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SANITATION BEHAVIOUR  
OF CHILDREN

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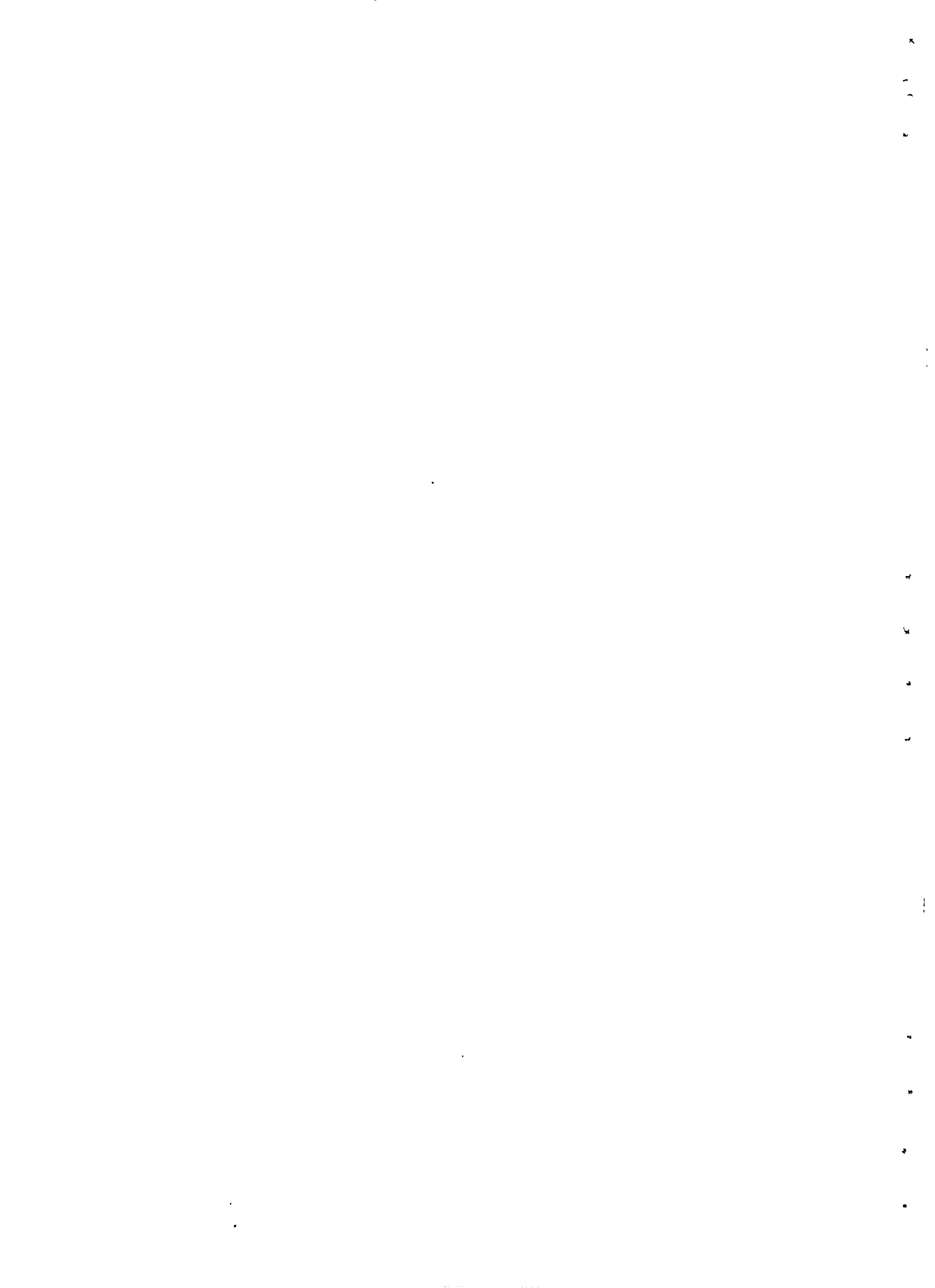
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ISN 5173



prepared by  
Jolanda Dekker (?)

