the kabupaten (regency) health service (DKK
Dukun	Traditional healer
Gizi	Nutrition
Gotong royong	System of working together for a shared result
HKS/HKN	National health day
Indramayu	Regency in West-Java
Inpres	Instructions form the president
Jamu	Traditional medicine
Kabupaten	Regency
KB	Family planning
Kecamatan	Sub-district
Kesehatan	health
Kesling	Environmental health
KIA	Mother and child health care
KMS	Road to health card
Kopencapir	Group which listen and read information
Little doctors	Schoolchildren with special health training
LKMD	Village organization for community involvement
P3M	Communicable disease control
Penyuluhan	Education and extension
PHC	Primary health care
PHN	Public health nursing
PKK	Family welfare movement
PKM	Public health education and extension
Plumbon	Village in kabupaten Indramayu
Posyandu	Integrated service post
Puskesmas	Regional health centre
Puskesmas Keliling	Medical service of the Puskesmas for remote areas
Puskesmas Pembantu	Small help puskesmas for areas where a puskesmas has not yet been developed
Pusling	see puskesmas keliling
RT/RW	Village quarters
Rupiah (Rp)	Indonesian currency; Rp 1000 was about 1.16 guilder at the begin of 1988.
Sandiwara	Traditional theater
Siaran pedesaan	A radio program
SPPH	School for sanitarian workers
Tokoh	Respected person
UKS	School health program
Wayang	Javanese puppet show

CONTENTS

PREFACE I
SUMMARY II
GLOSSARY V
1 GENERAL 2
2 OBJECTIVES AND METHODS OF RESEARCH 4
2.1 OBJECTIVES 4
2.2 METHODS 4
2.3 ORGANIZATION OF THE RESEARCH 8
3 HISTORY OF THE INDONESIAN HEALTH CARE 10
3.1 HEALTH CARE DURING THE COLONIAL PERIOD 10
3.2 HYGIENE EDUCATION DURING THE COLONIAL PERIOD 12
3.3 HEALTH CARE AFTER INDEPENDENCE 16
3.4 INDONESIAN HEALTH CARE TODAY 16
4 REGENCY LEVEL: THE REGENCY HEALTH SERVICE (DKK) 20
4.1 GENERAL 20
4.2 ORGANIZATION STRUCTURE 20
4.3 PROGRAMS AND ACTIVITIES 20
4.4 BUDGET 24
4.5 THE EDUCATION AND EXTENSION SECTION 26
4.6 THE ENVIRONMENTAL HEALTH SECTION 32
4.7 THE SCHOOL HEALTH PROGRAM 34
4.8 CONCLUSION 38
5 SUB-DISTRICT LEVEL: THE PUSKESMAS 40
5.1 GENERAL 40
5.2 ORGANIZATION STRUCTURE 40
5.3 PROGRAMS AND ACTIVITIES 42
5.4 BUDGET 50
5.5 PERSONNEL 52
5.6 EDUCATION AND EXTENSION BY THE PUSKESMAS 52
5.7 ENVIRONMENTAL HEALTH (KESLING) 56
5.8 SCHOOL HEALTH PROGRAM (UKS) 58
5.9 CONCLUSION 64
6 VILLAGE LEVEL: THE POSYANDU 68
6.1 GENERAL 68
6.2 ORGANIZATION STRUCTURE 68
6.3 PERSONNEL 70
6.4 BUDGET 72
6.5 POSYANDU ACTIVITIES 72
6.6 AMOUNT OF POSYANDUS 76
6.7 ATTENDANCE OF THE POSYANDU 76
6.8 FUNCTIONING OF THE ORGANIZATION OF THE POSYANDU . . 78
6.9 CONCLUSION 80
7 PROGRAMS AND PRACTISE 82
7.1 GENERAL 82
7.2 PROGRAM AND PRACTISE 82
7.3 ASPECTS INFLUENCING THE IMPLEMENTATION OF PROGRAMS . 84
8 LITERATURE 90
APPENDIX I : DOING RESEARCH IN INDONESIA 92
APPENDIX II : UKS TRAININGS 94
APPENDIX III: THE PKK 98
APPENDIX IV : THE LKMD 104
APPENDIX V : OTHER VILLAGE ORGANIZATIONS 108
APPENDIX VI : ATTENDANCE OF THE POSYANDU 110

LIBRARY
INTERNATIONAL REFERENCE CENTRE
FOR COMMUNITY WATER SUPPLY AND
SANITATION (IRC)

scheme 1.1. the Indonesian health care structure and the contents of the report.

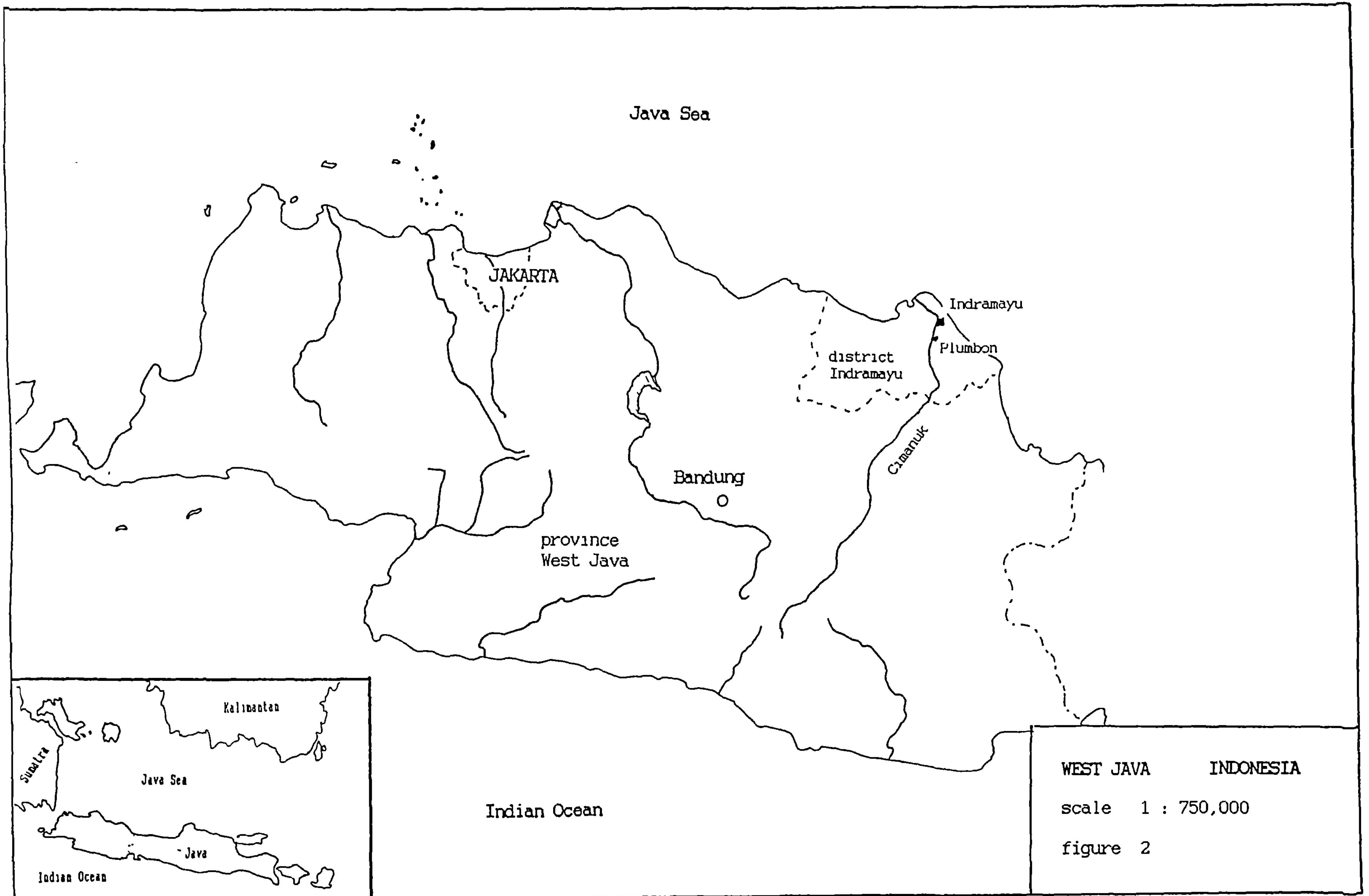
```
              national level
      (national health department)
                    :
                    :
             provincial level
     (provincial health department)
                    :
                    :
         regency (kabupaten) level          =>>  chapter 4
   (regency health department (DKK))
                    :
                    :
            sub-district level              =>> chapter 5
               (Puskesmas)
                    :
                    :
              village level                 =>> chapter 6
               (posyandu)
```

1 GENERAL

This report is the result of six months research carried out for the department of health in the framework of a MSc study program at the Agriculture University of Wageningen.
The report gives a description of the hygiene education and extension within the Indonesian health service. The report has been supportive to the OTA 33 project, a rural watersupply and sanitation project in West-Java financed by the Netherlands. The project is carried out by IWACO-BV.

For many people in rural West-Java safe drinking water and adequate sanitation facilities are not available. Irrigation canals, shallow wells and handpumps are used as water source. The canals are also used for bathing, defecating, washing of clothes, bicycles and cows. Well water can be contaminated due to pitlatrines located nearby. Water is often stored in the houses in an unhygenic way. Under these conditions it is no wonder many water related diseases exist.
Providing water and sanitation facilities is not enough to prevent water related diseases. People also have to use the facilities in a hygienic way.
Until now, OTA 33 especially payed attention to provide drinking water. Now it is intended to include hygiene education and extension in the programs as well. The objective of OTA 33 is to advise and support ongoing hygiene education and extension programs implemented by the Indonesian health service.

This report gives a description of the way hygiene education and extension is organized in the Indonesian health care and implemented in the village. The method of research is described in chapter 2.
The development of the Indonesian health care from the beginning of the colonial period until today is described in chapter 3.
The Indonesian health care is split up in five levels, from national level down to village level. The organization and activities of the health service at kabupaten (regency), kecamatan (sub-district) and village level are described in this order in chapter 4, 5 and 6 (see scheme 1.1.).
The emphasis of this report is put at the activities at sub-district and village levels. There was no time and it was not in the scope of this report to give also a detailed description of the health care at provincial and national level.
A case study was done in kabupaten (regency) Indramayu, at the puskesmas (health centre) Plumbon. Because the health care has the same structure all over the country, the organization structure and programs in this kabupaten (regency) and puskesmas (healthcentre) will be similar to other parts of the country. However the way programs are implemented, the problems and the results of the health service will be different for each situation. Therefor it is not possible to generalize the data given in this report to other places.


Java Sea
JAKARTA
Indramayu
Plumbon
district
Indramayu
Cimanuk
Bandung
province
West Java
Indian Ocean
Kalimantan
Sumatra
Java Sea
Java
Indian Ocean
WEST JAVA INDONESIA
scale 1 : 750,000
figure 2

2 OBJECTIVES AND METHODS OF RESEARCH

2.1 OBJECTIVES

The objective of the research was to give a description of:

A. How hygiene education and extension is organized within the Indonesian health service with respect to: the structure, goals, programs, personnel and budget connected to these programs.

B. The implementation of hygiene education and extension at kabupaten (regency), kecamatan (sub-district) and village level.

C. The differences between the planned objectives of programs and the implementation of hygiene education and extension. The causes of these differences and the recommendations which can be given to improve hygiene education and extension.

2.2 METHODS

The study has been carried from November 1987 till May 1988. A case study was done at the puskesmas (health centre) Plumbon in the kabupaten (regency) Indramayu (see map 2.2.).
Data were collected in the following way:

- **literature;**
- **observation;**
- **interviews.**

Data from literature

Before the field study was started an extensive literature review about Primary Health Care and Indonesian health programs has been carried out.
Additional information has been collected in the course of the fieldstudy.

Data from observations

Observations were done at:

- the puskesmas (healthcentre) Plumbon,
- 11 posyandu's (integrated service posts) in the area of puskesmas Plumbon,
- the meeting of the puskesmas heads in the kabupaten (regency) and the kabupaten health service (DKK) in kabupaten Indramayu,
- meetings of puskesmas Plumbon with the Family Welfare Movement (PKK) and village heads in the area,
- the meeting of the PKK staff of the kecamatan (sub-district) Indramayu and the PKK heads of the villages,
- meetings of the community organization LKMD in the village Plumbon,
- a Family Welfare Movement (PKK) meeting in the village Plumbon.

During a stay in the villages, at the puskesmas Plumbon and at the kabupaten health service (DKK), additional information of the activities in these places has been collected.

Data from interviews

Interviews were done in the Indonesian language and a newly graduated doctor has assisted as interpreter.

at the kabupaten health service (DKK), interviews were done with:
- the DKK head (the dokabu),
- the heads of the departments of Environmental Health, Education and Extension and Developing a Healthy Society,
- heads of the subsections of Education and Extension and Developing a Healthy Society.

at kecamatan (sub-district) level, interviews were done with:
- the staff of the puskesmas Plumbon.
- the head of the Development of the Villages department,
- the head of the Information department,
- the PKK head,

at village level, interviews were done with:
- village heads (in two villages),
- PKK heads (in 4 villages),
- PKK cadre (in 4 villages).

The interviews had an open character. The questions about the topics were prepared beforehand. When during the interview other interesting topics were mentioned more detailed information was obtained on these topics too.

The interviews were carried out in two ways:

interviews on appointment
These interviews were done in the office or during home visits. Normally an interview lasted about one hour. Often not all information was collected during the first interview, then interviews were done later (see also appendix I). Interviews were first given by the head of the organization or department. After this, interviews were done with other personnel. Only at kecamatan (sub-district) level the head (Camat) has not been interviewed.

interviews during activities
During the activities or afterwards there was normally enough time to talk with people. Occasionally follow up interviews have been held.

LIBRARY
INTERNATIONAL REFERENCE CENTRE
FOR COMMUNITY WATER SUPPLY AND
SANITATION (IRC)

2.3 ORGANIZATION OF THE RESEARCH

- The research was carried out in the framework of the Health Impact Study.
- Supporting study for the Intervention Study which is to assess the impact of education on health and hygiene.
- Responsibility / guidance: through Medical Faculty UNPAD.
- Status: Technical assistance to the research (HIS).
- Research permit: through Medical Faculty UNPAD.
- Fieldwork: at puskesmas Plumbon and health related organizations (see paragraph 2.2),
  UNPAD student as counterpart (January - April '88).
- Administrative / technical / transport / financial support: IWACO
- Environmental hygiene / tropic hygiene division Agriculture University Wageningen: intermitted guidance in the field / appraisal of the final report.

---

example 3.1. Traditional health care.

The Indonesian traditional health care plays an important role up until today.
There are many kind of traditional medicine men, 'dukun', e.g. for massage, for fractures and traditional midwives. These 'dukun' have special healing power and knowledge of medical herbs, the 'jamu'.
The 'jamu', the traditional herbal remedy are still used very much. The 'jamu' are cheap and they can easily be bought anywhere. 'Jamu' are taken for disorders and because of their positive effect on body functions, e.g. for a beautiful skin and for energy. Some people take some kind of 'jamu' everyday. Other 'jamu' are taken on special occasions (e.g. on fixed days after a baby is born).

---

3 HISTORY OF THE INDONESIAN HEALTH CARE

3.1 HEALTH CARE DURING THE COLONIAL PERIOD

The historical developments of the health care in various developing countries have many corresponding points. Originally these countries had an own health care (see example 3.1.). But during the colonial period the western health care was introduced. First this health care was restricted for the colonists themselves but later it was also meant for the native population.

This was also the case in Indonesia. In the beginning of the colonial period, the 17th Century, the western health care had limited influence in the society. The western health care was not yet extensively developed, and was only meant for the Dutch colonists.
After 1800 the Dutch started health care programs for the Indonesian people for three reasons.
First the Dutch came more into contact with the Indonesian people, so they were more vulnerable of getting infected with communicable diseases.
Secondly a better health of the plantation workers would result in higher yields. Intensive preventive programs to improve the health of plantation workers were therefor developed.
Thirdly to improve the living conditions of the people because of ethical consideration.

The health care existed of the following three components:
1 **the hospitals**
build in the cities, especially meant for colonial administrators and their families,
2 **the rural dispensaries**
mostly linked to the mission, their goal was curative health care for plantation workers and the local population,
3 **hygiene and public health programs**
for the whole nations.

The health care consisted of a curative and an preventive part. The Dutch government concentrated it self at the preventive health care. In the area of curative health care the government primary stimulated and coordinated the work of others and only did additional services which could not be done by private people.

Curative health care

At the end of the 19th century curative health care became available in some rural areas through the medical work of the mission.
In 1937/38 a decentralization was started. The centre of medical service would be at kabupaten (regency) level. By developing a system of small help-hospitals and polyclinics, later a wider part of the rural areas was to be reached.

Still, at the end of the colonial period the individual medical care program was very much underdeveloped, e.g. 2 doctors, 3 nurses and 1 midwife were available per 100,000 inhabitants. Most facilities were still concentrated in the city. So the major part of the population could not make use of the modern curative health care.

<u>Preventive health care</u>

The Dutch government gave in general more attention to the preventive health care. This included systematic immunization programs, education and extension programs about hygiene and nutrition and programs for the improvement of the environment. The last included housing, drinking water and sanitation facilities.

3.2 HYGIENE EDUCATION DURING THE COLONIAL PERIOD

In 1916 the director of the Civil Medical Service made the statement that: medical treatment is in general not very effective in improving community health, because this treatment can never reach more than a very small part of the people.
In 1920 an information division of the Civil Medical Service was organized. Education material was made and distributed, but the program was soon discontinued.
In 1924 again a program for health education was started, this included the following subjects:

- to test methods and materials for health education already in use in other countries;
- to adapt these methods and materials whenever necessary to make them suitable for use under local conditions;
- to develop new methods and materials;
- to begin the field work in rural areas with the objective to teach the people the basic hygiene;
- to begin the campaigns on a small scale in order to keep the cost within reasonable limits;
- to make extensions of the work dependent of achieved results with the various methods.

<u>The hygiene unit</u>

For reasons of effective administration and supervision, decentralization of hygiene work was advised. Furthermore it was anticipated that programs in some of the rural areas would be extended and gradually developed into small health units.

A program of hygiene units was started in some areas in East-Java based on the idea that:

> "doing things to people is often easy , but it is expensive and of temporary benefit. Showing people how to do things for themselves may take a little more time, but it is relatively inexpensive and its results are lasting".

Hygiene work and medical care were given separately otherwise hygiene work might be neglected because medical care is easier to give and has faster results.