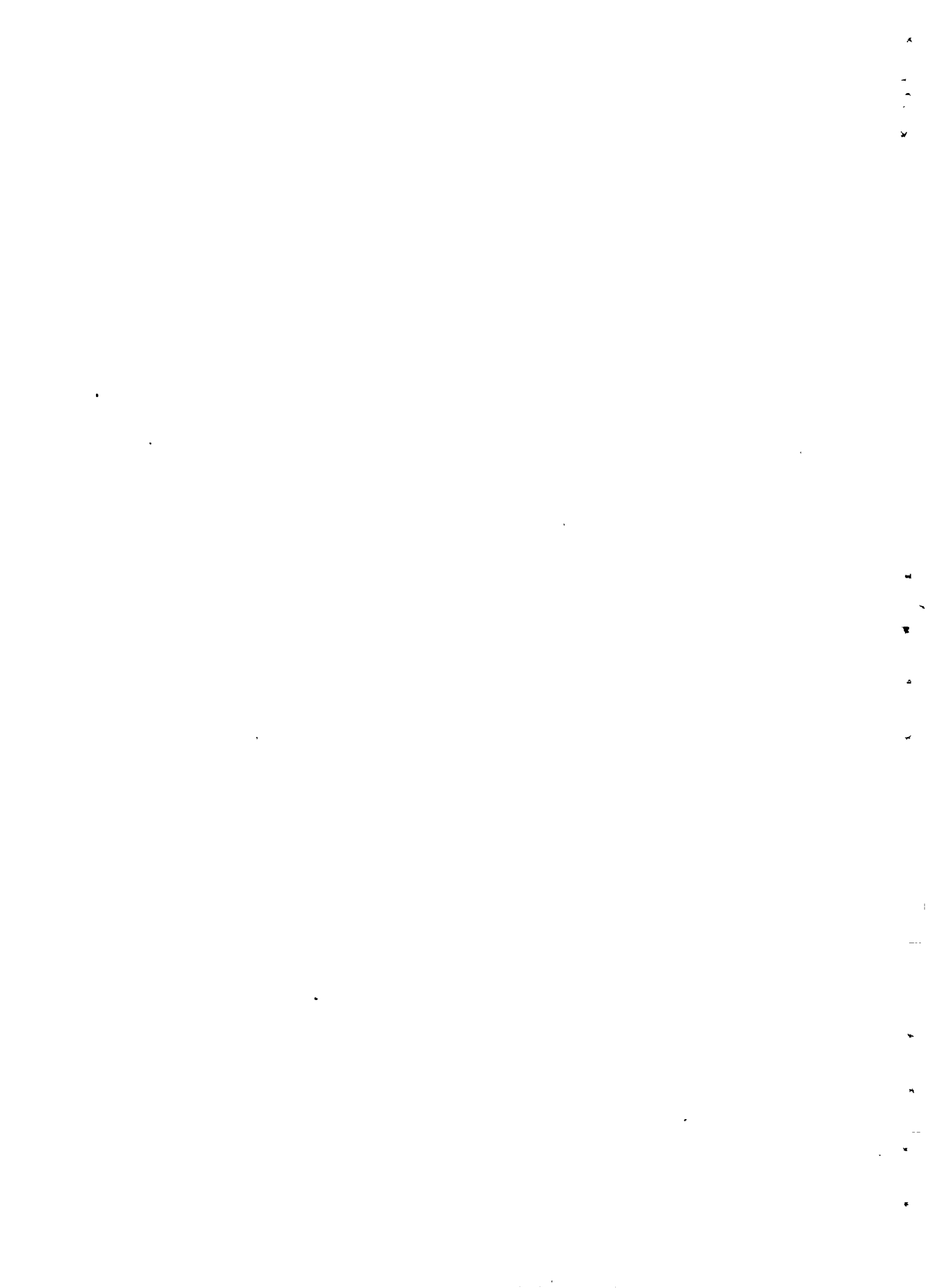
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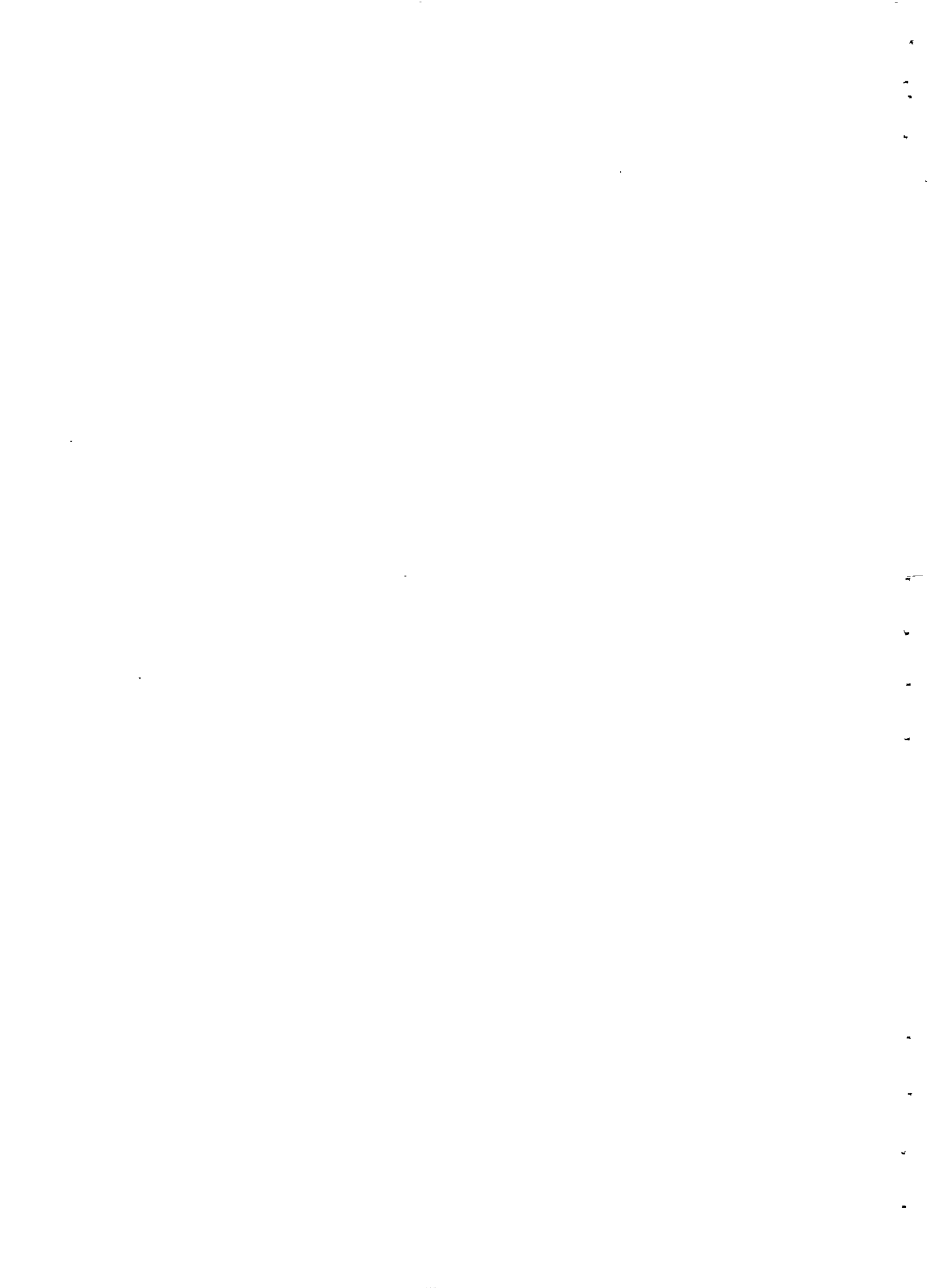
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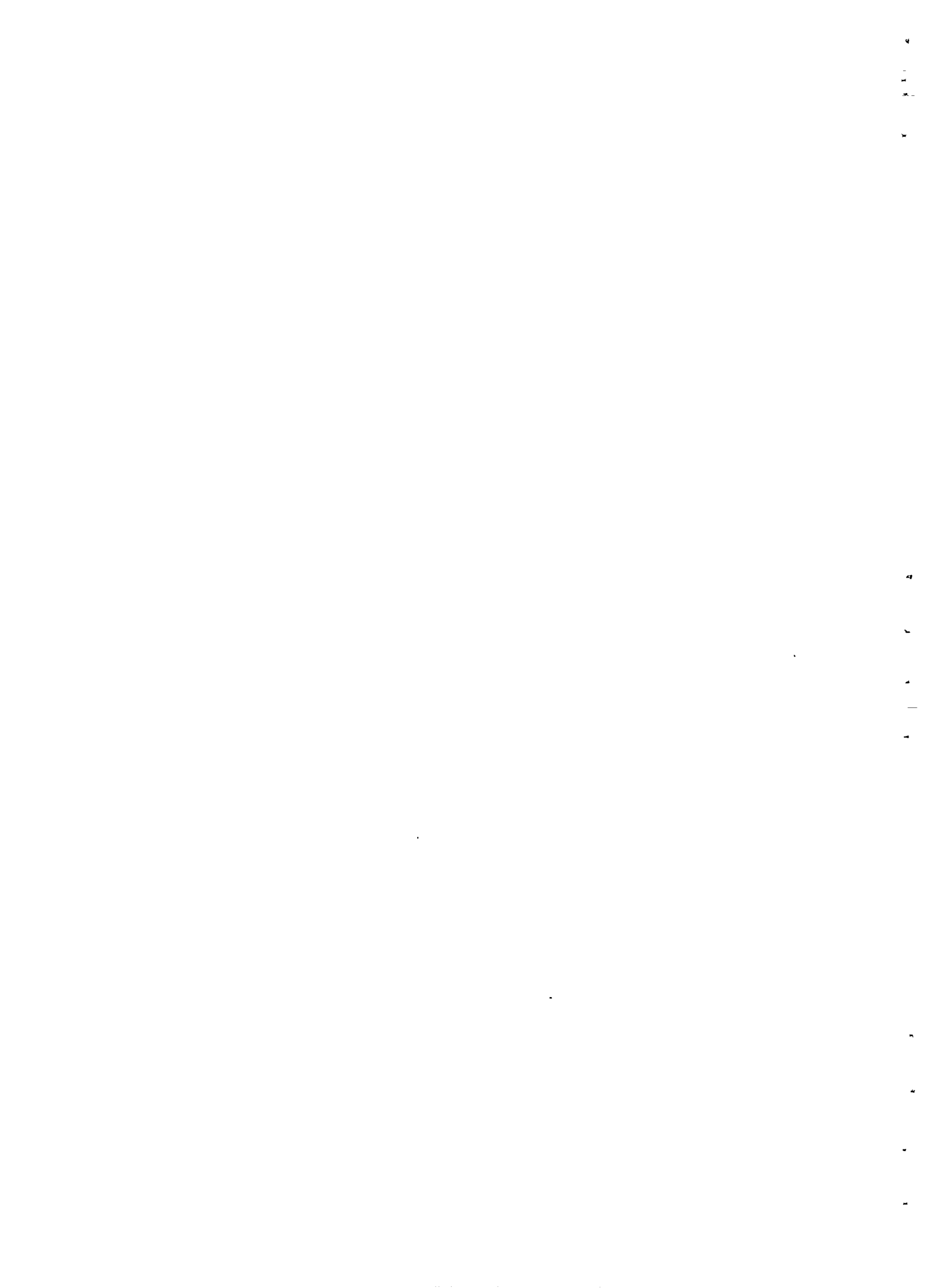
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