Staff

The staff of a hygiene unit consisted of:
- hygiene workers,
- a midwife,
- other members of subordinate personnel.

The hygiene unit staff was responsible to an Indonesian doctor who was responsible to the kabupaten (regency) council.

The starting up of the hygiene program

Before a program was started village authorities were informed about the methods used in intensive health work. Special groups such as school teachers, societies and pupils of the school of native officials, were informed to secure their interest and cooperation.

The work of the hygiene worker

Every hygiene worker was responsible for a village of 2000-4000 people. He started with a survey in the area. He noted down the conditions of each house and yard and made a short medical history of everybody.
The hygiene worker visited every family. Education was first be given about one topic, namely worm diseases. The development of these diseases is easy to explain and because this is a chronic disease people would show a longer interest. This education could be broadened to other topics when the results were well. The hygiene worker used models, photographs, charts, etc. to start discussions.

Other education

Apart from the house visits also other education was given:
- general propaganda was used to increase the interest of the people, e.g. with films, lantern slides, lectures and demonstration,
- in the hygiene centre advice was given to pregnant mothers and mothers with young children.
- the traditional midwives got training in the basics of hygiene,
- hygiene education was given at schools.

Still the most valuable form of education was the house visit. As this showed people how to put lessons into practise. It would improve the home conditions and thus support training delivered through the other programs.

---

scheme 3.4. Organization structure of the Indonesian health care.

```
level           health department      administrative
                                         department


national       health department........president/
                         :               parliament
                         :                   :
                         :                   :
                         :                   :
provincial     provincial health.........Governor
                    department               :
                         :                   :
                         :                   :
                         :                   :
regency          regency health ..........Bupati
(kabupaten)       service (DKK)              :
                         :                   :
                         :                   :
                         :                   :
sub-district        puskesmas ***          Camat
(kecamatan)              :       *           :
                         :       *           :
                         :       *           :
                         :       *           :
village           health-post...*...head of a village
                                 *           :
                                 *           :
                                 *           :
                                 ******** posyandu


......   responsibility line
******   advice line
```

3.3 HEALTH CARE AFTER INDEPENDENCE

After independence the new Indonesian government faced many problems. During the war much of the infrastructure had been destroyed also the health care system had to be rebuild.
The new government continued to organize the health care system along the lines of decentralization set up by the Dutch. It was clear that an increase of coverage of rural health care could only be achieved step by step because for a long time there was lack of money, facilities, health workers and medical training.

From 1965 national development was based as 5 year plans. Primary health care would be an important part of the health care service. The development of the puskesmas, an integrated health service at sub-district level, was stimulated. This health centre got an important role for curative health care as well as preventive health care. The development of the puskesmas was an important step forward for the development of an infrastructure of the health service in the rural areas.

3.4 INDONESIAN HEALTH CARE TODAY

The historical developments described above are still reflected by the Indonesian health care system of to day.
The traditional healers are still often consulted and traditional medicines are used.
Both private and public health services exist. Most of the health facilities are in the cities. The puskesmas plays a key role in the health care system and is especially important for the rural areas.
The budget for health care is very low, almost half of the money is spend on hospitals. In consequence, the amount of puskesmas is too low (at the end of pelita III, the third five year plan, there was one puskesmas for about 54,000 inhabitants). The health care is also not divided evenly over the country.

The Indonesian Health Department is organized from national level to village level (see scheme 3.4.).

National level
At national level the national health programs are made by the Health ministry to be approved by the president and the parliament.

Provincial level
The head of the provincial health department is a representative of the Ministry of Health. He is responsible for the planning and evaluation of all health services in the province. He is responsible to the governor of the province.

Kabupaten (regency) level

The health care at kabupaten level is organized through the kabupaten health service (DKK). Its head is the Dokabu who is responsible for planning and evaluation of the health services. The Dokabu is responsible to the provincial health department and the head at kabupaten level (the Bupati). Some larger cities have their own health service, independent of the DKK.

Kecamatan (sub-district) level

The health service at kecamatan level is the puskesmas. The doctor is the head, he is responsible for planning and evaluation of the health service in the kecamatan. He has to report to the Dokabu (head of kabupaten health department) about all matters. He works together with the Camat, other departments at kecamatan level and the village heads.

Village level

At village level there can be health posts. The auxiliary of the health post has to report to the village head and to the doctor of the health centre.

Another important health post at village level is the posyandu (post pelayanan terpadu = integrated service post). Here are children weighed and immunized and education and extension is given. The posyandu is officially organized by the family welfare movement (PKK), which comes under the ministry of home affairs; the role of the Health department is limited to advisor. In practise the puskesmas also has an important role in the organization.

In the next chapters the health departments at local level are discussed in more detail.

scheme 4.2. Organization structure of the kabupaten (regency) health service (DKK).

Head (dokabu)

...... administration

Communicable disease control
- by animal transmitted diseases
- directly transmitted diseases
- communicable disease inspection
- immunization

Improvement of health
- hospitals
- laboratories
- dentistry
- pharmacy

Environmental health
- facilities for drinking water and toilets
- control of communal places and industrial sanitation
- monitoring for a healthy environment

Education and extension
- reporting, evaluation and documentation
- program service
- expansion of communication facilities

Developing a healthy society
- school and sports health
- mother and child health and family planning
- public health nursing
- administration

Nutrition
- improvement of the family's nutritional status
- improvement of the quality of drinks and foods
- nutritional improvement of the community
- administration

Unit for technical implementation. | Puskesmas | Laboratories

4 REGENCY LEVEL: THE REGENCY HEALTH SERVICE (DKK)

4.1 GENERAL

The DKK (dinas kesehatan kabupaten = regency health department) is responsible for the health care programs in the kabupaten. Many of these programs are implemented by the puskesmasses. In this chapter the organization structure, activities and other aspects of the DKK are discussed. Three of its sections which carry out education and extension on watersupply and sanitation are worked out in more detail in the paragraphs 4.5, 4.6 and 4.7.

A case study is done at the DKK in the kabupaten (regency) Indramayu.
Indramayu is a kabupaten with about 1.2 million inhabitants. In the kabupaten is one hospital (in the city Indramayu), 24 puskesmas (so a mean of one puskesmas for 50,000 inhabitants), 46 puskesmas-pembantu (small help-puskesmasses, for areas where a puskesmas has not yet been put up). There are 26 general doctors, 31 midwives, 87 nurses and 23 sanitarians.

4.2 ORGANIZATION STRUCTURE

The head of the DKK is the dokabu (doctor kabupaten = regency doctor). He is responsible for the health care programs in the kabupaten. The dokabu is responsible to the provincial health department and the Bupati (administrative head of the kabupaten).

The DKK exists of six sections, each section has its own programs and staff (see scheme 4.2.). Twice a month the sections have a meeting together. The sections get instructions about the programs from the head of the DKK (the dokabu) or directly from provincial level. They report to both.

4.3 PROGRAMS AND ACTIVITIES

programs

The kabupaten health programs are based on the programs of the national level and reports out of the kabupaten about the results of the health programs and the health problems.
Programs at provincial or national level are made if similar health problems exist in many regencies. If a health problem exist only in a few areas, health programs are developed at local level.

Every year the programs are evaluated. The DKK makes reports about the results of the programs (achieved targets). Before the first of April the DKK sends its reports to the Bupati and the provincial health department. Based on these reports, the program and the budget for next year are established.

---

example 4.3. How a new program is made at kabupaten level.

At provincial level it was noticed from the reports that the family planning program (KB) had better results than the Health program. These programs are organized separately by two departments, especially at higher levels. In the field the programs are often already integrated. The provincial authorities now would like to integrate these programs at all levels.
To get this integration the province organized a meeting with all DKK's and the Family Planning departments, and explained the meaning of the new program. The people were asked to organize meeting in their own kabupaten.

The DKK head organized a meeting with members of the DKK sections, Family planning department and the puskesmas heads and the KB-workers.
In this meeting the DKK staff explained the ideas of the province. This was followed by group discussions and plenary discussions about existing problems, priority of problems, solving of problems and plans for new programs.
The plans for the new program was made by filling in a scheme with the following columns:

- at which level has the program to be carried out,
- steps of activities,
- purpose,
- activity of the participants,
- responsibility,
- time and frequently of reporting,
- indicator of output,
- monitoring and realization,
- finance.

Reports were made of the discussion by the DKK, this report would be sent to the province who would collect all idea's of the DKK's and sent a report about this to the national level. The national health department would make a new program, which would be sent through provincial level to the DKK's.

The programs often give only general goals. So the way programs are implemented can be adapted to local conditions. This is necessary because problems and possibilities can be very different per location.

Activities

The function of the DKK is to organize and supervise health programs in the kabupaten. This is mainly done through a monthly meeting of the DKK with all the puskesmas heads. The puskesmas heads report on the progress in the field. The DKK gives information about new programs. Problems and new approaches are discussed (see example 4.3.). When necessary the Dokabu or the sections of the DKK visit a puskesmas.
The DKK itself carries out a part of the health program (e.g. they build handpumps and make radio programs, see also paragraph 4.5. and 4.6.)

Functioning of the DKK

staff members have several jobs
Note worthy is that most personnel of the DKK have several jobs. The time personnel spent for work at the DKK depends partly on the priority given to this work.
Because people are often not in their office, they are difficult to reach. Especially for people from far away who do not know the habitual working times, and who cannot easily retry a visit.

informal meetings are important
Appointments are often made in an informal way during home visits or other activities. Therefor a puskesmas near the DKK will probably be in closer contact with it.

coordination
The coordination between the health sections and between the health department and other departments is not optimal. This can be due to:

- **lack of organization**

Coordination within the DKK is the responsibility of the Dokabu. Coordination between the DKK and other departments is the responsibility of the Bupati. Both have many tasks and do not always organize a good integration between the departments for all programs.

- **money**

When there is not enough money for a program money is saved by having less meetings (it is usual to serve food and drinks during meeting, this costs money as well). Sometimes there is not enough money in a program to involve (and pay) other departments/ sections.
The opposite can also be the case, when there is much money to be gained with a project, people like to keep the project (and the money) in their own department/ section.

table 4.4. Budget of the kabupaten health service (DKK) in 1988.

APBN (national) budget:

- Puskesmas (*)		Rp 10,273,000
- Communicable diseases		Rp 3,002,000
- Nutrition		Rp 4,570,800
- Public health education (PKM)		Rp 1,157,000
	total:	Rp 19,002,800

* This is for the activities for the 24 puskesmasses in the kabupaten:

- Transport for training		Rp 360,000
- Operational use of the Puskesmasses (1)		Rp 5,280,000
- Operational use of Puskesmas Keliling		Rp 4,165,000
- Transport to the posyandu		Rp 288,000
- To teach PKK cadre		Rp 180,000
	total:	Rp 10,273,000

(1) each puskesmas gets Rp 200,000 a year which they can use in their own way.

APBD I (provincial) budget:

- Education and extension		Rp 345,000
- Nutrition		Rp 580,000
- School health program (UKS)		Rp 50,000
- Developing a healthy society		Rp 50,000
	total:	Rp 1,025,000

APBD II (kabupaten) budget:

Ten programs get money from APBD II e.g.:

- Binkesmas	Rp 950,000
- Kesling	Rp 1,000,000
- UKS (school health program)	Rp 900,000

(Rp 1000 is about 1 guilder)

- **motivation**

Sections or departments which could be a help in a project might not be interested, and prefer to do their own programs

4.4 BUDGET

The money for the programs of the DKK comes from four different sources (for amounts see table 4.4.):

1) APBN:

APBN comes from the national health department which already has decided how the money has to be spend. The money is distributed by provincial authority.
For the year 1988 the programs of the sections Communicable Diseases, Nutrition, Public Health Education and the puskesmasses got together about twenty million rupiah. This means that together they can spend about 15 rupiah per inhabitant (about 2 dutch cents).

2) APBD I:

APBD I comes from the province. This money is for the programs of the sections Education and Extension, Nutrition, School health program (UKS) and Developing a Healthy Society. The total amount spent in 1988 is one million rupiah, which means 8 rupiah per inhabitant (about 1 dutch cent).

3) APBD II:

This money comes from the kabupaten. When one of the projects which are financed by the other sources have lack of money they apply for money from APBD II. At the moment 10 different activities/ sections receive money from this source.

4) Inpres:

The Inpres (= instruksi president) comes directly from the president. Responsible for the money are the Bupati and the head of the DKK. Inpres money is for special inpres programs. Proposals from the DKK for Inpres funds have to be approved by the head of the kabupaten administration (the Bupati).

Besides these four sources additional money can come from foreign aid /donor (e.g. Unicef).
Depending on the scope of the budget, urgency of the program and the policy of that year the money of the different sources is divided.

---

example 4.5. Education of the staff of the Education and Extension section.

---

head of the section: administrative school at university level (sekolah Tinggi Ilmu Administrasi - Lembaga Administrasi Negary (STIA-LAN)),
head of subsection program service: nurse academic (Akademi Perawatan (AKPER)),
head of subsection expansion of communicating facilities: school for coordination of nurse work (sekolah pekarya kesehatan), which is three years after high school (SMA),
head of subsection reporting: school for paramedical helpers (sekolah pembantu paramedis (SPPM)), which is one year after high school (SMA),
administrative helper: a three months course for working in the health sector (latihan pekarya kesehatan), after high school (SMA).

4.5 THE EDUCATION AND EXTENSION SECTION

general

In this part the section Education and Extension (Penyuluhan) will be described in more detail.
Not all health education and extension is given through this section. All health workers are expected to be health educators. So education and extension is a part of all health programs.

personnel

Five people work at the section Education and Extension: the head of the section, one person at every subsection and one person for general administration.
There is no special school to become health educator, so the people who work is this section have different kinds of educations (see example 4.5.).

The head of this section is also the head of the nurse school. The head of subsection program service is also teacher at the nurse school.

cooperations with other departments

There is also a meeting with the Education and Extension sections of all the departments of the kabupaten once a year. Formerly there was enough money to have such a meeting once in the three months. Non routine visits or meetings are held when necessary.

tasks

The Education and Extension section has four tasks:

1) education of the health workers,
2) information service,
3) providing and distribution of facilities for health education,
4) education and extension of the community.

ad 1) education of the health workers
Sometimes special training programs are organized for healthworkers, e.g. for traditional midwives, personnel of the DKK and puskesmasses, etc.

ad 2) information service
The section Education and Extension can give information and help to programs of other sections of the DKK:
- how to approach the people in the village,
- to tell what the people need,
- to teach the people in the village.

ad 3) providing and distribution of facilities for health education

Most education material comes from national and provincial level. It is the task of the section to spread this material through the kabupaten. Materials provided in the year 1987/88:

- **posters**

The province health service makes posters about two topics. Each DKK receives 3000 copies of both posters, they have to distribute these posters in the kabupaten.

- **tapes**

Tapes about health which can be played for the radio or through speakers in the villages.

- **simulation games**

75 000 games are made this year for the whole country.

- **bulletins**

containing information about posyandu activities,

- **exhibition, billboard and banner**

one exemplar of each is displayed at the national health day once a year.

ad 4) education and extension

The section organizes the Education and Extension program of the puskesmasses. The next activities are done by the subsection program service (one person organizes all these activities).

- **radio** (broadcasted together with the information department)

There are 2 radio programs. 'Siaran perdesaan' (once a month), about the health situation and problems in the kabupaten. And a quiz (twice a month), the quiz is held between two Kopencapir groups (a group of people who read information in the newspaper, listen to the radio and watch TV, see appendix V). They have to show their knowledge on the contents of governmental programs which are discussed in the media.

- **slides** (made in cooperation with the information department)

Slides are shown once a week in the cinema of Indramayu before the movie or during the break. Every month the material is changed.

- **film**

Four times a year a film is shown in the kabupaten, twice by the provincial health service and twice by the DKK. Films can be borrowed from the provincial health service. The film is shown in the village in the open air. Afterwards the contents of the film is explained in the local language because the film is in Bahasa Indonesia. Films are popular in the villages.

table 4.5. Budget of the Education and Extension section.

Three sources reported differently on the budget of the Education an Extension section of the DKK Indramayu.
These differences can be caused by the way the budget is calculated. Some of the budget is not for the section itself but for education and extension programs of the puskesmasses.

Budget according to the section Education and extension itself:

- Transport for participants of training	Rp 460,000
- Material for participants	Rp 150,000
- Budget for facilities for participants and staff	Rp 750,000
- Salary for trainer	Rp 128,000
- salary for the speaker	Rp 128,000
total	Rp 1,608,000

Budget of the section Penyuluhan according to finance department of the DKK:

from APBN:	
- Project management	Rp 234,000
- Training of staff	Rp 567,000
- Education and extension	Rp 356,000
from APBD:	Rp 345,000
total	Rp 1,502,000

Budget of the section Penyuluhan according to the report of APBN and APBD I (money for activities in 87/88):

from APBN:	
- Administration for 18 Puskesmas	Rp 234,000
- Teaching of puskesmas (1 x for 4 days meeting)	Rp 2,576,000
- Radio (12 x)	Rp 231,000
- Exhibition (1 x)	Rp 85,000
- Film (2 x)	Rp 40,000
from APBD I:	
- Radio (12 x Rp 5000 for local transport)	Rp 60,000
- Education of working groups of the puskesmas (per 1 puskesmas x 3 posyandu Rp 5000)	Rp 540,000
total	Rp 3,666,000

(Rp 1000 is about one guilder)

- **traditional media**

Once every six months the section has a meeting with the dalangs (the player of wayang) and players of traditional theater (sandiwara) of the area. The dalangs are taught how to integrate education and extension in the play.

- **newspaper**

Every month somebody from the DKK (often the head of the Education and Extension section) writes a column in a local newspaper. The DKK sends a copy of the newspaper to all the puskesmasses in the kabupaten. Formerly UNICEF payed for this distribution and also all posyandus received a copy.

Topics of education

The education material and activities have a selection of the health programs as topic. (family planning, nutrition, immunization, prevention of diseases, posyandu, tuberculosis, etc.).
Education is especially given about health topics concerning important health programs and actual local health problems.

budget

The section Education and Extension gets about Rp 1,600,000 (about 1900 guilder) which means Rp 1,25 (0.2 dutch cents) per person in the kabupaten. For details of the budget see table 4.5..

Problems

Budget
There is budget for the above mentioned activities but there is not enough money for additional activities; e.g. to make extra copies, to translate education material to the local language, for audiovisual equipment and material. Also transportation costs are often a problem.
Meetings, trainings and other activities are done less frequently or for less people because of lack of money (during meetings and trainings normally food and drinks are served, which makes meetings more expensive).