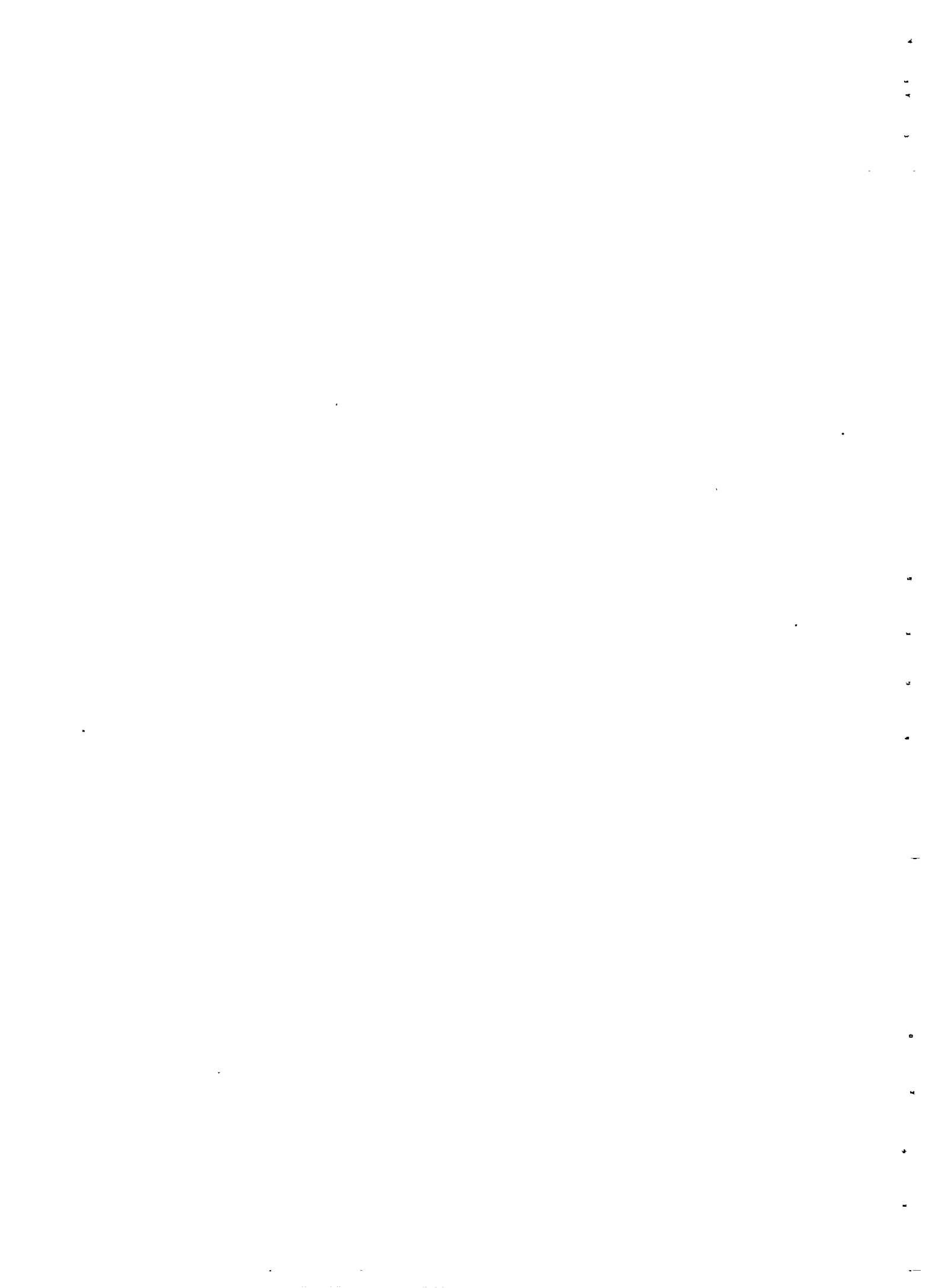
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Foto on cover by G.J.W. de Kruijff