Result
The impact of the education is not immediately visible. People learn step by step and change habits slowly. Healthworkers can be less motivated to spend much time on education

Lack of education
There is no special school for education and extension workers. So new personnel still needs to learn things when they come to work at this section.

---

table 4.6. Activities of the Environmental Health program during the year 87/88.

---

subsection drinking water and toilets:
(sarana air minum dan jamban keluarga (samijaga)

1. Village drinking water/ inpres project for shallow hand pumps year 87/88. (administration, organization, preparing tools and drilling and monitoring results).
2. Monitoring sanitation activities of the puskesmasses.
3. Planning for the year 88/89.

subsection control public places and industrial sanitation:
(perusahaan & tempat- umum & sanitati industri, TTUI)

1. Working for the projects GTA- 7 (OTA 33/II) and DIP PKL (year 87/88).
2. Control of food selling places and industrial sanitation

subsection monitoring for a healthy environment:
(penyehatan lingkungan pemukeman, PLP)

1. housing
   - monitoring sanitation activities of the puskesmas,
   - monitoring the rehabilitation of the houses of tuberculosis patients,
   - planning of the rehabilitation of the house in areas with many tuberculosis patients (together with the Communicable Disease Control section),
   - education about housing (together with the Social department and the Public Works department),
   - planning education program about housing for next year,
   - report to province.
2. pesticides
   - monitoring sanitation activities of the puskesmas,
   - detection of intoxications (together with Communicable Disease Control section),
   - sending samples of intoxications to the health service at provincial level,
   - education and inspection about storage and selling of pesticide.
   - reporting to province
3. waste disposal
   - monitoring sanitation activities of puskesmas,
   - planning to make waste disposal places for the year 88/89,
   - planning to educate about waste disposal for the year 88/89.

Functioning of the section Education and Extension
It is the task of the section Education and Extension to tell how education and extension should be integrated in programs. In practise the Education and Extension section is often not involved in programs as adviser.
This for reasons of lack of coordination, lack of money or because advise is not needed. Every healthworker already has to know the principals of education and extension. Local health workers (of the puskesmas) have experience how to approach the people in the village.

4.6 THE ENVIRONMENTAL HEALTH SECTION

general

The Environmental Health section (Kesling or kesehatan lingkungan = environmental health) is responsible for the construction and the maintenance of facilities for drinking water and sanitation and has to take care of a healthy environment (at public places, in and around the houses and in industry). They work at local level through the sanitarians in the puskesmas.

structure

The Environmental Health section has three subsections:
1) facilities for drinking water and toilets (samijaga),
2) controlling communal places and industrial sanitation (TTUI),
3) monitoring for healthy environment (PLP).

personnel

Seven people work at this section: the head of the section; a vice head; three heads of the subsection; and two technical assistants for the section who need help. All these people have done SPPH, the school for sanitarian workers (1 year). The head and the vice head also have done APK, the technical health academy (3 years).

The head of the section also has other functions at health departments.

activities

In table 4.6. the activities for the year 87/88 of the section Environmental Health is given. The task of the section is to organize and supervise these programs. Most programs are implemented by the sanitarians of the puskesmasses. A few of the programs are implemented by the section itself, e.g. installing handpumps. Sometimes they work together with other organizations or projects (OTA 33, UNICEF).

scheme 4.7. the UKS organization structure.

level		UKS team
Provincial	head:	Governor
	team members:	representatives of the departments of - Education and Culture - Religion - Health
		:
		:
Kabupaten	head:	Bupati
	team members:	representatives of the departments of - Education and Culture - Religion - Health (section Binkesmas)
		:
		:
Kecamatan	head:	Camat
	team members:	representatives of the departments of - Education and Culture - Religion - Health (the doctor of the puskesmas

.. advice line

budget

(according to the finance department of the DKK)

from APBD II		Rp 1,000,000
from Inpres		Rp 8,500,000
	total	Rp 9,500,000

A total budget of Rp 9,500,000 (10,000 guilder) means about Rp 8 (1 cent) per inhabitant.

Problems:

Budget
Because of lack of money, programs are carried out on a temporary basis only and are not as extended as wanted.

Results
It is difficult to change the habits of the people. Healthworkers give education about sanitation, but the change is too slow, people hardly build any latrines themselves.

Power of the head
The head of the section has several function in departments which are closely linked. So he has (too) much influence on how things will be organized.

4.7 THE SCHOOL HEALTH PROGRAM

General

The school health program (UKS) is organized at four levels (national-, kabupaten-, kecamatan- and school- level) by UKS teams. These teams consist of representatives of four departments (see scheme 4.7.)
The UKS programs are carried out by the UKS teachers at the schools. They are helped by 'little doctors', this are schoolchildren who receive special health lessons.
In this paragraph the work of the UKS team at kabupaten level is explained. In paragraph 5.5 a case study will be given about the UKS program at a school.

Organization structure

The school health program is an integrated program of several departments. At kabupaten level the UKS team consists of:
- the Bupati,
- the Education and Culture department,
- the Health department (DKK),
- the Religious department.

The section Development of a Healthy Society organizes this program on behalf of the DKK. Other sections of the DKK which are involved are, Environmental Health, Nutrition and Communicable Diseases.

The team comes together once every three months. They have a meeting with the teams of kecamatan (sub-district) level once in the three months.

The tasks of the UKS team at kabupaten level

UKS program
Each department has to develop its part of the UKS program. Each department also has to supervise, control and evaluate the UKS program at the schools. The UKS program concerns four topics:

1) healthy environment of the school
Take care of waste disposal, toilets, recreation place and school canteen; responsibility of the environmental health department of the DKK.

2) health education
Contents see paragraph 5.8.; responsibility of the education and culture department.

3) health service in the school
Providing the school with basic medical material and give medical care to the pupils, see also paragraph 5.3.; responsibility of the DKK.

4) school canteen
this is not always part of the UKS activities.

UKS training
The UKS team at kabupaten level gives training about the UKS program to the UKS team at kecamatan level, the school teachers and the 'little doctors' (schoolchildren who receive simple medical training). The training for new UKS teachers is given almost once a year, it takes six days each day eight hours. If there is not enough money, the training will be shorter. Appendix II gives an example of the contents of trainings about UKS.

competitions
The UKS team also organizes a competition between schools about the achievements of the UKS program and also competitions between the little doctors about their knowledge and skills. The best may go to the national competition.

Budget

It is difficult to get insight of the budget of the UKS team. There are several sources of money (APBN, APBD I, APBD II, UNICEF, a.o.). Every department has its own budget.

For example the DKK gets from:

APBD I	Rp 50,000
APBD II	Rp 900,000

The budget is used for facilities is the school (health kit, wash basins, etc.) and for trainings.
For example, one day training for half of the UKS teachers in the kabupaten costs about:

money for food:	Rp 1,500 x 450 teachers	Rp	675,000
honorarium speaker:	Rp 5,000 x 17 kecamatan	Rp	85,000
	total	Rp	750,000

The budget of the UKS programs at the schools depends on the local level.

4.8 CONCLUSION

The kabupaten health service (DKK) is responsible for the organization of the health programs in the kabupaten. The programs of the DKK are based on the national programs and the health situation in the kabupaten.
The DKK head is the dokabu (a doctor). The DKK consists of six sections, each with its own program. Three sections of the DKK are linked with hygiene education.
The Education and Extension section organizes the education and extension program, distributes education material and gives some health education.
The Environmental Health section organizes the programs of the sanitarian of the puskesmas. The section Developing a Healthy Society coordinates the school health program (UKS).

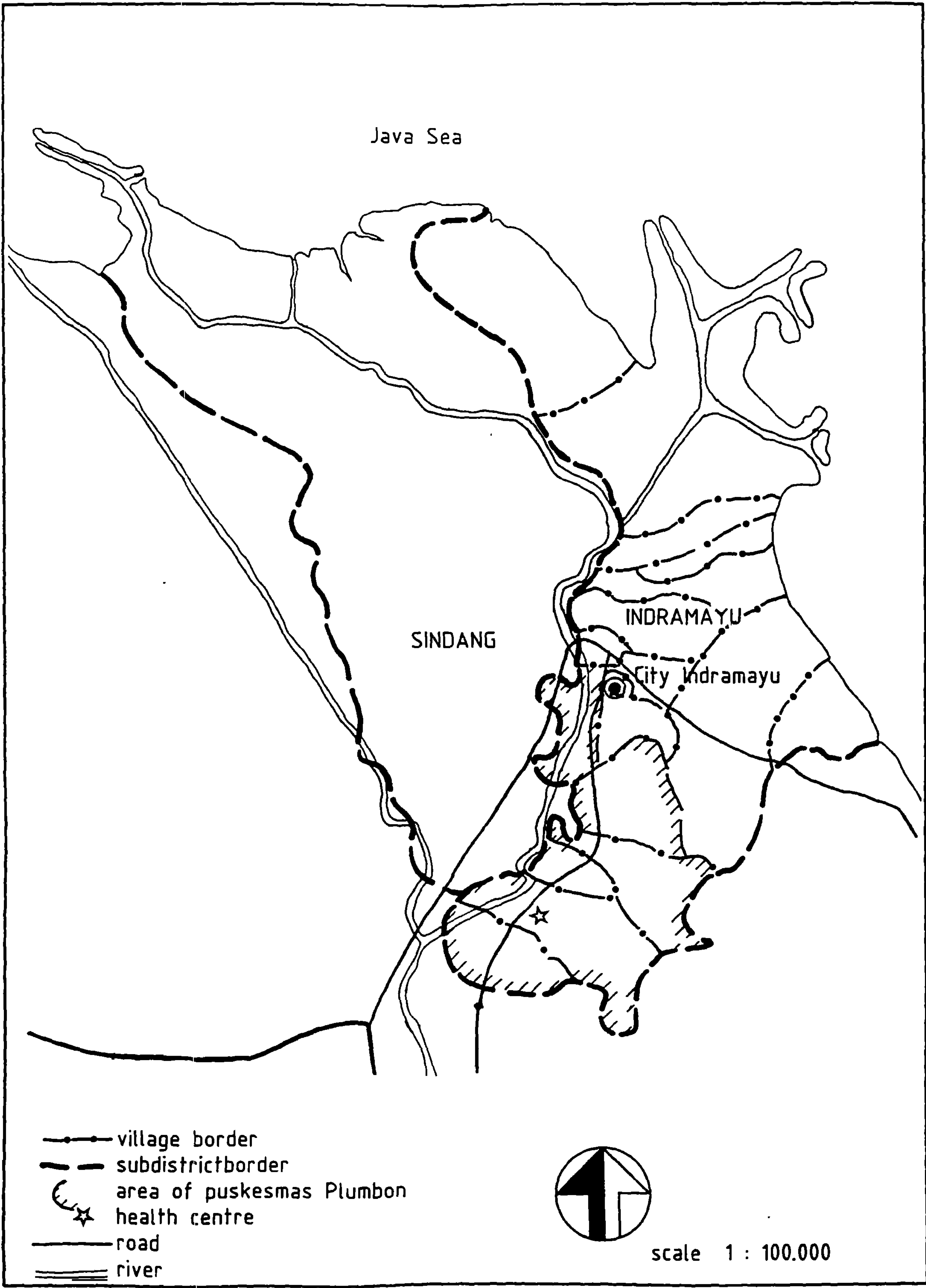
The task of the DKK is to advice the puskesmas. The people at the DKK do not have a much better education though than the staff of the puskesmas, and less field experience. The main function of the DKK is to organize the monthly meeting with the puskesmasses, to pass information and materials of the government to the puskesmas and to send the reports of the puskesmasses to the government.

The cooperation between the sections of the DKK is not always well, possibly due to lack of budget or lack of motivation. Most personnel of the DKK have another job as well, so they do not always have time for their work at the DKK.

The programs are mostly implemented by the puskesmasses (health services at sub-district level).

There is a monthly meeting of the DKK and the heads of the puskesmasses. This is an important meeting because the doctors have together much knowledge and experience. During the meetings the policy of the new programs and the experience with old programs are discussed.

map 5.1. area of puskesmas Plumbon.



5 SUB-DISTRICT LEVEL: THE PUSKESMAS

5.1 GENERAL

The puskesmas (pusat kesehatan masyarakat = centre for public health) is the health service at kecamatan level. The puskesmas is responsible for the curative health care and the preventive health care programs in its area. Several programs are implemented through the posyandu. The posyandu is an integrated service post where children are weighed and health education is given.
In areas where a puskesmas is needed but not yet put up, a puskesmas-pembantu is started. This is a small help-puskesmas which also gives curative and preventive health care but does not yet have all the puskesmas programs.

In this chapter the organization structure, activities and operational aspects of the puskesmas are described. Three programs which are connected with hygiene education and extension are described in more detail in the paragraphs 5.6, 5.7 and 5.8.

Puskesmas Plumbon

A case study is done at the puskesmas Plumbon.
The puskesmas Plumbon is one of the three puskesmas in the kecamatan Indramayu.
It is located 8 km from the town Indramayu, where a hospital and the kabupaten health service (DKK) are situated (see map 5.1.).
The puskesmas Plumbon is responsible for an area with 7 villages and 25,496 people. This is a small number compared to the mean of 50,000 people per puskesmas in Indramayu and 54,000 people per puskesmas in West Java.

The puskesmas Plumbon is two years old which means:
- the staff does not have fixed tasks yet,
- the doctor still has to teach staff and PKK cadre,
- not all programs are implemented yet.

5.2 ORGANIZATION STRUCTURE

The puskesmas is the health service at kecamatan level. A doctor is the head of a puskesmas. He is responsible for the health care and the organization of health programs in the kecamatan. He is directly responsible to the Dokabu (see scheme 5.2.).

Cooperation with other people / organizations at several levels

1 **At kabupaten level with the DKK and the other doctors in the kabupaten (see paragraph 4.3.).**

2 **At kecamatan level with the Camat, and the other departments, the PKK head and the heads of all the villages in the kecamatan.**

---

scheme 5.1. Organization structure of the Indonesian health care.

```
level           health department        administrative
                                           department

national         national health........president/
                    department            parliament
                        :                     :
                        :                     :
                        :                     :
provincial      provincial health........Governor
                    department                :
                        :                     :
                        :                     :
                        :                     :
regency          regency health ..........Bupati
(kabupaten)       service (DKK)               :
                        :                     :
                        :                     :
                        :                     :
sub-district        puskesmas ***           Camat
(kecamatan)                   *               :
                              *               :
                              *               :
                              *               :
village                       *    head of a village
                              *               :
                              *               :
                              *               :
                              *** posyandu

......   responsibility line
******   advice line
```

Once a week there is a meeting with these people.
The Camat is responsible for the coordination between the departments. The puskesmas works together with several departments.
Together with the Agriculture department the puskesmas gives an integrated education program. The Agriculture department explains how a better yield can be achieved and the puskesmas explain which plants have a high nutritional value.
In the UKS program is an integrated program of the puskesmas and other departments (see paragraph 5.8.).
The military, police and puskesmas organize together sometimes a so-called 'safari', which means they go to a village and call the people together and give them health education.

3 In the working area of the puskesmas with the PKK and the village heads.

Once a month there is a meeting at the puskesmas with the heads and/or the PKK of the villages.
The staff of the puskesmas gives information on the programs. Of each program the importance of the program is explained, the results in each village is given and the planned activities are told. The village / PKK heads report on the results of the health program in their villages. Problems and solutions are discussed.

5.3 PROGRAMS AND ACTIVITIES

The task of the puskesmas is preventive and curative health care. In this paragraphs 15 programs are summed up which cover the activities of a puskesmas. A group of activities is called a program to indicate that they deal with an important subject. The programs are not sets of separated activities, they are often integrated.

Programs of the puskesmas

1) Mother and child care (KIA)
2) family planning (KB)
3) immunization
4) nutrition
5) environmental health (Kesling)
6) public health nursing (PHN)
7) public health education (PKM)
8) school health program (UKS)
9) prevention and treatment of diseases
10) pharmacy
11) dental care
12) laboratory
13) control communicable diseases
14) mental health care
15) reporting

programs of puskesmas Plumbon:

1) Mother and child care (KIA)
- examination of pregnant women, lactating mothers and baby's,
- control of high risk group,
- assistance with giving birth,
- immunization, weighing, nutrition, infectious diseases (diarrhea, upper track),
- training of traditional midwives,
- monitoring kindergarten

The midwife is responsible for these programs, she has a special room for mother and child care in the puskesmas. The nurses also work for these programs. Through the posyandu (see below) regular child care is given in the villages.

2) family planning (KB)
The midwife is responsible for this program. Contraceptives are supplied at the puskesmas. Education about the importance of family planning is given by the puskesmas personnel in cooperation with KB-workers of the Family Planning department. The KB-workers join the weekly puskesmas meeting and help with the training of the PKK cadre.
Every KB-worker is responsible for an area of about three village where he stimulates people to use contraceptives. He pays house visits and gives education at the posyandu.

3) immunization
Immunization is for children under five years old and for pregnant women (immunization for tuberculosis, diphtheria, tetanus, whooping-cough, measles and polio). Immunization is given at the puskesmas, the posyandu, schools and through home visits.

4) nutrition
- Children are regularly weighed,
- Education is given about good nutrition and cultivating nutritious plants,
- vitamin A capsules are distributed.

During the posyandu much attention is payed to this program.

5) environmental health (Kesling)
- water quality control,
- control of public places,
- control of selling of foods and drinks in the street,
- control of the environment around the houses,
- provide facilities for water supply and sanitation,
- education and personal hygiene.

The sanitarian is responsible for this program (see also paragraph 5.7.)

6) public health nursing (PHN)
Public Health Nursing consists of home visits to three priority groups:
- pregnant mothers with high risk of complications,
- children under five year old children with malnutrition,
- patients with communicable diseases (BCG, leprosy),

During these home visits patients receive medical treatment, the nurse looks at health problems in the house (e.g. unhygienic situations) and the family is educated about these health problems. In puskesmas Plumbon this program has just been started, one male nurse is responsible for it.

7) public health education (PKM)
The program public health education consists of special education activities: group education, education and extension through traditional media, etc. (see also paragraph 5.6.)

8) school health care
The school health program consists of several activities. The task of the puskesmas is to help and stimulate the schools with these activities (see also paragraph 5.8.).

9, 10) treatment and pharmacy
This is not called a special program in puskesmas Plumbon, but of course treatment and medication is given.
The patient pays a standard amount per visit for treatment and medicines at the puskesmas (in Plumbon is this Rp 150, in literature amounts of Rp 500 are also mentioned).
The patients are examined by nurses, for a difficult case the doctor is called. The patients receive medicines. Patients which cannot be treated in the puskesmas are sent to the hospital.

11, 12, 13, 14)
The puskesmas Plumbon does not have: **dental care, laboratory, control communicable diseases and mental health care.** These programs are covered in cooperation with the puskesmas Indramayu.

15 reporting
Reports are made by the one who is responsible for the program and administrative personnel. Reports are send to the DKK. Results are discussed with the DKK and the village heads and the PKK heads.

Education and extension is not specially mentioned in all these programs. But education is expected to be a part of all the programs.

Besides the above mentioned activities and programs there are some other activities of the puskesmas.

Posyandu

A posyandu is an integrated help post, organized by volunteers in the village. In the area of the puskesmas Plumbon are 36 posyandus.
The health program of the posyandu exists of regular weighing and immunization of the children, this is done in cooperation with the puskesmas. Two nurses go four times a week to the posyandus. Other staff members of the puskesmas often accompany them. A posyandu service is often used as opportunity to do also other programs (e.g. control of hygiene) in that area (see for more details about the posyandu chapter 6).

Pusling (Pusat Keliling = help post)

The pusling is a mobile clinic. In a minibus staff members go to far away places where they put up a temporary health post. Here simple treatment and medicines are given. Severe cases are sent to the puskesmas or hospital. At least two nurses go to a pusling, the public health nurse and the sanitarian often accompany them.

The three puskesmasses in kecamatan Indramayu share one pusling-bus.
If a pusling service is planned, the puskesmas informs the village head beforehand. The village head informs the village. Not always this information is received by everybody, so people are also warned when the pusling-bus arrives. This is quite a noisy event, they blow the horn of the bus, put on the siren, shout, talk through the megaphone (the chauffeur in Indramayu is very active). If not enough people come to the pusling the nurses walk through the village to warn the people.

patient control

Besides their regular work the puskesmas staff members are each responsible for a part of the puskesmas area, in which they have to visit the patients to control whether they have gone to the hospital, etc.

Practise of the programs

Approach of the programs

A puskesmas has some flexibility in the way they implement a program. Although the budget is limited, and the personnel has not much time left besides the routine activities, every puskesmas can approach the activities in their own way, e.g.; attract the people to the puskesmas, increase activities through the posyandu, visit the villages more often, organize meetings, etc.
At the puskesmas Plumbon much time is spend with activities in the villages.

Programs or treatment
The task of the doctor of the puskesmas is to give medical treatment, to take care of the management of the puskesmas and to be responsible for the health programs in the villages.
In a town with many other health facilities, he can spend more time on organizing programs (in a city about 90% of his time). On the opposite in remote areas a doctor has to provide more medical care, therefore less time is left for organizing programs.

Additional activities for a program
In puskesmas Plumbon the doctor gives priority to the immunization program. The last year his puskesmas had the highest percentage of immunized people, he wants to keep these good results. The success of this program is due to the following:
- During every meeting the doctor includes the topic immunization. He explains the importance and encourages the village heads and PKK cadre to stimulate the people in their neighbourhood to get immunization,
- The PKK cadre reports which people are not immunized,
- Regularly there are 'sweepings'; people who are not yet immunized get a home visit in which they are urged to accept immunization.

5.4 BUDGET

Each puskesmas receives:
1) Rp 200,000 a year for operational use,
2) 7 % of patients fee for operational use,
3) medicines, material directly connected with health programs.

ad 1 The puskesmas receives every three months Rp 50,000. This is for operational use, e.g. for the inventory of the puskesmas, for transportation costs to the posyandu or for drinks and food during meetings. There is no official advise how the money ought to be spend. The doctor can decide this for himself.

ad 2 The puskesmas charges the patients for their visit. The fee of the patients goes at the end of the week to the DKK. 7% of the money is immediately returned to the puskesmas for operational use.
For the puskesmas Plumbon this is about Rp 2000 a week or about Rp 100,000 a year of this source (an average of 35 patients a day at a rate Rp 150 per visit).

ad 3 The puskesmas receives all facilities which are directly connected with health programs from the DKK and the kabupaten department of family planning: this includes medicines, education material, books for bills and for administration.

table 5.5. Personnel of Puskesmas Plumbon.

1 doctor
He studied at the university of north Sumatra (USU).
He worked 3-4 years in a private clinic.
In the evening he has a private practise, people from far away come to him (he is specialized in acupressure).

1 midwife
She has attended a school for midwives. She has worked at a hospital and at an other Puskesmas. Besides the work at the Puskesmas she has a few patients at home.

1 sanitarian
He has been 1 year at the school for sanitarians (SPPH). He has worked in the DKK at the Environmental Health section for three years.
He also assists the doctor in his private practise in the evening.

1 male nurse (for public health nursing)
He has been at the nursing school (SPKC) and afterwards he has worked in the hospital.
He has also an own practise in the afternoon.

3 administration
2 have finished high school (one of them is working part-time in the puskesmas, and helps also with immunization). One administrative worker has only finished elementary school.

4 nurses
All come directly from the nursing school (SPK). One of them helps the doctor in his private practise in the evenings.

1 assistant for the malaria and communicable disease program
He has been at the elementary school (SD) and has worked for 10 years in other Puskesmasses.

1 assistant for immunization
He has finished elementary school (SD). He has also worked for 21 year in 4 other puskesmasses. In the afternoon he works in the fields and he is very active in his village quarter (Gotong royong). He also has a small private practise.

2 assistants for pharmacy
Both have been at high school (SMA). One works part-time at the puskesmas.

So there is a regular income for the puskesmas of about Rp 300,000 (350 guilder) a year. Additional money can sometimes be asked for special activities. The salaries come from the DKK (or from higher levels through the DKK).

People cannot or do not want to give exact information on the budget they have. It is clear though that the budget is limited. The doctor has other sources of income with which he supports the puskesmas.

5.5 PERSONNEL

The personnel of the puskesmas Plumbon consists of:
1 doctor
1 midwife
1 sanitarian
5 nurses
3 administrative assistants (1 part-time)
1 assistant for communicable diseases
1 assistant for immunization
2 workers in the chemist's (1 part time)

Compared to other departments the puskesmas staff is highly qualified. The puskesmas Plumbon has 15 staff members (two part-time) and many have a relative good education (see also table 5.5.)

Personnel is locally recruited and so they speak the local language and know the local habits. Normally they work for a long period at the puskesmas.
Only the doctors stay often a few years at the puskesmas. Every medical student has to work in a puskesmas a few years when he has finished his education. They often only work those years they have to in a puskesmas.

In puskesmas Plumbon most staff members come from the neighbourhood. Only the doctor comes from an other area (Sumatra). He is the only one who cannot speak the local language.

5.6 EDUCATION AND EXTENSION BY THE PUSKESMAS

The Education and Extension program

Education and extension is one of the programs of the puskesmas. In this program only organized activities, often group-education, are mentioned (see example 5.6.1.). At least as important is the inter-personal education given during daily activities. The sanitarian of the puskesmas Plumbon is responsible for the education and extension program.

---

example 5.6.1. three monthly report of April 1988 of the section Education and Extension of the puskesmas Plumbon.

(a short explanation is given of the contents of each activity):

1) **Activities with the community**

- **Development of the village:**
  The staff of the puskesmas made several visits to two villages, which included house visits (sweepings), stimulation during posyandu and pusling (=mobile clinic) and training (see next point). The purpose was to increase the percentage of immunized people.

- **Training of cadre PKK:**
  The PKK cadre of three villages got a three days training about the health programs of the puskesmas. The purpose of these programs and their problems in the field were discussed.

2) **3 times group education:**
   Three meeting were held at the puskesmas with the village heads and PKK. Education was given about family planning, environmental health, nutrition, immunization and communicable disease control.

3) **Sandiwara (traditional theater):**
   Education was given about immunization, environmental health and family planning (see example 5.6.2.).

---

example 5.6.2. traditional media.

In Plumbon and surrounding villages about six times a year a wayang play or traditional theater is organized. One performance is given by day and one performance by night.
The play is often organized as a part of a celebration. By day there is prayer and a meal of all the important men of the village.
The performance by day is attended mostly by children, the other villagers come in the evening. The performance is given outdoors nowadays microphones are used. The theatre is more popular than a wayang play in this area, more people come to watch and they are more interested.
During the play education and extension is often given. The organizer of the play tells the actors or player of the wayang which topics he wants to be discussed. The actors/player integrate these topics in the story.
The village head organizes most of the plays as a part of the traditions around the rice cultivation, mostly information about agricultural topics are included.

Group education

Education during meetings
There are several meetings during which one or more staff members give education on the contents and importance of the health programs (e.g. meetings at the puskesmas with village heads and PKK (see paragraph 5.2.), LKMD meetings (see appendix IV), PKK meetings (see appendix III).

Trainings of the PKK cadre
About once a year a training is given for PKK cadre. They get education on the contents of their work and the health programs of the puskesmas. The purpose of these programs and their problems in the field are discussed.

Education given through traditional media
Education and extension is often integrated in traditional theatre or wayang plays.
The village head or the doctor tells which topics should be discussed. Performers already have experience how to integrate this message in the play (see also example 5.6.2).

Inter-personal education

During treatment
During treatment, patients are educated about the background of their disease and they are informed how to prevent it in future (e.g. diarrhea: hygiene and oral rehydration). At puskesmas Plumbon there is normally enough time to give education.
The degree of education is however depends on the attitude and the specialization of the healthworker and the interest/education of the patient.

Additional education based on the home situation can be given during a home visit (Public health nursing program).

Education during activities in the village
During activities in the village education is given by the puskesmas staff on the health program (e.g. the importance of immunization) or the health situation (e.g. hygiene). This is done at the posyandu, during house visits or to people who are met on route (routes are sometimes changed so they will meet other people). Which education is given depends on the healthworker.

Education material

Only limited education material is available at the puskesmas.

Posters received from the DKK are available on: nutrition, vitamin A, the road to health card, goitre, immunization, the puskesmas, water related diseases and waste disposal.

table 5.7. Sanitation facilities in the village Plumbon, according to a report of the sanitarian

facility and build by inpres or by private means	number of users (standard *)	% users of population	total of facili- ties	total of facilities which function
<u>water sources</u>				
dug well				
- by private means	425 (a)	10 %	247	85
handpump				
- by inpres	125 (b)	3 %	15	5
- by private means	-	-	3	-
piped water (BPAM)	/	51 %	80 housecon- nections	
<u>family toilet</u>				
- by inpres	60 (c)	1 %	22	12
- by own means	1070 (c)	23 %	214	214
<u>waste water disposal</u>				
- by own means	363 (d)	8 %	69	69

* standard are given by the government:
a) standard 5 persons for 1 dug well;
b) standard 25 persons for 1 handpump;
c) standard 5 persons for 1 family toilet;
d) standard 5 persons for 1 waste water disposal;
according to the standards 5 people live in a house. This fits with the situation in Plumbon (4755 people live in 967 houses), but facilities are usually shared by several households.

Furthermore there is a **tape** with all kind of health subjects, (this is played at pusling/posyandu through the speaker).

Finally a few **books and flippcharts** are present on different health subjects (family planning, pregnancy, the small healthy family, improving facilities for waste water disposal, a.o.) Books are mainly for the education of the puskesmas staff and PKK cadre.

5.7 ENVIRONMENTAL HEALTH (KESLING)

The sanitarian is responsible for the Environmental Health program of the puskesmas. He carries out most of the tasks himself. The activities of this program are not done separately but are often integrated. The sanitarian controls hygiene and gives information while he is e.g. taking water samples.

The environmental health program consists of:

1) waterquality control,
Water samples (10-20/month) are analyzed on a regular base.

2) control of public places,
In case public places, like markets and mosques, are not clean, the people who are responsible for the place are requested to clean it.

3) control of (street) selling of food and drinks,
Sellers in food stalls are told to cover the food. Food factories are controlled once in a few months.

4) control of the environment of the houses,
The sanitarian controls the hygiene of the yards and the houses, whether they have enough space and are well ventilated. People are informed about unhygienic conditions.

5) providing facilities for watersupply and sanitation,
A survey on the used water source and way of waste disposal is now and than held (see table 5.7.).
People who build a sanitation facility (like a toilet or a well), are educated and controlled to build it in an hygienic way.
The sanitarian can ask for some money for some facilities (last year he got a budget from the DKK for 2 hand pumps (he asked for 10)).

6) Hygiene education.
Important subjects of education and extension in the Kesling program are:
1) personal hygiene,
2) house environment,
3) drinking water,
4) family toilet,
5) disposal of solid waste.

LIBRARY
INTERNATIONAL REFERENCE CENTRE
FOR COMMUNITY WATER SUPPLY AND
SANITATION (IRC)

---

example 5.7. Education given by the sanitarian.

The sanitarian works often in the villages. Because education needs to be given step by step he visits the people several times and he gives each time a part of the education.
When the sanitarian passes a house of people who still use the river as water source he stops to talk with the people. First he asks them if they know the cause of diarrhea, eye and skin diseases, often the people don't know this. So he explains that the river water and unhygienic habits are sources of these diseases.
Then he tells the people how they can prevent these diseases; by using clean water and a family toilet.
The sanitarian explains how a well and toilet can be build. He motivates the people if they cannot build it themselves to share the facilities with their neighbours. Also he tells the people how they have to use these facilities, e.g. that it is important to boil drinking water.

The sanitarian gives education during meetings and during his activities in the village, e.g. when he takes a water sample of a well, people who stand around to watch are told to cover the well and to use a clean bucket for the water (see also example 5.7.).

Problems

Organization
The sanitarian has to many tasks, he is responsible for the environmental health program, the school health program (UKS), the public education program (PKM) and he helps at the mobile clinic (Pusling). He cannot spend as much time as needed on every program.

Transport
The sanitarian uses a bicycle for transportation. It takes a lot of time to go to places and is very tiring.

Results
It is difficult to change the habits of the people, traditions are strong. In Plumbon many people still use the river for washing, bathing, as toilet and water source, they feel more comfortable with using the river.
People are not ill and see no reason to change habits, or they think diseases come from magic power and do not understand the importance of hygiene. The impact of education is that people are now often ashamed to use the river.
People who want to use better water and sanitation facilities mostly have to build it themselves. It is difficult to stimulate people to do this. Many people do not have time or money to build this themselves.

Building sanitation facilities
The sanitarian is often not involved when people (village people, village heads, DKK or other organizations) build sanitation facilities. Due to this he will be less motivated to look after these facilities.
Village people can build the facilities in the wrong way without his instructions.

5.8 SCHOOL HEALTH PROGRAM (UKS)

General

In this paragraph the UKS program of the puskesmas and of the schools is described. A case study is given of an elementary school (SD) in Plumbon. This is one of the four elementary schools in Plumbon. The school has 6 classes and 220 pupils in the age of 8-14 years old.
Besides the UKS health lessons there are also the regular health lessons (one of the school subjects), topics included are: food and hygienics (house, school and personal). In this school the regular- and the UKS- health lessons are integrated.

Organization structure

The UKS team members at kecamatan level are:
- the Camat,
- the head of the department of Education and Culture,
- the puskesmas head,
- the head of the Religious department.

The UKS team members at school level are:
- the UKS-teacher
- a puskesmas representative,
- school head,
- village head,
- the PKK (the family welfare movement, see appendix III),
- a group of parents (badan pembantu pelaksanan pendidikan, bp 3).

Programs and activities

1) providing schools with a first aid box and washing basins and a balance,
This is provided by the puskesmas.

2) to send ill children to the puskesmas,
Children who get ill at school are sent to the puskesmas, the fee is payed by the school (children with chronic diseases are in the first place the responsibility of the parents, only severe cases are sent by the school). On each child is a book about its health status.

3) dental care,
Once in every three months the dentist comes to examine all children.

4) weighing children,
Once every three months all children are weighed. The weight is noted down. Malnutrition is often caused by poverty, on which little can be done.

5) immunization,
The immunizator of the puskesmas gives all the necessary immunizations.

6) The UKS health lessons
The lessons are given according to the topics given in the curriculum of the school. The teachers have to make the contents of the lessons themselves. Topics which are part of the UKS lessons are:
In class I and above:
- to honor and to have a good relation with your teacher,family and friends,
- personal hygiene,
- helping/cleaning in house and class.
- healthy food (nutritious and hygienic)

In class II the following topics are added:
- hygienic environment,
- creativity,

In class III the following topics are added:
- finance (pocket-money and saving,
- clothing,
- planting,
- shopping,
- arranging flowers.

The lessons start simple, and they are (especially in the lower classes) given in a very practical way, e.g.:
- cleaning the classroom,
- joining the 'operasi bersih', a nation wide action aimed at cleaning up the environment, by cleaning the area around the school,
- brushing teeth, washing hands, etc..

The main topic in all classes is personal hygiene.

budget

The budget for the UKS activities is Rp 15,000 a year, this means there is about Rp 70 per child per year (= about 7 dutch cents). This money is part of the yearly contribution from the parents.

UKS teachers and little doctors

UKS teachers
The UKS teacher normally does not have an own class but has only the task to give the UKS lessons and do the UKS activities. In this school there are not enough teachers, to make one teacher free for this purpose. Instead the UKS teacher has her own class and is responsible for the UKS activities, but the health lessons are given by each teacher to their own class.

little doctors
The target is to have one little doctor per twenty pupils. The little doctors have to become an example for the other children and have to control and motivate other children concerning health topics.

Other aspects

education material
The school sometimes receives posters and drawings from the puskesmas. No other health education material is provided.

school sanitation
The school has a toilet, but the toilet of the mosque is closer by, so the children often use this toilet.
During schooltime thirsty children eat icecream (Rp 25, the school head thinks all children get enough pocket money for this).

other health activities
When there was much hemorrhagic fever in the area the doctor organized a campaign in the village to close all the bamboo poles. Hemorrhagic fever is spread by mosquito's, which bread in water in these bamboo poles.
Together with the schools, the doctor organized a day in which all school children helped the campaign and served as example to the community.

5.9 CONCLUSION

The head of the puskesmas is the doctor he organizes the health programs in the sub-district (kecamatan). He works together with the Camat, the departments at kecamatan level, the village heads and the family welfare movement (PKK). The doctor is responsible to the DKK.

The puskesmas is the spill of the Indonesian health care, it is the service by which most of the health programs are implemented.

The puskesmas has a highly qualified staff (many people, some with a high education) compared to other departments.

Medical care and medicines are given at the puskesmas. With a mobile clinic far away places are reached.
Several preventive health care programs are implemented at the puskesmas and in the villages. How the programs are implemented depends on the staff of the puskesmas.