## 1. INTRODUCTION

In the framework of the Small Towns Sanitation West Java Project, a study was carried out in 1988 on sanitation behaviour of children.

### 1.1 BACKGROUND

The reported Infant Mortality Rate in West Java was 94 per 1000 (1985). The mortality rate of children under the age of five years (balita) was 72 per 1000 (1986). The most frequently reported diseases of balita in 1986 were skin diseases, flu, and intestinal infectious diseases like diarrhoea (1). \*) These infectious diseases are related to poor environmental sanitation, inadequate immunization programmes and malnutrition.

With regard to the relation poor environmental sanitation and infectious diseases it can be noted that direct fecal-oral contact and microbiological food contamination causes intestinal infectious diseases like amoebiasis, cholera, typhoid, etc. Human excreta is the principal vehicle for the transmission and spread of these and other infectious diseases. They start from an infected individual (most often a child) to a new victim (again most often a child) when the causative agent is passed in the excreta (2), (6). Not only the infection results in sometimes serious illness, also infection suppresses the appetite and inhibits the body's ability to absorb nutrients from food intake, which makes a person more susceptible to other infectious diseases etc., following a cycle.

Better health conditions can be expected from:

- more or better facilities
- better functioning of these facilities
- better utilization - sanitation behaviour
- better hygiene - sanitation behaviour.

Sanitation behaviour of small children is the main subject of the study for the following reasons: small children are the most susceptible group for infectious diseases since their resistance is still small. Therefore they also are more susceptible of dying of infectious diseases. Further, as carriers of the diseases they more easily transmit illnesses to other children.

\*) The figure in brackets refer to the publications quoted in the bibliography



## 1.2 OBJECTIVES OF THE STUDY

Considering that the sanitation of small children is most critical for their health conditions the study tried first to obtain a full knowledge and understanding of their existing sanitation behaviour. Further the study aimed to identify the most effective ways to improve on the sanitary conditions of children. The results of this study will be used for the design and implementation of the STS programme, including the design of health education/ information. It is hoped that the results will also serve a wider interest.

## 1.3 SUBJECTS OF THE STUDY

This study is primarily directed to sanitation behaviour of small children. The study focusses on their hygiene behaviour: place, time and habits of defecation, bathing, washing hands and playing.

Since behaviour is intrinsic to culture and learned habits, the role of adults in supporting sanitation behaviour was also looked at. The sanitation behaviour of adults is an example for the sanitation behaviour of children. Especially the role of mothers was looked at since they are the most important persons teaching children.

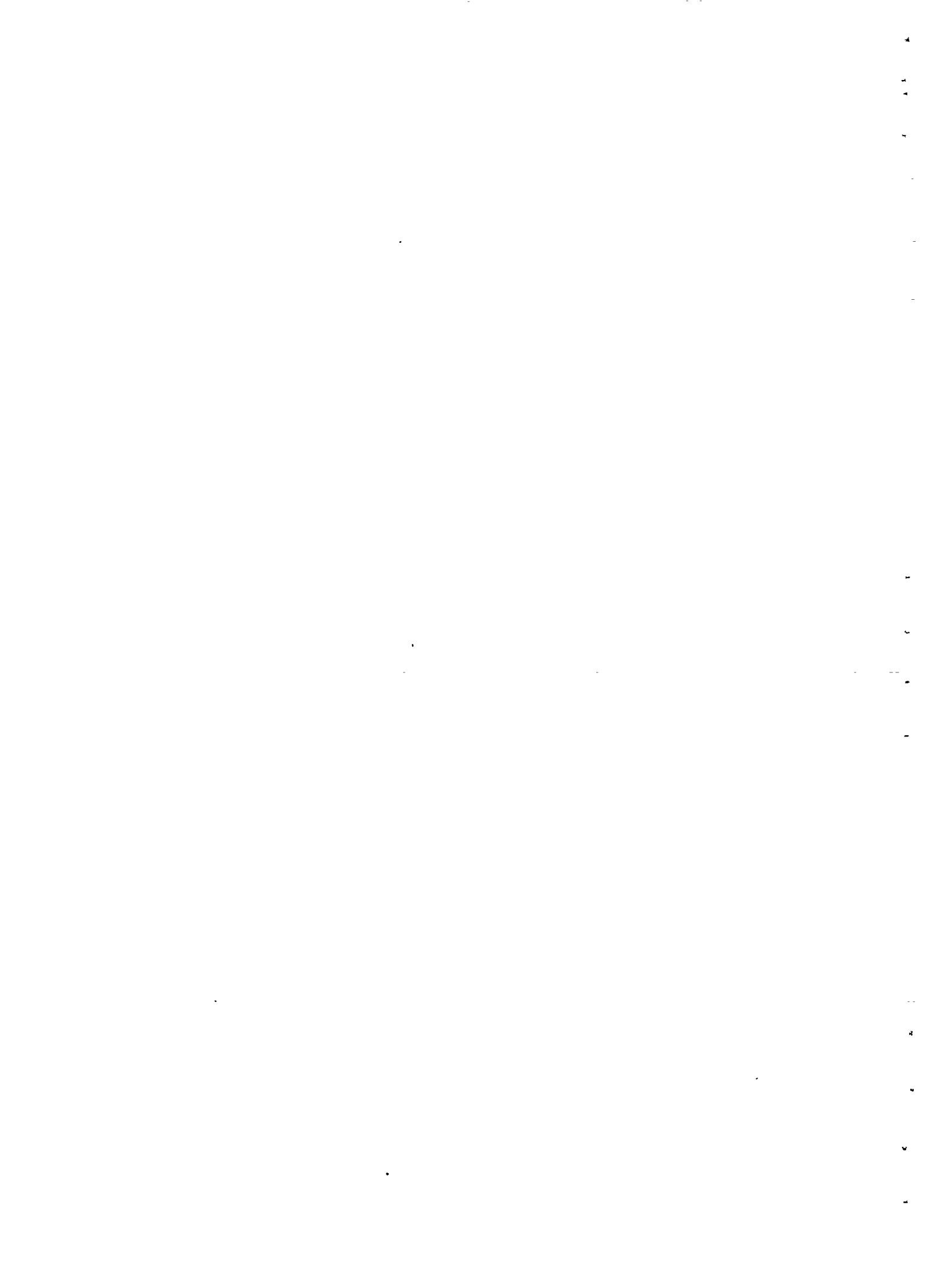
Also garbage handling was studied. Although small children play no major role yet in this garbage handling, they will already learn their future habits.