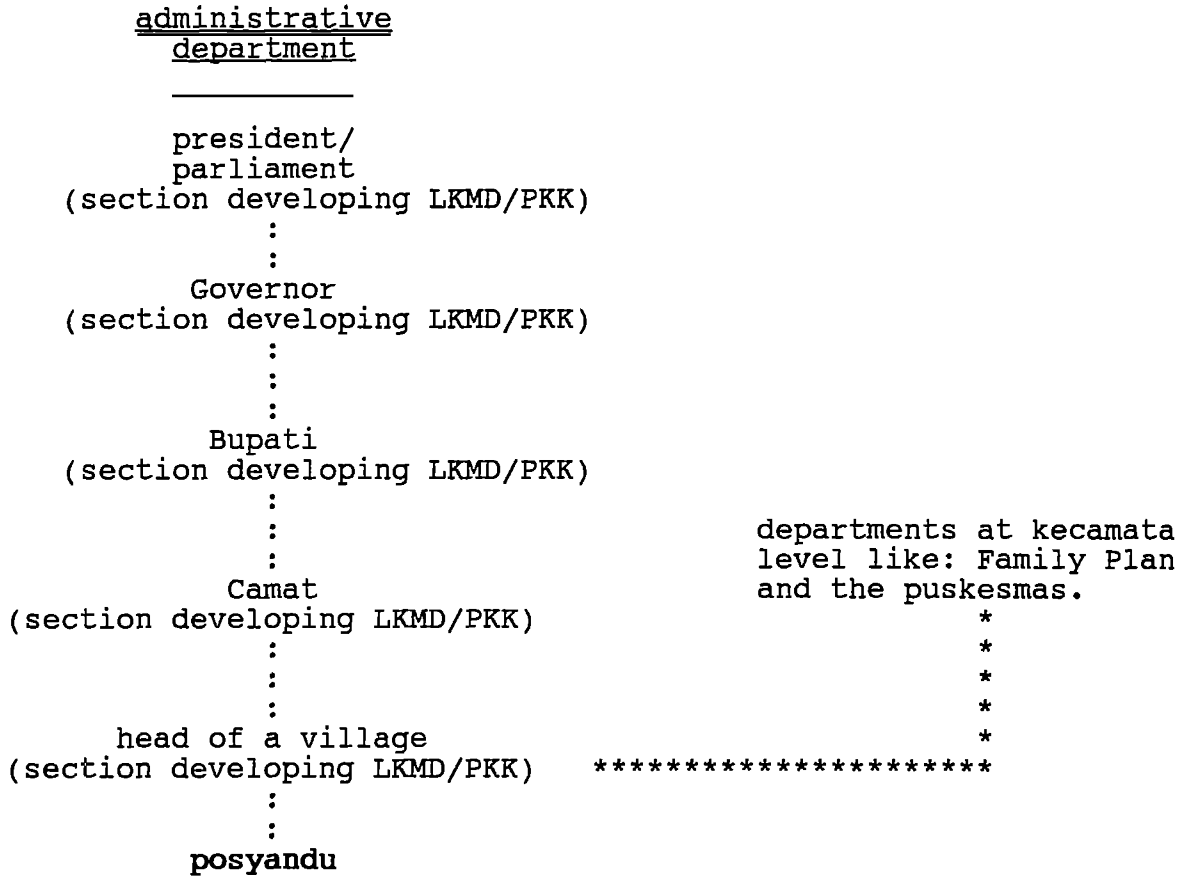
Health education is an integrated part of each health program. Health workers give education about the local health problem and the implemented health programs.
Health education is given during most of the health activities. Information is often concrete and linked to the home situation of the people.
Education is also given at meetings, trainings and through the traditional media.
Hygiene education is mainly given by the sanitarian.
Health care and health education is given to the school children through the School Health program.

There is not much education material, but when education is given in an informal way, not much education material is needed.
Education material has to have much drawings which can function as example.
Facilities like transportation can be more important for a good functioning of health programs and education.

The area of one puskesmas is too big for an optimal health care. Because of lack of money, transport and staff not the whole area can be reached.
Additive simple health care at village level is needed to reach all people frequently and so more effectively (see chapter 6).

The puskesmas head, the doctor has a high medical education. The tasks of the puskesmas doctor are mainly simple medical treatments and organization tasks which do not require this high education. So the puskesmas head can also be someone with a less expensive education.

scheme 6.2. Organization structure of the posyandu.



...... responsibility line
****** advise line

6 VILLAGE LEVEL: THE POSYANDU

6.1 GENERAL

The posyandu (Pos Pelayanan Terpadu = integrated service post) is meant to be a post at which various services are provided. It is developed by the people of the village themselves as an activity of the family welfare movement (PKK).
The people of village are supposed to ask the departments of the kecamatan for help with these services. Sectors which should be integrated are: agriculture, information, education, religion, health, family planning and others.
In reality however only the health and the family planning programs are implemented through the posyandu.
In this chapter the organization structure, personnel and budget of the posyandu is described, respectively paragraph 6.2, 6.3 and 6.4.. The planned objectives and the practise of the health program of the posyandu are described in the last paragraphs 6.5.-6.8..

6.2 ORGANIZATION STRUCTURE

The posyandu is part of the organization structure of the administrative department and PKK/LKMD (see also scheme 6.2.). First more is explained about the LKMD and the PKK.

The LKMD and PKK

The organization structure of the LKMD and PKK exists in every village. The LKMD and the PKK are organizations or structures by which the community can be involved in their own development. The PKK is 'the family welfare movement' and in practise the female part of the LKMD.
In principle everybody is member of the LKMD or the PKK. The head of the LKMD is the village head, his wife is the PKK head. Other important people in the village are heads of the subsections.
The LKMD and the PKK both have national program topics. The activities of the LKMD and the PKK depend on the needs of the village. Responsibility has to be given to the Camat (who is responsible to the Bupati, governor, etc. see scheme 6.2.). Support and advise can be asked from the Camat and the kecamatan departments.
(for more information about the PKK see appendix III and about the LKMD appendix IV)

The posyandu is an activity of the health program of the PKK. The PKK cadre work as volunteers for it.

Reports of the posyandu are made by the cadre, collected by the head of PKK, and send to the Camat and the puskesmas.

---

example 6.3. Meeting of the PKK staff of the kecamatan and the PKK heads of the villages.

The meeting is every month in kecamatan building of the PKK. The PKK staff of the kecamatan is present, they exists of the wives of the departments heads. Further the PKK heads of the villages are present, they are often accompanied by PKK cadre members of their village. A description is given of a meeting.

Of Plumbon, only the head was present. Of some other more active villages, also one or more cadre members were present. A new PKK head was accompanied by some active cadre. In total about fifty people were present.

The head of the PKK at kecamatan level (the wife of the Camat), first gave a lecture. She told that the reporting was not done rightly, a lot of reports were not yet given to her.
Then she explained some aspects of the immunization program and said it was important to have a good organization structure. (she asked "what year are we now ?"; PKK heads answered: "1988"; "and which organization year?", "1988/1989").

This lecture was followed by a demonstration of the baking of donuts. This was organized by the PKK at province level, this demonstration would later be given at the PKK meetings in all the villages (the objective was to teach the women how to make donuts, so they can sell them and get some extra income).

Posyandu and kecamatan departments

In practise the posyandu does not function well in many villages. The people need stimulation and supervision to keep the posyandu going.
The puskesmas gives this support to the posyandus in its area. At puskesmas Plumbon at least two nurses are four days a week at the posyandus.
Other departments can not work as intensive with the posyandu because they have less personnel.
Another reason why the posyandu is not used by the other departments is because they see the posyandu as a part of the health department. Someone from the information department said: "kopen capir (village information groups see appendix V) is for the information department, what the posyandu is for the health department".
The Agriculture department has contacts in the village through the LKMD village meetings.

6.3 PERSONNEL

The PKK cadre are the volunteers who work for the posyandu. They have to fulfil the following conditions:
- she has to be able to read and write,
- she must want to work as a volunteer,
- she has to be chosen by the community.

Most PKK cadre are schoolteachers or wives of a man with an important position: village staff member, quarter head, religious leader or policeman. Their wives become PKK cadre, even if they are not really motivated, because the community expects it of them. Also others can become cadre, this are often women with not much to do, no young children, no work. This kind of PKK cadre workers can be very active and very motivated.
In some villages it is a problem to find enough women who are willing to work as PKK cadre.

There ought to be one cadre per village quarter (RT).
In Plumbon are 19 RT 30 PKK cadre (16 are active and go to the posyandu).
The PKK cadres are not evenly spread over the village, in one part are 2 PKK cadre for 6 RT.

Training of the cadre

1) **through practise**
New members join the activities and learn in practise from the other members how things are done.

2) **through the monthly meeting with the PKK at kecamatan level;**
Present is the PKK staff of kecamatan level and the PKK heads and sometimes cadre of the villages. Reports with results, problems and new programs are discussed (see example 6.3.).

3) **through training;**
About once a year there are a few days training for the cadre given by the puskesmas. The contents of the health programs and the posyandu work is explained.

4) **through the monthly meeting in the puskesmas (lokmin);**
This is a meeting of the puskesmas staff, the village heads and the PKK heads.
The puskesmas staff discusses the programs, purpose, results and problems are discussed.

5) **through visits of the doctor to the posyandu;**
The doctor regularly visits the posyandus to motivate the cadre and village people and to explain the cadre how everything needs to be done.

6.4 BUDGET

The budget for the posyandus comes out of the budget of the PKK and is per village Rp 100 000 per year. Each posyandu gets about Rp 2000 (about 2 guilder) a month.
The money is used to buy food for the children or to buy examples of healthy food which can be put on a table during the posyandu. In or near a town the Dharma Wanita (an organization of wives of civil servants) gives supporting money to the posyandus. From this money things needed for the posyandu can be payed: pens, paper, chairs, etc. and transport costs of the cadre.
In villages cadres have to pay for these things themselves. Complains about this are sometimes heard because the cadre often have no idea about the budget of the PKK and suspect the money is not divided fairly.

The posyandu services is free of charge, only in some villages some money is asked for the food the children get (depending on the local policies). In the future the government wants to let the people pay for the posyandu in order to let them feel more involved with this service.

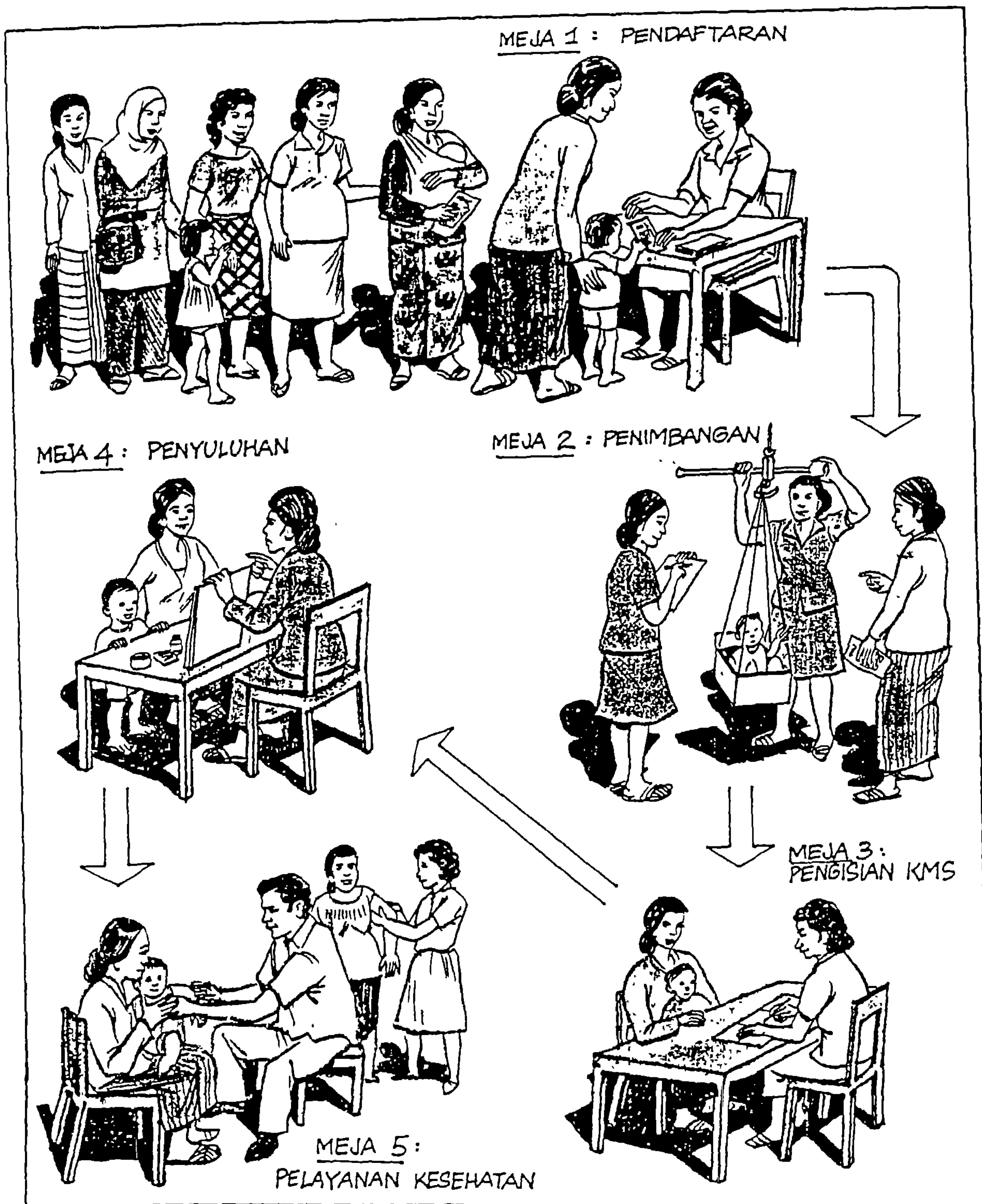
6.5 POSYANDU ACTIVITIES

Objectives and contents of the KB-Kes Program (family planning and health) of the posyandu

The KB-Kes (keluarga berecana - kesehatan = family planning - health) program includes the topics mother and child care (KIA), family planning (KB), nutrition, immunization, education and diarrhoea.
The target of this program is to stimulate a good child survival and development and family planning in order to get healthy small families.

example 6.5.1. How to organize the posyandu? A page out of the book for PKK cadre.

4. Bagaimana urutan kegiatan di POSYANDU ?



The target population for the KB-Kes program are:
- babies (age under 1 year),
- children under five years old (balita),
- women who are pregnant, give birth or lactate,
- women in fertile age.

The activities of every posyandu are organized around 5 tables, every table for one activity.
1) registration,
2) weighing of babies and children under five years old (balita),
3) recording at the road-to-health-card (KMS),
4) education and extension about:
   - nutrition, oral rehydration, and vitamin A,
   - iron tablets, for pregnant women with high risk,
   - methods of family planning.
5) service by professionals of the puskesmas concerning mother and child care (KIA), family planning (KB), immunization, medicines and other services according to the local needs.

<u>Organization of the posyandu service (practise)</u>

The village head and the PKK head decide which days the posyandu service is held. People of the village staff go to the area of a posyandu to inform the PKK cadre and key persons about the date. The PKK cadre and the key persons inform the other people.
Every posyandu has its own PKK cadre. Apart from this PKK cadre a posyandu service can be joined by other PKK cadre, the PKK head, puskesmas staff, the village head or a representative of his staff. There is a fixed schedule which days the puskesmas visits the posyandus. Each village is visited two days per month.
There can be one or two posyandu services at a day in a village. When there are two posyandu services, the first is until twelve o'clock, the other from twelve till two o'clock. They are in each other neighbourhood so the team can walk from one posyandu to the other.

The posyandu service
The posyandu is put up at its regular place, this can be any kind of place (somebody's house, the village hall, etc.). Members of the posyandu team go door to door to call the people. Or they call through a megaphone or loudspeaker to the people that the posyandu has started. Hereafter they continue to give health education through this megaphone until people start coming, then they stop because otherwise all the baby's would start crying because of the noise.

Mostly mothers with children come to the puskesmas.
The activities belonging to the 'five tables of the posyandu' are done, although this is usually not systematically arranged around five tables.

example 6.5.2. Education in several posyandu situations.

Situations which are less favorable for giving education:

- Once a posyandu service was done at the verandah of a house of rich people. The mothers who came didn't feel at ease in this place. The mothers stayed at a distance while waiting between weighing and immunization was done. Afterwards they went outside the gate to eat the porridge, so there was hardly an opportunity to give education.
- In another posyandu the mothers didn't get the road-to-health cards of their children. When it was busy, the weight of the children was written down on a report, the road-to-health cards were filled in later. This way it was not noticed at that moment whether the child had the right weight. No education was given.
  The porridge was given in plastic bag which the mothers took home so they didn't linger around and there was less opportunity to give education.
- Sometimes the posyandu service was put up unarranged. The mothers crowded around the scales and the table where the weight was noted down. There was no room to give education at that spot, but the mothers didn't go to the table where education could be given.

Situation in which education could be given easily:

- At a posyandu the tables where put in a line at a verandah near the street. The mothers had to go from table to table. After the card of the child was filled in the mother had to wait for immunization. She had to wait in front of the table where education was given.
  Afterwards porridge was eaten, this was done just in front of the posyandu so education could still be given.
- At a posyandu where the mothers gathered in front of the posyandu group education could be given.

table 6.6. Number of posyandus in the villages in the area of the puskesmas Plumbon.

village	population	number of posyandus	population/ posyandu
Plumbon	4 691	7	670
Telukagung	3 937	6	656
Pekandangan	4 445	6	742
Kandangan Jaya	3 586	5	717
Kepandean	4 445	4	1111
Bojongsari	3 441	5	688
Dukuh	2 798	3	932

The mother who comes has to tell the name of the child, the child is then weighed, the weight is written down and filled in on the road-to-health card. When the weight of a child has dropped this is a sign that something is wrong with the child. The mother is warned and advised what to do (see below 'education and extension'). Afterwards the mother gets the road-to-health card back and the child gets some food (porridge or biscuits).

These activities are mostly done by PKK cadre, when there are not enough PKK cadre the staff members of the puskesmas help. The special task of the puskesmas staff is to give the children who need it immunization and a vitamin A capsule, this is also filled in on the Road-to-Health card.