The study provides several inputs for preventive actions.

## 1.4 METHODS OF GATHERING DATA

Data gathering was done in the office and in the field. In the office secondary data were gathered by studying literature dealing with sanitation behaviour. In general the specific hygiene related behaviour that has been most studied is hand-washing (2).

Primary data were obtained in the field via observations nearby defecating and bathing places. Interviews were held with mothers, fathers, school teachers, key persons in the study location ("tokoh masyarakat"), health officials and children. It was difficult to interview children under the age of 5 years, interviews were mostly held with children in the first class of the primary school and occasionally with elder children in the streets. Interviews were held in small





groups, gathered outside or inside a house, facilitating discussions between people.

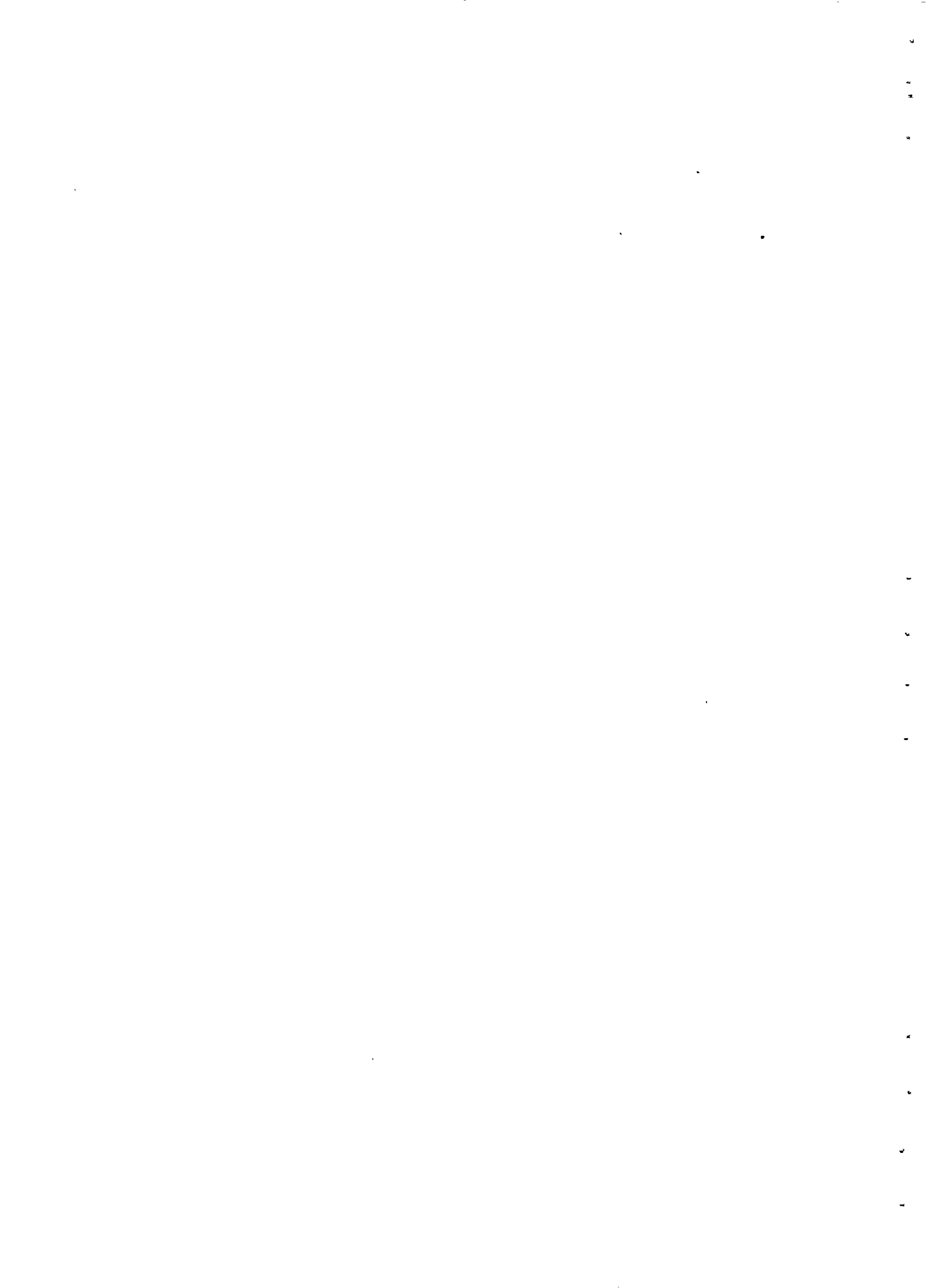
Also information was gathered during "sanitation walks" in the field, visiting garbage places, defecation places inside and outside houses and schools. During these "sanitation walks" discussions were held with several people who haphazardly were met near the sites. All these interviews served to obtain qualitative information on sanitation habits and the why of the habits.