Education and extension

At the posyandu the mother get health education about the conditions of the child e.g. about nutrition, oral rehydration, immunization, etc.. This education is not always given because of a wrong organization structure of the posyandu (see example 6.5.2.).
PKK cadre often give education and extension outside the posyandu. This is done in a very informal way. The mothers are friends and neighbours of the cadre with whom they often talk to, e.g. when they meet in the street, at the market, at a visit, when they wash their cloths, etc.. During such a talk also education about noticed health problems is included.

6.6 AMOUNT OF POSYANDUS

The target is to have one posyandu per 100 children under 5 years old or 120 family-heads. This number can be adapted to the local tasks, place, geography, distance between groups of houses, etc.. In Plumbon there is a mean of one posyandu for fifty children, that is twice the target. The posyandus are not evenly spread over the village. A reason to have more posyandu in certain areas is that the houses are far apart.
The number of posyandus per village and number of inhabitants in the area of puskesmas Plumbon is given in table 6.6.

6.7 ATTENDANCE OF THE POSYANDU

From the reports can be figured out which percentage of the children in the area come to the posyandu. These reports are not always right. The number of children comes out of the census which is taken once a year. This number can be changed in the mean time (people moved, new children born etc.). Also mistakes are regularly made in reports.
In the posyandus of Plumbon about 40 % of the children under five years old come to each posyandu (see appendix VI).

---

example 6.8. functioning of the posyandu.

In Indramayu the posyandus near the town functioned better. Here is more money for the posyandu (out of the community and from other organizations), the people are used to organize things and to make reports. Also they are near other organizations (PKK at kecamatan level, departments at kecamatan level and the puskesmas)
The posyandus who functioned less where often poor and or remote areas. Here people don't have much time for the posyandu, their main worry is to have enough food. They have difficulties with the organization and reporting of the posyandu. Because the other organizations are far away they won't join all the meeting and won't go as easily to the puskesmas to ask for help.

In some villages the PKK cadre help each other and join all the posyandus in the village.

6.8 FUNCTIONING OF THE ORGANIZATION OF THE POSYANDU

Aspects which may influence the functioning of the posyandu:

Poverty
People are busy with earning a daily living, they have no time to go to the posyandu. For them food has priority, health is a luxury. In poor areas it is also difficult to find enough PKK cadre.
Because there is no extra budget in these areas, PKK cadre have to pay for many thing themselves which is less stimulating.

Education
People with education already know the importance of health programs. They will easier come to a posyandu. People with little education have more difficulty with reading and writing. For them it is much trouble to make reports.

experience of the PKK cadre in organizing and reporting
In and near the town more people have experience with administrative jobs, and the work for organizations. For these people it will be easier to learn the tasks connected with the work of PKK cadre.

Temporary reasons
Before the new harvest many people work outside the village, during harvest most people are busy in the fields. In these periods less mothers and PKK cadre come to the posyandu.

Assistance and supervision
Most posyandus need stimulation and assistance. It is important that the posyandu is regularly visited by the PKK head, puskesmas staff and village staff. This stimulates the mothers and the PKK cadre to join the posyandu. During these visits advise and supervision can be given, so the posyandu will function better. The PKK cadre can also be motivated by other activities, e.g. a competition between posyandus,

structure of the village
where the houses are close together the posyandu is near all the houses, so people see and hear when a posyandu service is done and because it is nearby they can easily go there. Also the PKK cadre can easily visit the people.

Other reasons why people do not make use of the posyandu
- Some people say they do not come because they are afraid of immunization (although they often still do not come after they are immunized during a door to door immunization program),
- Rich people go to a private doctor.

Big differences between the functioning of posyandus exist, because positive or negative influences often go together (see example 6.8)

6.9 CONCLUSION

The health service at village level is limited. A mother and child care and family planning program is implemented at village level through the posyandu.
The posyandu is supposed to be an integrated service post which is developed by the village through the family welfare movement (the PKK). The people are supposed to ask help from the departments at kecamatan level.
In many villages the PKK is not strongly organized. So only the Mother and child care and Family Planning which is organized and stimulated by the puskesmas is implemented through the posyandu.
A posyandu service is done once a month in each quarter of a village. Children under five are weighed and health education is given by the PKK cadre. Regularly staff of the puskesmas comes to help a posyandu service and to give immunization.
PKK cadre are mostly wives of men with 'important' jobs and school teachers.
PKK cadre give also health education to their neighbours and friends during visits.

The quality of the PKK organization and the posyandu service can be very different between villages. In areas where people are not used to organizations and reporting the PKK is often less organized. In poor areas people have less time and interest for the posyandu.

To improve the posyandu a better community involvement is needed. This can be initiated by activities which are based at the local problems e.g. house renovation, cleaning of gutters, income generating project, cooperative etc. Later other (health) activities can be included (Soebekti, 1980).
Now the KB-Kes program is often used as initial activity. This program is maybe not very stimulating. It asks for much administrative work from the cadres. And it does not give a concrete solution to the main problems of the people.

Expansion of the health service at village level is necessary to reach the people more frequently and thus effectively. This is especially important for education and extension, as this asks for an intensive approach. Other health programs might therefor be integrated in the posyandu.

7 PROGRAMS AND PRACTISE

7.1 GENERAL

The intention of this chapter was to make a comparison between the way education and extension programs are described by the government and how they are actually implemented. It was found to be difficult to make a good comparison. The reasons for this are explained. Subsequently a list of aspects is given which influence the way programs are put to practise.

7.2 PROGRAM AND PRACTISE

Programs are often described in such away that they can be adapted to local situations

Most health programs merely give a rough outline, so flexibility is left for local adaptations. Targets are given with some general indications on how this has to be done. For example, of education and extension programs is written: 'more use has to be made of traditional media', 'education and extension through cadre of posyandu has to be stimulated', 'integration with other departments has to be improved'. It is up to local people how things are actually carried out.
Only a part of the activities are described very concrete, e.g. 'at national health day a banner has to be made', 'twice a month there has to be a radio broadcast'.

There is just a program for a small part of all the health education activities

The program of the section Education and Extension, includes just a small part (often just group education) of the education and extension activities of the health sector. Interpersonal education and extension is supposed to be integrated in all the health activities, no program is made for this.

Evaluation of education and extension programs

Reports are only made of a part of the education and extension activities (group education). No reports are made of the interpersonal education, which is a part of the health activities. It is hardly reported how education is given.
This makes evaluating of the education and extension activities more difficult.

Because of these reasons it is difficult to give a comparison of the planned activities of the education and extension programs and the practise.
As the practise will be very different in each situation, it will be more useful to give a description of the aspects that influence the practise of education and extension activities, and the reasons why programs function well or not._

7.3 ASPECTS INFLUENCING THE IMPLEMENTATION OF PROGRAMS

the organization structure

description of programs
If the program is described very global, it will depend on the local people how the program is carried out. A program which is described in detail will be carried out in a similar way in several places.

support advice and control from higher level
Higher administrative levels need to be available for assistance and stimulation of programs at lower administrative levels.

intersectoral coordination
For some programs it is necessary that various sections or departments are involved.
Several reasons can decrease this cooperation, e.g. the head who is responsible for the coordination does not take care of this, lack of money (so meetings are less regular), lack of staff (so people have no time to be involved in another program), distance between departments (so it is difficult to get into contact) or a bad relationship between people that leads to less cooperation between the departments.

budget and means
Within the health service and other organizations lack of budget and means (e.g. for transportation) is often a problem. Therefor program are not as often and extended done as wanted.
It can be important whether the budget is: a standard amount, linked to special activities, based on yearly programs or first has to be approved by higher level.
This influences how flexible people can use the money and whether they can decide at local level about the use of the money.

Personnel

motivation and priority given to the program
The motivation and the priority which is given to a program is important. It will influence the division of budget, people, time, etc.. Programs with quick or clear results will often get priority: e.g. curative health care and programs which achievements are reported. Education and extension programs will

not get a high priority because the results are not clear. However education and extension are integrated with other activities and do not need much extra time and money.
Much work is done by volunteers or by health workers in their own time. Motivation can be stimulated by interest of and visits of people with higher status like the doctor village heads staff of departments at kecamatan level, etc.

Other tasks of the staff
Health personnel have often many tasks, many have two jobs because salaries are low; also they are responsible for several programs, and they have tasks outside their jobs (or voluntary work). So it is possible little time is left to spend on certain programs.

Ability of the staff
Lack of qualified staff is often a problem. For some jobs is no special education (e.g. for education and extension workers), in some areas no volunteer can be found who can make reports. So new personnel needs to be educated first.

Number of staff
Because of lack of personnel there is no time to do all the activities of all the programs. So often only the task which get a high priority are done.

Relationships
When the healthworker has a good relationship with the people who are involved in the program there is a better chance the program will run well. Unofficial contacts are always important.

Local conditions

Other organizations/ services/ programs in the area
If in the same area comparable services are present this means that:
- people can choose which service they prefer, so it is possible that a group of people will not come into contact with a service and its programs. (e.g. some people do not go to the puskesmas because they go to traditional- or private doctors),
- one service can take over some of the tasks of the other service, e.g. when there is no other health care in the neighbourhood, the puskesmas will have to do more curative health work. There will be less time for preventive health care.

People in the village
It is important the program fits with many characteristics of the people in the village: attitudes, activities, education, economical status, behavior, etc.
For example in the village Plumbon the people are used to arrange things in an informal way, the people cannot spend much money on drinking water and sanitation and activities are organized through key-persons.

Local problems
People will be more interested in activities which help them with their most important problems. So if the programs is for something which is important for people it will get more support. In Plumbon more attention is payed to agriculture programs than health programs.

Distance
Distances can be important obstacles (also because transport is not always available).
People who live far away from a health centre will come less easily for treatment.
The distance between offices can be a reason for less frequent contact (people from far away can come less to meetings and do not pay unofficial visits).
People who live along the routes the health workers take to their activities, or people who live in the neighbourhood of health worker will get more attention and education.

8 LITERATURE

- Borkent, H., 1980, De zorg voor de volksgezondheid in Indonesie vanaf de koloniale tijd tot nu, tijdschrift voor paramedici2, Lochem, nr 2, 51-61.

- Dekker, J., 1986, Health care in Wonosobo regency central java - Indonesia, university of Amsterdam, Amsterdam.

- Gish, O., 1978, The political economy of primary health care and 'health by the people': an historical explanation, school of puplic health, university of of Michigan, Michigan.

- Hattinga Verschure, J.C.M., 1980, Zelfzorg en mantelzorg, medisch contact, nr 17, 519-526.

- Hydrick, J.L., 1937, Intensive rural hygien work and public health education of the public health service of Netherlands India, Batavia.

- Kardinah Soepardjo Rustam, 1986, Grass-root development with the PKK, Prisma, Jakarta, no 40, 77-84.

- Marchione, T.J., 1984, Evaluating primary health care and nutrition programs in the context of national development, Social science an medicine, Great Britain, vol 19, no 3, 225-235.

- Soebekti, R., Haliman, A., Suwandono, A, 1980, A case study on primary health care in Indonesia: Banjarnegara experience, Jakarta.

- Smits, E., 1982, De ontwikkeling van de gezondheidsdiensten tot de basisgezondheidszorg in de drede wereld, medische faculteit, Maastricht.

- W.H.O., 1984, Evaluating primary health care in South-East Asia, W.H.O. reginal office for South-East Asia, New Delhi.

- W.H.O., 1981, Health programme evaluation, W.H.O., Geneva.

- W.H.O., 1987, Primary Health Care, W.H.O., Geneva.

- Zoysa, de, I., Cole-King, S., 1983, Remuneration of the community health worker: what are the options?, World Health Forum, vol 4, 125-130.

APPENDIX I : DOING RESEARCH IN INDONESIA

In this appendix some aspects are mentioned which appeared to be important for carrying out the kind of research described in this paper.

- when you come new in an area or organization you always has to be introduced.
- The head of an organization is normally involved in all the things which are going on in the organization. One first needs to be introduced to the head, he introduces you to the people you need. The staff prefers to have the permission of the head before they answer questions.
- every interview has a component of socializing, people like to know you.
- During a first interview people first want to show their knowledge how the programs are supposed to be. For more information about the actual situation and problems you have to come back a few times.
- It is often difficult to get answers how or why things are done. It is easier to questions with the use of examples (out of reports or done activities).
- things can best be asked or explained as concrete as possible.
- There are terms which can give misunderstanding, it is important to describe what you mean. (e.g. people do not see a talk with a healthworker as a kind of education and extension).
- In the village most things are done, and can best be done in an informal way. For interviews people prefer talking at home to talking at the office.
- All plans and programs seem to be very flexible, and change often. Often it is decided at the last moment when activities are done. When you want to join activities you have to check often which plans are made.
- People like it when you join their activities (meetings, performances or sports) it is a good way to introduce yourself to the people.

APPENDIX II : UKS TRAININGS

In this appendix two trainings are described which have been given by the UKS team at kabupaten level. Because of lack of budget the trainings were not as long as they are supposed to be.

Training for Puskesmas staff (the doctor or the head of the UKS program) about the UKS program.

The training lasted one and a half day. Lectures were given by:

- the head of the UKS team at kabupaten level,
- the head of the Education and Culture department,
- the head of the Religion department,
- the head of the Health department (DKK),
- the head of the section for Developing a healthy society of the DKK,
- the head of the subsection UKS of the DKK,
- the head of the Nutrition section of the DKK,
- the head of the Communicable diseases section of the DKK.

Questions were asked and answers were given.

The contents of the lectures was:

- the objectives, programs, activities and organization of the UKS program,
- the UKS organization at kabupaten level:
  - the budget and means for the UKS program,
  - the tasks and responsibilities of the UKS team at kabupaten level,
  - reporting on the development of the UKS program at kabupaten level,
- the role of the Bupati, the Camat and the village head,
- the role of the Religion department and the Education and Culture department at kabupaten and kecamatan level,
- the health service program at the schools and the role of the puskemas in this.
- problems of the puskesmas concerning the UKS tasks,
- reporting.

Training for UKS teachers

A two days training was given to 58 new UKS teachers of the kecamatan Indramayu. This training cost Rp. 139,000.

Lectures were given by: the UKS team head, the puskesmas head, UKS coordinator, the sanitarian and a nurse of the puskemas.

Contents of the training was:

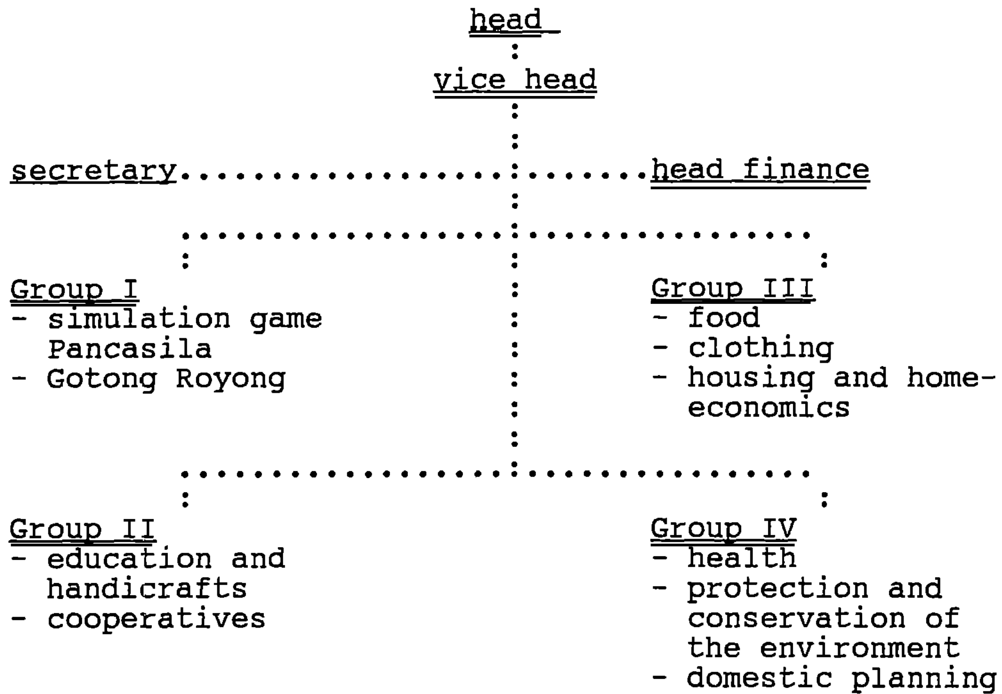
- the objectives, targets and factors of public health,
- the objectives and tasks of the puskesmas,
- the role of the school and the UKS teacher in the national development,

- the targets, means, facilities and the programs of the UKS,
- hygiene and sanitation of the school environment,
  - hygiene sanitation activities,
  - disposing faeces and used water,
  - a good condition of the canteen,
- communicable disease control,
- general diseases, diseases of school children and especially communicable diseases
- discussion.

<u>Training for little doctors</u>

The training of the little doctors ought to be 20 hours.
They get lessons about:
- skills for personal hygiene,
- skills for a clean environment,
- skills to measure health status (weight, height, vision and hearing),
- communicable disease control,
- prevention of diarrhea,
- skills to give education about the most important health subjects,
- motivation to receive immunization.

scheme III. organization structure of the PKK staff of the village.



APPENDIX III: THE PKK

General

The female welfare movement, the PKK, is a subdivision of LKMD. The PKK program was started in 1972. In principle all women are member of the PKK, working for it is on voluntary basis.

Organization structure

The PKK is organized at each administrative level. The wife of the administrative head at each level is the PKK head at that level. Other PKK team members are the wives of the heads of the departments.
The task of the PKK team at each level is to advise the teams at lower levels and to organize the activities at its own level. Education material is made, trainings are given and activities are organized in the villages.

At village level the wife of the village head is the head of the PKK. The PKK cadre exists of female teachers and the wives of the village staff, policemen etc.
The PKK at village level exists of: head, vice-head, secretary, head finance and 4 working groups and ten sections (see scheme III).
Every section has its own head who coordinates the activities of the section. All PKK cadre join in principal activities of each group.
There ought to be PKK cadre members in each RW and RT and one cadre per 10-20 heads of family (dasa wisma)

Contents of the PKK program

The PKK program consists of ten programs. Most activities are carried out by the women in the village themselves. It depends on the village which activities are done (see example III).

1) **The comprehension and practical application of Pancasila**
   Simulation games help the people to comprehend the values of Pancasila, the national ideology, and they learn how to apply the five Pancasila principles.

2) **Gotong-royong or mutual self help**
   This is an ancient system; 'gotong' means bearing things together, working together, and 'royong' means sharing the results. Through gotong-royong families and larger communities build or repair houses, paths and roads, install clean-water systems and the like.

---

example III. PKK activities in the villages.

Once a month the PKK heads of all villages in kecamatan Indramayu have a meeting with the PKK staff at kecamatan level. The heads have to hand their reports. During the meeting the PKK heads of the villages are taught how they have to organize the programs and how to make reports. The PKK in this area is not very well organized, reports are not always ready etc. The meeting sometimes looks like a lesson in which the class (the PKK village heads) are talked to because the are not diligent enough.

Once a month there is a meeting of the PKK cadre in most villages. This is often after the kecamatan meeting, so the PKK head can tell all the news the cadre. These meetings in the villages are hold together with an arrisan (a rotating lottery).

In the village Plumbon and in neighbouring villages this monthly meeting and the posyandus are the only regular activities. The head tells what see has heard at the kecamatan meeting and what has to be done next month in the village.
Also education is given about the some subjects of the ten programs of the PKK. This is also done during the posyandus.

In some villages teachers give handicraft lessons, e.g. how to sew clothes. In other villages meetings with arrisans are organized per village quarter. Gotong-Royong and cooperatives are sometimes organized per neighbourhood or group of people, which is not especially done through the PKK.

---

3) **Food**
Women are taught how to cook cheap nutritious food and how to use the house yard to supply the ingredients.
It is stimulated to use the house garden to grow the various herbs that are the components of the jamu (traditional herbal remedies).

4) **Clothing**
healthy clothing, suitable for infants, children and adults, for work or for play, are promoted. Where possible, people are taught how to make such clothing themselves, how to use snippets for patch-work spreads and so forth.

5) **Housing and home economics**
People are educated about good ventilation, sufficient lighting, cleanliness, attractive decorations for pleasant living and the essentials of home economics - achieving a balance between family income and family expenditure.

6) **Education and handicrafts**
courses in literacy and post-literacy books are given. Under the general heading of Handicraft many skills are taught, especially those that can bring a added income, including such things as beauty care and radio repair, as well as sewing and traditional handicrafts.

7) **Health**
Fostering hygienic habits, adequate supplies of safe water and clean surroundings. Special attention is given to children under 5 years of age. Therefor posyandus are established. The teaching of family planning is that women should not bear children before they are 20, no matter how young they marry, and it is best not to bear children after 30. Two children are enough, spaced ideally 5 years apart. Women should breast-feed their children, both for the health of the children and for their own health.

8) **Promotion of co-operatives**
stimulating cooperatives undertakings in the economic field in order to help to increase incomes.

9) **Protection and conservation of the environment**
Promoting of harmony between the family's home and the neighbourhood, and harmony between the neighbourhood and natural surroundings.

10) **Appropriate domestic planning**
The sound planning of family income is taught and expenditure and the distribution of household duties among the different members of the family.

Budget

Every village gets every year Rp 250,000 (about 250 guilder) for the PKK activities from the kecamatan.

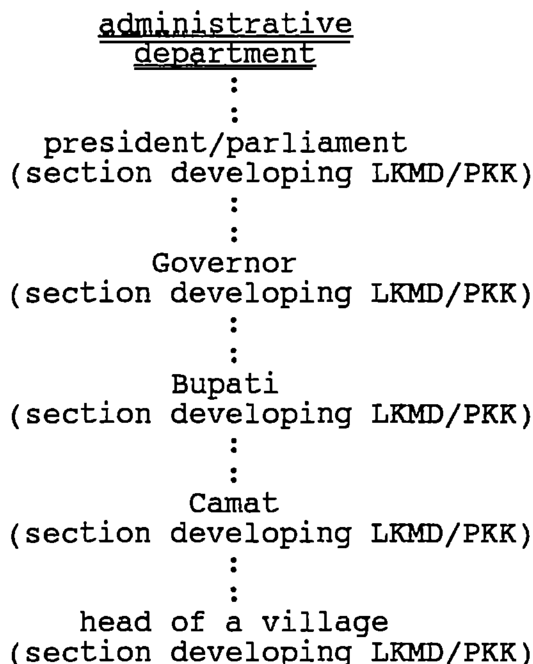
service of PKK		Rp 100,000
simulation game P4 (about pancasila)		Rp 25,000
administration		Rp 25,000
posyandu		Rp 100,000
	total	Rp 250,000

In every village there is additionally Rp 100,000 of which the rent can be used by PKK members who need it.

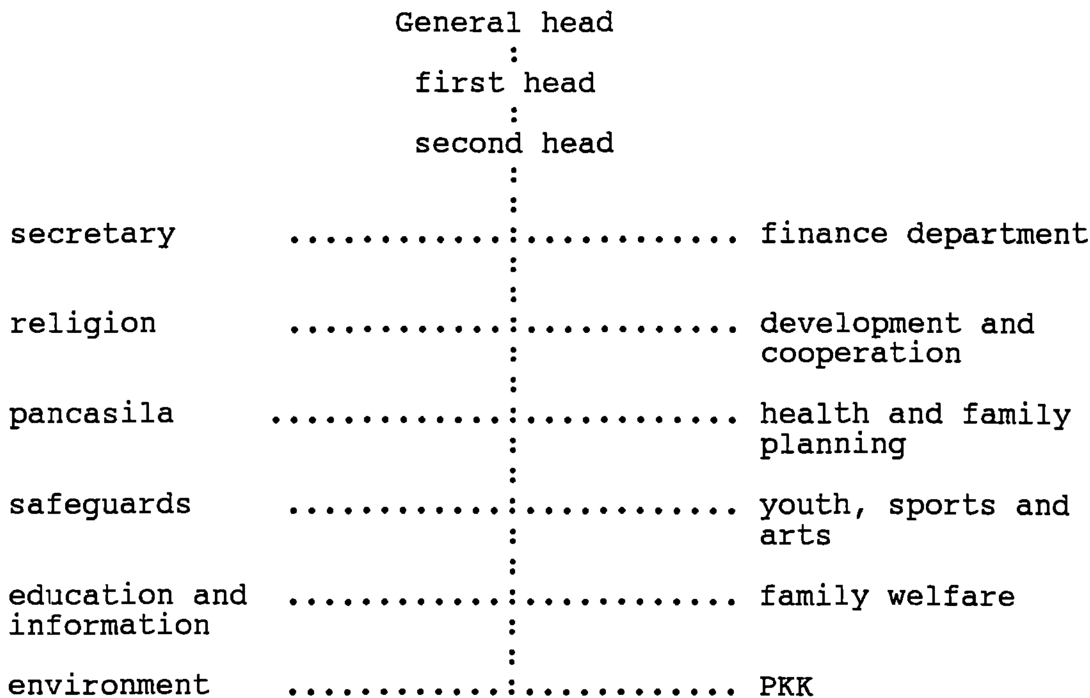
Trainings and meetings

Trainings are not organized routinely. Information and education is mostly given through monthly meetings of the PKK team of a level with PKK heads of a lower level.

scheme IV.1. Organization structure of the LKMD



scheme IV.2. Organization structure of the LKMD village staff



APPENDIX IV : THE LKMD

General

The LKMD is an organization to involve the community in its own development. All people are member of the LKMD. Work for the LKMD is on voluntary basis.

Organization structure

From national level down to village level the LKMD is organized by the administrative department (see scheme IV.1.).
The head of the LKMD at village level is the village head (see also scheme IV.2.). He is responsible about the LKMD activities to the Camat. The second head is the wife of the village head, she is the head of the PKK.

Programs LKMD

1 religion
2 simulation game pancasila
3 safe guards for village
4 education and information
5 environment
6 development and cooperation
7 family health and family planning
8 youth, sports and arts
9 family welfare
10 PKK

The activities of the LKMD come out of the village itself and can be carried out by themselves. For some programs they need help of the kecamatan level, e.g. technical help to build roads. The village gets this help from the appropriate department.
In Plumbon most activities and meeting of the LKMD concern agriculture, because this is very important for people in daily life.
There are regularly (once or twice a month) village meeting in the village hall (balai desa). The village staff and tokoh (important men) are present, all village matters are discussed. The village building is an open building, everybody can come to listen. Often the meeting is visited by staff of the kecamatan departments and the puskesmas.

As an example of the contents of the activities of these programs a list of activities is given which are done in a neighbouring village of Plumbon, see example IV. These activities are done during the 'Bulan Bahkti' the national activity month of the LKMD, held once a year (normally in March).

example IV example of LKMD activities during the activity month (bulan bakhti).

---

1 religion
The religious leader has preached about religion and the laws of marriage. The areas around the mosques of the village is cleaned. Costs: Rp 102,000.

2 Pancasila (P4)
Simulation game was done in the village (in the five blocks and in the village council house). It was especially meant for the village staff and the heads of the quarters. Costs: Rp 15,000.

3 Safety guards
Five guard house in the village are used to take care for a calm and safe village. Costs: Rp 25,000.

4 Education and Information
730 people got lessons in reading and writing (packet A of the government). This lessons were given to groups of about 10 people at a time. Pupils of the village were stimulated to go to school (compulsory education). Costs: Rp 20,000.

5 Environment
Small roads were cleaned. Plants were planted alongside of the roads. Refuse places were made. Costs: Rp 60,000.

6 Cooperatives
Through education and extension the community was motivated to join the cooperatives. The PKK members were given information and guidance by the head of the LKMD section to improve the cooperatives. Costs Rp 20,000.

7 Population and family planning
In the village a census was held with the use of computerized identity cards. It was stimulated that more children would be immunized and people were educated about contagious diseases (by the PKK). Costs: Rp 60 000.

8 Sports and art
Sport competitions were held in the village. Explanation about the several governmental programs were made. Costs: Rp 50,000.

9 Social
Inspection of old peoples homes, these were improved through gotong-royong by the community. Costs: Rp 35,000.

10 PKK
Education and extension was given how to improve welfare, the objectives of the cleaning operation and the posyandu. Costs: Rp 45,000.

11 Administration and making banner.
Rp 10 000 (APBN).

Total costs of these activities of this month is the whole year budget Rp 450,000 (about 500 guilder).
- Rp 100,000 from APBN.
- Rp 350 000 from community donations. Every village member has to pay Rp 2000 a year.

Budget

Every village get Rp 100,000 a year for LKMD activities from APBN (funds from national level). The rest is payed by donations out of the community itself.

Karang Taruna

Karang Taruna is an organization for youth (subsection 8 of LKMD). It has its own staff (5 youths). All youth in the village are member of the Karang Taruna.
The function of the Karang Taruna is to help the drop-outs, to teach the youth skills and to involve the youth in the development of the village. Like the LKMD and the PKK they also have subsections, the most active subsection is the sport subsection.

LIBRARY
INTERNATIONAL REFERENCE CENTRE
FOR COMMUNITY WATER SUPPLY AND
SANITATION (IRC)

APPENDIX V : OTHER VILLAGE ORGANIZATIONS

Religious organizations
In the village are often religious groups who talk about the text of the Koran. They can also discuss the texts related to the subjects of the health program.
The religious leader of the village is often involved in health education. During the preaching in the mosque on Friday he explains that the topics of the health programs are also in the text of the Koran.

Kopencapir
In every village is at least one group of Kopencapir. This is a group of people who read information in the newspaper, listen to radio and watch television. They discuss the information together and the information to other people. Twice a month there is a quiz on the radio in which the knowledge of two groups of Kopencapir are compared.

Dharma wanita
The Dharma Wanita is an organization for the wives of civil servants. Every department has its own Dharma Wanita organization. Their programs can be compared with the programs of PKK.
As there are not many civil servants in rural areas, the Dharma Wanita is an organization which is only active in urban areas.

table VI.1. total of children under five years old weighed in the posyandus in Plumbon.

posyandu month	Planboyan	Melati	Karmyan	Mawar	Kemuning	Nusa	cempaka	kenang	total
Mai		28	31		10		14	21	104
June	20	23	39	17	13	18	9	16	155
July	20	30	35	15	12	17	9	17	155
August		26	30	15	14	11	16	14	126
September		33	38	19	29	13			132
October	17	40	40	23	37	23	15		195
November	20	25	34			23	15		117
December	22	38	30	20	35	47	16		208
January	22	31	32	21	42	17	16		181
February	20	33	20	19	37	20	19		168
March	18	32	17	12	30	20	13		142
April	26	38	25	23	31	22			165

table VI.2 percentage of children under five years old weighed in the posyandus in Plumbon.

posyandu month	Planboyan	Melati	Karmyan	Mawar	Kemuning	Nusa	cempaka	kenang	mean
Mai		58%	53%		27%		56%	42%	47%
June	48%	48%	67%	40%	35%	42%	36%	32%	43%
July	21%	68%	56%	33%	32%	39%	32%	34%	39%
August	48%	52%	48%	28%	38%	25%	50%	26%	39%
September		66%	64%	36%	36%	30%			46%
October	40%	73%	68%	43%	43%	51%	43%		51%
November	47%	45%	58%				52%		50%
December	51%	67%	51%	38%	44%	100%	53%		58%
January	52%	54%	54%	37%	53%	36%	48%		48%
February	45%	58%	32%	33%	49%	43%	58%		45%
March	43%	56%	27%	20%	38%	42%	39%		38%
April	34%	68%	40%	68%	39%	48%			49%
mean	43%	59%	52%	37%	39%	45%	47%	34%	46%

De vakgroep Gezondheidsleer en Tropische Hygiëne geeft deze serie uit. Opgenomen worden scripties, nota's, verslagen en rapporten van studenten en medewerkers van de vakgroep Gezondheidsleer en Tropische Hygiëne.
Een lijst van publicaties verschenen in de jaren 1974 t/m 1983 is op aanvraag verkrijgbaar bij het secretariaat van de vakgroep.

Publicaties verschenen sinds 1986:

1986 - 244 Verslag
Kwaliteit van vrouwenarbeid. Een onderzoek naar de kwaliteit van het werk van kassieres in een grootwinkelbedrijf
Door: Anneke Bloemhoff en Everdien Nijenhuis

** 1986 - 245 Verslag
Beter hard geblazen.... Een arbeidshygiënisch onderzoek bij Philips Lastechniek te Utrecht
Door: Ton Adang en Huib Arts

1986 - 246 Verslag
Hydroxyproline in urine als health-effect monitor voor expositie aan NO_2 en tabaksrook
Door: A.J.W. Verplanke, B. Remijn, F. Hoek, D.J.M. Houthuijs, B. Brunekreef en J.S.M. Boleij

1986 - 247 Verslag
Gezondheidsgedrag van studenten, enkele aspecten nader belicht. Secundaire analyse van enkele gegevens van studentenenquêtes
Door: Greet Vansant

1986 - 248 Rapport
L'eau c'est la vie. L'usage d'eau et la santé dans quatre village à Burkina Faso. Recherches au projet hydraulique villageoise, Volta Noire
Door: Marian Marseille en Hendrik Jan van Genderen

** 1986 - 249 Verslag
Zelfstandig wonende bejaarden in de stad en op het platteland. Een sekundaire analyse naar verschillen in gezondheid en medische konsumptie.
Door: Resi Cluitmans, Lily Fredrix en Irene Vasbinder

** 1986 - 250 Verslag
Primair sociaal netwerk en subjectieve gezondheid bij zelfstandig wonende ouderen in Nederland. Secundaire analyse van het leefsituatie-onderzoek van het CBS, 1982
Door: Marion Herens en Gert Mensink

1986 - 251 Verslag
Een methode voor het bepalen van de ingestie van bodem- en stofdeeltjes door kinderen
Door: Pieter Clausing, Joop van Wijnen en Bert Brunekreef

1986 - 252 Rapport
Oesophageal cancer in the Calvados. Analysis of data from a case-control study.
Door: Gerda Doornbos

1986 - 253 Verslag
Fenylketonurie: moeilijkheden rondom dieet en dieet- beëindiging
Door: Karin de Jonge en Gertie Linssen

1986 - 254 Verslag
Ernstig zieke kinderen en de huishouding. Analyse van een schriftelijke enquête
Door: Marianne Oegema

** 1986 - 255 Verslag
Arbeid en gezondheid op oudere leeftijd. Een secundaire analyse van het leefsituatie-onderzoek van het CBS uit 1982
Door: Monique Verschuren

1986 - 256 Verslag
Werken op trekkers. Een epidemiologisch onderzoek bij bestuurders van tractoren.
Door: Rudolf van der Haar

1986 - 257 Verslag
"Not so dusty?" De stofexpositie en longfunctieveranderingen van werknemers werkzaam bij de overslag van massagoederen
Door: Johan de Cock en Ewoud Endlich

1986 - 258 Rapport
Het voorkomen van vluchtige n-nitrosaminen in de lucht van keukens voorzien van een recirculatie-wasemkap (een oriënterend onderzoek in negen woningen)
Door: Ir. Danny Houthuijs, Ir. Paul Fischer, Ir. Dook Noy, Dr. Geert Ellen

1986 - 259 Verslag
De leefsituatie van ouderen in Valburg. Een mondelinge enquête onder zelfstandig wonende ouderen.
Door: Yvonne Mars en Marja Pronk

1986 - 260 Verslag
Voedingsfrequentie en groei van zuigelingen op de leeftijd van 1 tot 4 maanden.
Door: Desirée Jenniskens en Jolanda Joossen

1986 - 261 Verslag
Binnenluchtverontreiniging en longfunktie: een onderzoek onder schoolkinderen in het IJmondgebied.
Door: Hetty de Jong

1986 - 263 Verslag
Methode om het orale anticonceptiegebruik te achterhalen. Beslissingsregels voor het gebruiken van informatie omtrent het orale anticonceptiegebruik, afkomstig van de vrouw en van de voorschrijver, indien de gegevens uit deze bronnen elkaar tegenspreken.
Door: B.A.M. Kempers en H.B. Mulder

1986 - 264 Verslag
Is het de leeftijd? Onderzoek naar de psychosociale gezondheid van niet-schoolgaande jongeren in de leeftijd van 16 t/m 24 jaar, in de stad Breda.
Door: Pauline Ticheler en Charles Willems

** 1986 - 265 Thesis
A study of occupational hazards arizing from airborne organic dust and its biologically active constituents
Door: Peter Attwood

** 1986 - 266 Verslag
SICK BUILDING SYN - DROOM OF WERKELIJKHEID?
Een onderzoek naar relaties tussen gezondheids- en klimaatbeleving en kwaliteit van de arbeid in een kantoortuin
Door: Pyter Brandsma, Lyanne Dijkstra en Luuk Sparreboom

1986 - 268 Rapport
De samenwerking van schoolartsendiensten met instellingen voor geestelijke gezondheidszorg. Een secundaire analyse
Door: Liesbeth Dirks