The methods of gathering primary data were first tested in the Kotamadya and Kabupaten of Sukabumi (Cisaat town), and in the town of Kadipaten (Kabupaten Majalengka). The actual study was carried out during two weeks in parts of the town of Cibadak, Kabupaten Sukabumi (West of West Java) and Kadipaten, Kabupaten Majalengka (East of West Java), two of the eighteen towns of the Small Towns Sanitation West Java Project (STS).

Cibadak is situated in a highland area while Kadipaten is located in a lowland area. Both towns are surrounded by rivers and irrigation canals which generally have muddy water. For obtaining clean water most people use a well, although for some areas this poses a problem, especially in the dry season. In Cibadak many ponds can be found, while in Kadipaten hardly any fishponds are available.

The reported Infant Mortality Rate in the Kabupaten of Sukabumi in 1985 was high compared to West Java (103 per 1000; West Java 94 per 1000). In the same year the reported Infant Mortality Rate for Majalengka (92 per 1000) was just below the West Java figure (1).

In the next chapters the results of the study are presented, followed by a summary and recommendations.



## 2. STUDY RESULTS

In general the sanitation behaviour did not differ much between the study areas. Variations within each area were noted: in type of toilets, the fetching and processing of water, and garbage processing.

### 2.1 TOILET BEHAVIOUR

---

The greater part of the people in the study areas own a toilet. Still many of them use a public toilet especially during the dry season, because then wells are often dry so people have to fetch water for their own toilet from far. People not owning a private toilet use public toilets, go to the one of their neighbours or defecate in or near the river, irrigation canal or (in some areas) fish pond.

Babies defecate in napkins. Children until the age of about 3 years defecate in the garden or above a drain nearby the house, accompanied by a parent, usually the mother. Elder children follow the same habits as adults.

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#### 2.1.1 Place and Habits

In general people in the study areas defecate once a day, usually in the early morning or late afternoon.

The greater part of the people in the study areas own a toilet although some of them do not use it during the dry season, especially in the mornings, going to a public one.

The reason mentioned for this behaviour is that although it is further away it is more practical since they do not have to fetch water for their own toilet from another place (note: wells are often dry in the dry season, some people even have to buy water by that time). But in the evening they do use their own toilet in the dry and in the wet season, because in the dark the public toilet is considered too far from their home.

Public toilets usually are located near water places like public wells, drains, rivers or in some areas fish ponds.

Water is needed since Indonesian people are used to clean themselves with water after going to the toilet instead of using toilet paper. Further, with water the dirt flows away giving them the feeling that their area is clean again.



People who do not own a toilet go to a public one or sometimes use the latrine of their neighbours. But in general they prefer to go to a public place since they feel more free, water is available so they don't have to fetch it and they do not want to disturb their neighbours too often.

In general people who live nearby an irrigation canal ("bedeng") use this as a public toilet, as well as drains. In wards (RT/RW) where strong rules exist which forbid people to use these places as a public toilet, less use is made of these places. These same canals serve as water supply for many other people.

There are some people who use a newspaper as a toilet place, which afterwards is thrown away in a garbage place.

People who use a public toilet usually go there in the early morning or late afternoon when it is still or almost dark, having more privacy at that time.

Babies usually defecate in napkins of cloth which are cleaned in the river or other water places. Until the age of about three years children are accompanied to (public) toilets by their parents, usually the mother. If no toilet is available in the house small children defecate in the evening in the garden, if available, or a drain nearby the house, accompanied by a parent.

Information from literature showed that in some cultures in different parts of the world the belief exists that children's feces are harmless. This can result in women not cleaning up after children or washing their hands after handling children's stools (11). In the study area women do not believe that children's feces are harmless but are the same as adult's feces and therefore they have to clean it up well.

In general people hardly use any soap if washing hands after defecation.

### 2.1.2 Type of toilets and systems to fetch and process water

Different systems exist of water supply for the toilet as well as different systems of discharging of waste water, in private as well as public toilets.



### Private toilets

Private toilets usually are located outside the house, containing walls of cement or bamboo with a roof on top, or in the house nearby the kitchen. In some households a private well is available in or outside the house. Then water is fetched in a bucket which is used directly from this bucket or from a tub, filled with water from the well.