** 1986 - 269 Verslag
Ademluchtbemonstering. Bemonstering van alveolaire lucht in de verfindustrie.
Door: P. Scheepers

** 1986 - 270 Verslag
Longitudinaal longfunctieonderzoek in een scheepsschroevenbedrijf.
Door: Albert Hollander, Dick Heederik en Tjabe Smid

1986 - 272 Verslag
Werkhouding in de melkstal. Beoordeling met ADAPS-computerprogramma
Door: Angēlo Rutten

** 1986 - 273 Verslag
(Gewas)bescherming. Een bedrijfshygiënisch onderzoek in een gewasbeschermingsmiddelenformuleerbedrijf
Door: Arnold Bergstra, Martijn van der Hoek en Albert Hollander

1986 - 274 Verslag
Een onderzoek naar de voedselhygiëne en het voorkomen van diarree en braken bij zelfstandig wonende ouderen
Door: Wilma Reitsma, Erwin Timmers en Elly Vermunt

** 1986 - 275 Verslag
Vochtige woningen. Een onderzoek naar de relatie tussen vochtkenmerken in woningen en de gezondheid van bewoners
Door: Monique Waegemaekers en Nel van Wageningen

1986 - 276 Verslag
Registratie en overdracht van verloskundige gegevens
Door: Hans P. de Vries

1987 - 278 Verslag
Ouderen in Rotterdam. Een vooronderzoek naar de behoefte aan hulp en het gebruik van (gezondheids)-voorzieningen onder zelfstandig wonende ouderen in vier Rotterdamse buurten
Door: Angeli v.d. Aalst, Ellen Gielkens en Manon Penris

** 1987 - 279 Verslag
Klimaat en arbeid
Door: Remko Houba

1987 - 280 Verslag
Onderzoek naar gehoorverlies bij fruittelers in de Betuwe
Door: Nicoline Monsees

** 1987 - 281 Verslag
Zieken scholen? Een onderzoek naar het vóórkomen van aspecifieke gezondheidsklachten bij schoolkinderen in samenhang met het kooldioxide-gehalte en het binnenklimaat
Door: Paul van de Sandt, José Potting en Ellen Hoegen Dijkhof

1987 - 282 Verslag
CARA en beroep. Een onderzoek naar de bijdrage van het beroep aan de prevalentie van CARA
Door: Hennie Pouwels

1987 - 283 Verslag
Gehoorbeschermingscampagnes
Door: M. Ruyten

1987 - 284 Verslag
Een gezondheidsvragenlijst voor vijf-jarigen vergeleken met het periodiek geneeskundig onderzoek
Door: Annet van Asselt en Conny Kips

1987 - 285 Verslag
Evaluatie van de wijze van gegevens verzamelen bij een onderzoek naar de invloed van orale anti-conceptie op het ontstaan van mammacarcinoom bij vrouwen met een benigne mammalaesie
Door: Marjo de Kler en Saskia van der Pas

1987 - 286 Verslag
Blootstelling aan Benzo(a)pyreen in het kader van een onderzoek naar Benzo(a)pyreen-DNA-adducten in bloed en longweefsel
Door: C.A.M. Claessen,

1987 - 287 Verslag
Primary health care in Tabenken. Gezondheidszorg in een plattelandsgemeenschap in Noord-West Kameroen
Door: Albert Schoenmaker en Helen Wodrada

1987 - 288 Verslag
Bodemingestie door jonge kinderen. Een balansstudie naar de inname en excretie van Al, Ti en AIR door peuters
Door: Tonnie Zweers

1987 - 289 Verslag
Verzorgingshuisarts: wenselijkheid en werkbelasting
Door: Christa de Vries en Anja van der Wurff

1987 - 290 Verslag
Evaluatie van een jaarthema als GVO-invoeringsstrategie. Het ontwikkelen van een instrument om het effect van de strategie van het jaarthema "voeding" op leerkrachten te kunnen meten
Door: Els van Kernebeek

1987 - 291 Verslag
Een onderzoek naar luchtwegsymptomen bij kinderen in Noord-Holland
Door: Janne-Tjitske Opmeer en Claartje Out

1987 - 293 Verslag
Onderzoek naar potentieel allergene deeltjes in de buitenlucht rond Gist-Brocades
Door: Liesbeth Preller en Albert Hollander

** 1987 - 294 Verslag
De hulpverlening rond sterven en de dood. Een onderzoek in Flevoland en Amsterdam naar de knelpunten die de wijkverpleegkundige/wijkziekenverzorgende ervaart bij haar hulpverlening rond sterven en de dood
Door: Anneke Liefkens en Antoinette Mulder

[1] 1987 - 295 Verslag
Geïntergreerd milieuonderzoek Emmeloord.
Door: Bart Hellings, Wim Heiko Houtsma, Jacques Kuin, Janny Londema, Frank Peen, Jaap Vos en Bert Wiebing

1987 - 296 Verslag
Gezondheidskennis en participatie van vrouwen in een drinkwaterproject. Onderzoek bij het Project Hydraulique Villageoise, Volta Noire in Burkina Faso
Door: Koos Kingma

1987 - 297 Verslag
Autonome zenuwfunctie, zenuwgeleiding en refractaire periode bij werknemers met langdurige lage blootstelling aan zwavelkoolstof
Door: M.W.M.M. Ruijten, H.J.A. Sallé en M.M. Verberk

1987 - 298 Verslag
Klein zijn in een grote stad. Onderzoek naar de beleving van de woonomgeving bij kinderen in Rotterdam
Door: Josine v.d. Bogaard en Grieta v.d. Weg

1987 - 301 Verslag
Het verband tussen de pyridoxine inneming en de 25 jaars mortaliteit bij een groep Amsterdamse ambtenaren
Door: Gert Dekker

1987 - 302 Verslag
Een onderzoek naar de relatie tussen de selenium-inneming met de voeding en de totale mortaliteit
Door: Mariët Haring

---

[1] Dit verslag is verkrijgbaar bij:
het Centraal Magazijn van de LUW
De Dreijen 4
6703 BC WAGENINGEN

** 1987 - 303 Verslag
Aspecifieke gezondheidsklachten bij Rotterdamse schoolkinderen. Een onderzoek naar het vóórkomen van aspecifieke gezondheidsklachten bij kinderen van 38 Rotterdamse scholen
Door: Agnes van der Heide en Margot Eppink

1987 - 305 Verslag
Verschillen in gezondheid en medische consumptie bij ouderen: Een secundaire analyse van CBS-data naar verschillen in gezondheid en gebruik van medische en welzijnsvoorzieningen tussen ouderen ten plattelande en ouderen in stedelijke gebieden
Door: R.J.M. Perenboom, C.J. Lako en E.G. Schouten

1987 - 306 Verslag
VTO EN VOORLICHTING. Een verkennend onderzoek naar voorlichting aan ouders over Vroeg-Tijdige Onderkenning van ontwikkelingsstoornissen
Door: Vivianne Ceelen en Annemieke Tops

1987 - 307 Verslag
GEZONDHEIDSVERSCHILLEN IN ARNHEM: een onderzoek naar ziekenhuisopname in wijken
Door: Noëlle Pötgens

** 1987 - 308 Rapport
Stof in een mengvoederfabriek. Een onderzoek naar stofblootstelling en effecten op longen en luchtwegen
Door: Anita Groenendijk, Mieke Lumens, Tjabe Smid, Dick Heederik en Hans Marquart

** 1987 - 309 Verslag
Vergelijkend onderzoek naar de arbeidsomstandigheden in de substraatteelt en de teelt in grond. Een oriënterend onderzoek naar gezondheidsbedreigende factoren in het kasmilieu en een gerichte studie naar de blootstelling aan Lannate
Door: Mark Fleuren, Wim Tieleman en Govert Verstappen

1987 - 310 Verslag
Op jacht naar de klacht. Een arbeidshygiënisch onderzoek naar blootstelling aan microbiele verontreiniging en effecten op de gezondheid in een kunststofgarenbedrijf
Door: Erik Kateman, Marc Smeets en Martin Spitteler

1988 - 311 Verslag
Binnenklimaat in woningen. Een benadering van gezondheidsklachten en woningkenmerken met behulp van vragenlijsten
Door: Monique Waegemaekers

1988 - 312 Verslag
Inventarisatie van onderzoek in Nederland op het gebied van vitaminen en mineralen met betrekking tot de gezondheid van de mens
Door: M. de Winkel, S. Pieterse, C. Hoitink en M. Wattel

1988 - 313 Verslag
Longfunktieonderzoek in een meelfabriek
Door: Remko Houba en Tonnie Zweers

1988 - 314 Verslag
Analyse van longfunctie en vóórkomen van luchtwegklachten bij schookinderen in Alkmaar en Egmond
Door: Dr.ir. B. Brunekreef

1988 - 315 Verslag
Melk, goed voor elk? Een onderzoek naar overgevoeligheid voor melk en/of ei bij 839 kinderen
Door: Anneke Blokstra, Helmi Naber en Hanneke Oude Elberink

1988 - 316 Verslag
De leefstijl en gezondheidssituatie in relatie tot de groei bij 5- en 6-jarige kinderen. Een onderzoek in de gemeentekring Almelo
Door: Marga Ocké en Annette Stolwijk

1988 - 317 Verslag
Zware metalen in Utrecht
Door: Gon Ferdinandus en Carla van Egmond

1988 - 318 Verslag
A survey on water use and hygiene in a rural area on mount Elgon, West-Kenya
Door: Dolores Brouwer

1988 - 319 Verslag
Association between selenium status and cardiovascular risk factors in a healthy Dutch population
Door: Sandra Bukkens en Nelleke de Vos

1988 - 320 Verslag
Magnesium in relatie tot bloeddruk en mortaliteit
Door: Margriet Penders

1988 - 321 Verslag
IJzerstatus en het acute myocardinfarct
Door: Yvonne van der Schouw en Pauline van der Veeken

** 1988 - 322 Verslag
De ontwikkeling van een geintegreerde zorgvoorziening voor bejaarden
Door: J.M.J. Ketelaar en J.A.J. Smets

1988 - 323 Verslag
De relatie tussen polsfrequentie respectievelijk bloeddrukverandering en totale mortaliteit
Door: Manon J.E. Penris en Frederike C. Sieders

[1] 1988 - 324 Verslag
Validering van de schriftelijke vragenlijst van een cohortonderzoek naar voeding en kanker: de proefopzet
Door: Monique Al

1988 - 325 Verslag
Inkomen en sterfte. Resultaten van een 25 jaar vervolgonderzoek bij mannelijke Amsterdamse ambtenaren
Door: Dianne Aben en Nicole Mares

1988 - 326 Verslag
Onderzoek naar acute longfunctieveranderingen bij varkenshouders
Door: Rolf van Zwieten

1988 - 327 Verslag
Oriënterend onderzoek naar de blootstelling van spuiters in de chrysantenteelt onder glas aan het gewasbeschermingsmiddel Curamil
Door: Hillie Dillema en Angelo Rutten

1988 - 328 Literatuuronderzoek
Huidtests en de RAST: een literatuuronderzoek naar factoren die de resultaten beinvloeden
Door: Marti J. van Liere

1988 - 329 Literatuuronderzoek
Het verkorten van protocollen voor de bepaling van a-specifieke bronchiale hyperreactiviteit
Door: Eric Zuidweg

1988 - 330 Verslag
Verslag van een arbeidshygienisch onderzoek in een loopvlakvernieuwingsbedrijf van vliegtuigbanden
Door: Wouter de Haan, Harm Ikink en Jan Koppejan

1988 - 331 Verslag
Effektevaluatie van het onderwijsprogramma "Gezond Gedrag". Een onderzoek onder leerlingen van het lager agrarisch onderwijs
Door: Josien Breken en Koby van der Knaap

[1] Dit verslag is verkrijgbaar bij:
CIVO-TNO
Postbus 360
3700 AJ ZEIST

1988 - 332 Verslag
Geboortegewicht gewogen. Een onderzoek naar determinanten van het geboortegewicht in Lelystad en Urk en geboortegewicht als gezondheidsindikator
Door: Marlene van der Star en Corrien Waardenburg

1988 - 333 Verslag
Bloeddruk en mineralen bij Nederlandse ouderen
Door: Zandrie Hofman

1988 - 334 Verslag
De relatie tussen het serum linolzuur, arachidonzuur, N-3 vetzuren en de m/v-ratio en acuut myocard infarct
Door: Peter Rokebrand

** 1988 - 335 Verslag
Intensieve veehouderij en gezondheid. Een inventariserend onderzoek naar de gevolgen van luchtverontreiniging door intensieve veehouderij op de (volks)gezondheid
Door: Catrien van Dam en Rob van Strien

1988 - 336 Literatuuronderzoek
Literatuuronderzoek naar de registratie van medische gegevens, met name het pilgebruik, door huisartsen in Nederland.
Overeenkomst in gerapporteerd pilgebruik van voorschrijver en gebruikster; gerelateerd aan enkele kenmerken van de voorschrijver en van de vrouw
Door: Monique Mentjens

1988 - 337 Verslag
Validiteit en betrouwbaarheid van het welzijnformulier; een onderzoek naar de toepassing ervan bij 106 mensen uit zeven beroepen
Door: Lucas Wiessing

1988 - 338 Verslag
Seroconversie voor Hepatitis A virus bij een groep reizigers in de periode 1979-1980
Door: Annegré de Roos

1988 - 339 Verslag
Leerlingenbegeleiders en gezondheidsproblemen van leerlingen. Onderzoek onder schoolleiding en docenten van het voortgezet onderwijs in de regio Geldrop-Valkenswaard
Door: Alida Wapstra en Nynke van Zanden

1988 - 340 Verslag
Laboratory studies on the behaviour of mosquitoes foraging on a bait protected by permethrin impregnated bednetting
Door: J. Voorham

1988 - 341 Verslag
De Quetelet-index (gewicht/lengte²) als maat voor overgewicht bij Nederlandse ouderen
Door: Vera Minten

** 1988 - 342 Literatuuronderzoek
Beroepsmatige blootstelling aan toxische stoffen in de graanoverslag en de daarmee samenhangende risico's voor de gezondheid
Door: Drs. A.M. Kremer

1988 - 343 Verslag
De relatie tussen geïsoleerde systolische hypertensie en totale mortaliteit - geanalyseerd volgens twee analysemethoden
Door: Greetje van den Ban en Ellen Kampman

1988 - 344 Verslag
Leefgewoonten en gezondheid van ouderen. Een vooronderzoek onder zelfstandig wonende ouderen in de gemeente Rhenen.
Door: Paula Dijkema en Annette Stafleu

1988 - 345 On the nature of time and aging
Door: Johannes J.F. Schroots

1988 - 346 Verslag
Combinatie van risicofactoren voor hart- en vaatziekten bij ouderen in Nederland
Door: Sandra Borsboom en Clothilde Bun

1988 - 347 Literatuuroverzicht
Graanstof en gezondheid - een literatuuroverzicht
Door: Tjabe Smid

1988 - 348 Verslag
Vragen aan een vrouwengezondheidscentrum. 1986, 1987,...........en hoe verder?
Door: Meta Moerman

1988 - 349 Organisatie en werkwijze van de vakgroep Gezondheidsleer. Studiejaar 1988/89

1988 - 350 Verslag
Domestic air pollution and respiratory infections in young Gambian children: analysis of data from a cross-sectional study
Door: Arnold Bergstra

1988 - 351 Verslag
Voeding, voedingstoestand en sociaal-economische variabelen bij 10-11 jarige jongens
Door: Ingrid Maas

** 1988 - 352 Scriptie
Ziektefrequentie- en associatiematen in de epidemiologie
Door: E.G. Schouten

1988 - 353 Rapport
Gezondheidsenquête in Noordelijk Noord-Holland: een vooronderzoek
Door: Wyanne Huitema en Erik Maarsingh

1988 - 354 Verslag
Lood om oud ijzer. Loodverontreiniging aan de Ruigenhil te Alblasserdam en het gezondheidsrisico voor kinderen
Door: Maarten Louer en Yvonne Tieleman

** 1988 - 355 Verslag
Ontwikkeling van een model ter beoordeling van het extra gezondheidsrisico bij bodemverontreiniging en uitwerking hiervan voor Rotterdamse volkstuinen
Door: Thomas Huy, Bert Scheeper, Kees de Schipper en Jan-Paul Zock

1988 - 356 Verslag
Aspecten van gezondheidszorg in Zuid-Soedan
Door: J.J.F. van Rooij

1988 - 357 Verslag
Vleeskonsumptie in relatie tot de prevalentie van kanker
Door: Jeanne van Loon

1988 - 358 Verslag
De organisatie van en voorlichting over inentingen, in het bijzonder bij negenjarigen
Door: Christine Bulsink en Irene Gosselink

1988 - 359 Report
Water, sanitation and health in Brazil. A health impact survey in Apiai-Mirim and Ferreira dos Matos, Sao Paulo
By: Andrea Berghuizen and Inge Lardinois

1988 - 360 Verslag
De relatie tussen de consumptie van melk en melkprodukten en borstkanker
Door: Jacqueline Dekker en Jos Lamers

1988 - 361 Verslag
Marginale voeding en borstkanker
Door: Ingrid Gelissen en Anja Huisman

1988 - 362 Verslag
Een longitudinaal onderzoek naar (effecten op) de longfunctiegroei bij basisschoolkinderen in de IJmondregio
Door: Marc Smeets

1988 - 363 Verslag
Determinanten van de voedingstoestand bij 10-11 jarige jongens
Door: Carola Schrijvers

1989 - 364 Verslag
Een schatting van de ingestie van bodem- en stofdeeltjes door jonge kinderen
Door: Pieter Clausing, Bert Brunekreef en Joop van Wijnen

1989 - 365 Verslag
Ziek zijn, dat is iets wat je overkomt. Onderzoek naar etiologie en geneesmogelijkheden in Noord-Benin
Door: Jacqueline Franssens

1989 - 366 Verslag
Werkloosheid en gezondheid: een aanzet tot onderzoek
Door: Liliane Begheijn

1989 - 367 Verslag
Onderzoek naar blootstelling en gezondheidseffekten van caseïnestof bij werknemers van "Het Kaasmerk" te Leiden
Door: Erik van Eek en Lonneke de Rijk

1989 - 368 Report
Primary health care and hygiene education and extension in Indonesia. A case study in Indramayu
By: Inge Verdonk

* = nog niet verschenen
** = uitverkocht

Voor de inhoud van de publicaties blijven de auteurs aansprakelijk. Inlichtingen over deze serie kan men verkrijgen bij de secretaresse van de vakgroep Gezondheidsleer, Dreijenlaan 1, Postbus 238, 6700 AE WAGENINGEN, tel. 08370-82080.

C.J. Lako, secretaris