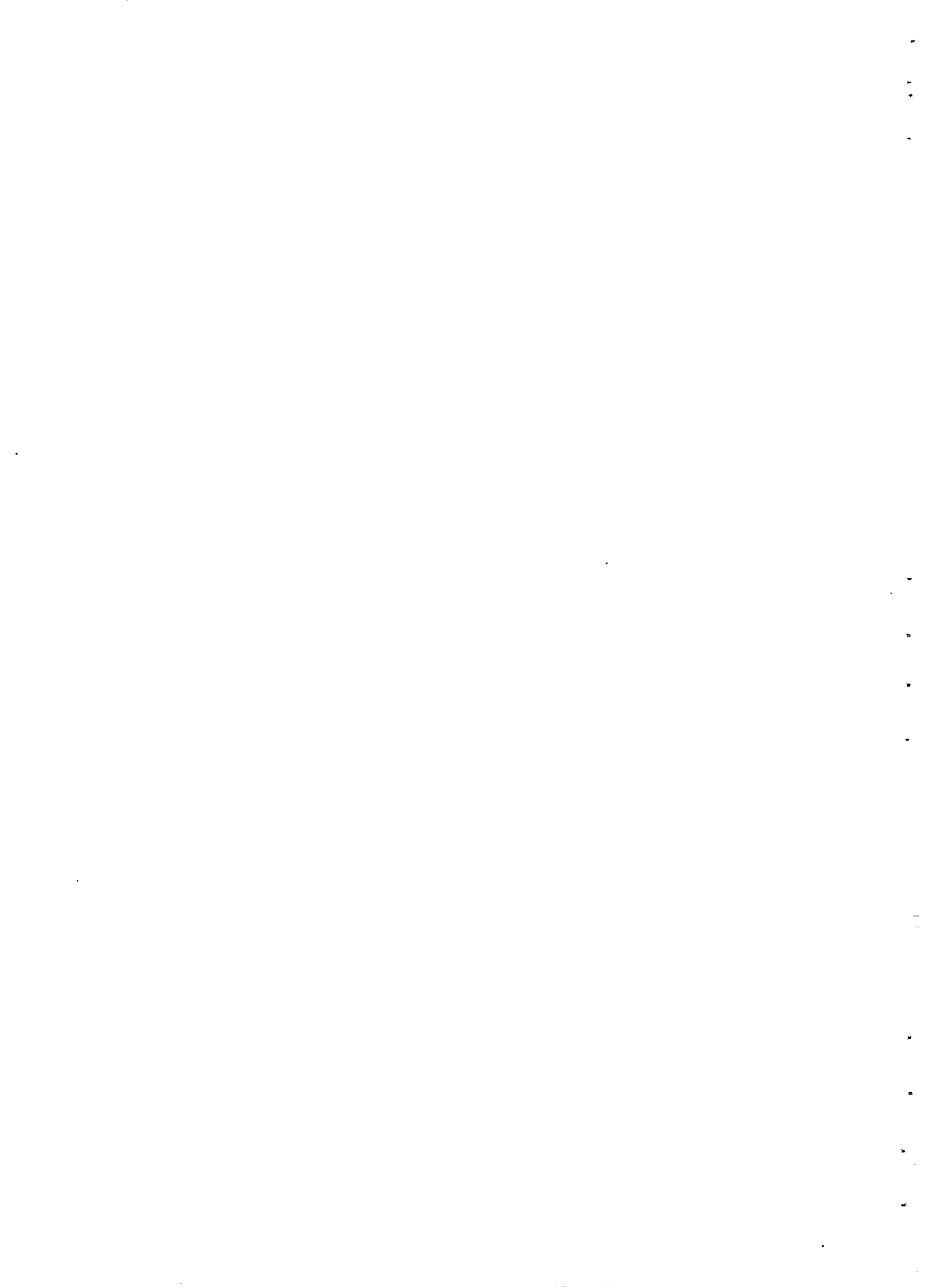
The used dirty water (black water) is transported via a pipe made of bamboo or other material directly to a river, irrigation canal or drain. In some areas where fishponds are available, black water is directly transported to the pond via pipes or, if the toilet is situated above the fishpond, directly from the toilet (a hole in the floor) in the pond. The latter also can hold for irrigation canals, rivers or drains. These type of toilets are called "helikopter". If no wells are available, water from these ponds, rivers etc. is used again for household purposes. Some people therefore make a kind of filter from fiber or bamboo to sift the dirt, although these filters are generally not working very well. Some private toilets are connected with a septic tank or "cubluk".

### Public Toilets

Public toilets usually have bamboo, wooden or cement walls with no roof attached on it, but sometimes closed with plastic. Usually a well is available near the toilet places and a tub in which water from the well is thrown, otherwise water is used from a bucket. Sometimes water is obtained from an irrigation canal via a water pipe made of bamboo or other materials.

A public toilet place usually contains two or three toilets, often combined with bathing places nearby. Generally, toilets are not separated for men and women. Black water is usually transported via pipes to a river or irrigation canal, only occasionally these toilets are connected with a "cubluk".

Public toilets nearby or above a fishpond usually have a special filter system in which three ponds are connected. The first one contains the dirtiest water which is transported to a second pond and then to a third pond in which the water gets cleaner by way of a filter system (not always common) or by sedimentation only. Water from the third pond is used again for the toilet, but also for household purposes like cooking, drinking and washing.





### Other systems

In some places the irrigation canal serves as a public toilet. From the office of irrigation it is not allowed to built a closed toilet above the irrigation canal, thus limiting privacy. Still people use it, although usually in the dark.

They attach a stair to the side of the canal to stand on while defecating. Water of the irrigation canal is used for anal cleansing afterwards.

#### 2.1.3 Distance from house to toilet

In general people who use a public toilet do not have to go far, about 2 - 3 minutes walk. Only in areas where there are not so many public toilets people have to walk 8-10 minutes. In those areas more children defecate nearby the house (in the garden or drain).

#### 2.1.4 The relationship between toilet behaviour and behaviour of washing and other household activities

Private toilets in or nearby houses usually are in the same room as the bathing place. Sometimes household activities requiring water like washing clothes, washing dishes, or cleaning food are also performed in the same location. The location of public toilet places is usually separated from places for bathing and other household activities requiring water, but nearby, and using the same source of water.

Usually dirty water is used for all household activities. Only in places where water is obtained from a well the water is cleaner.

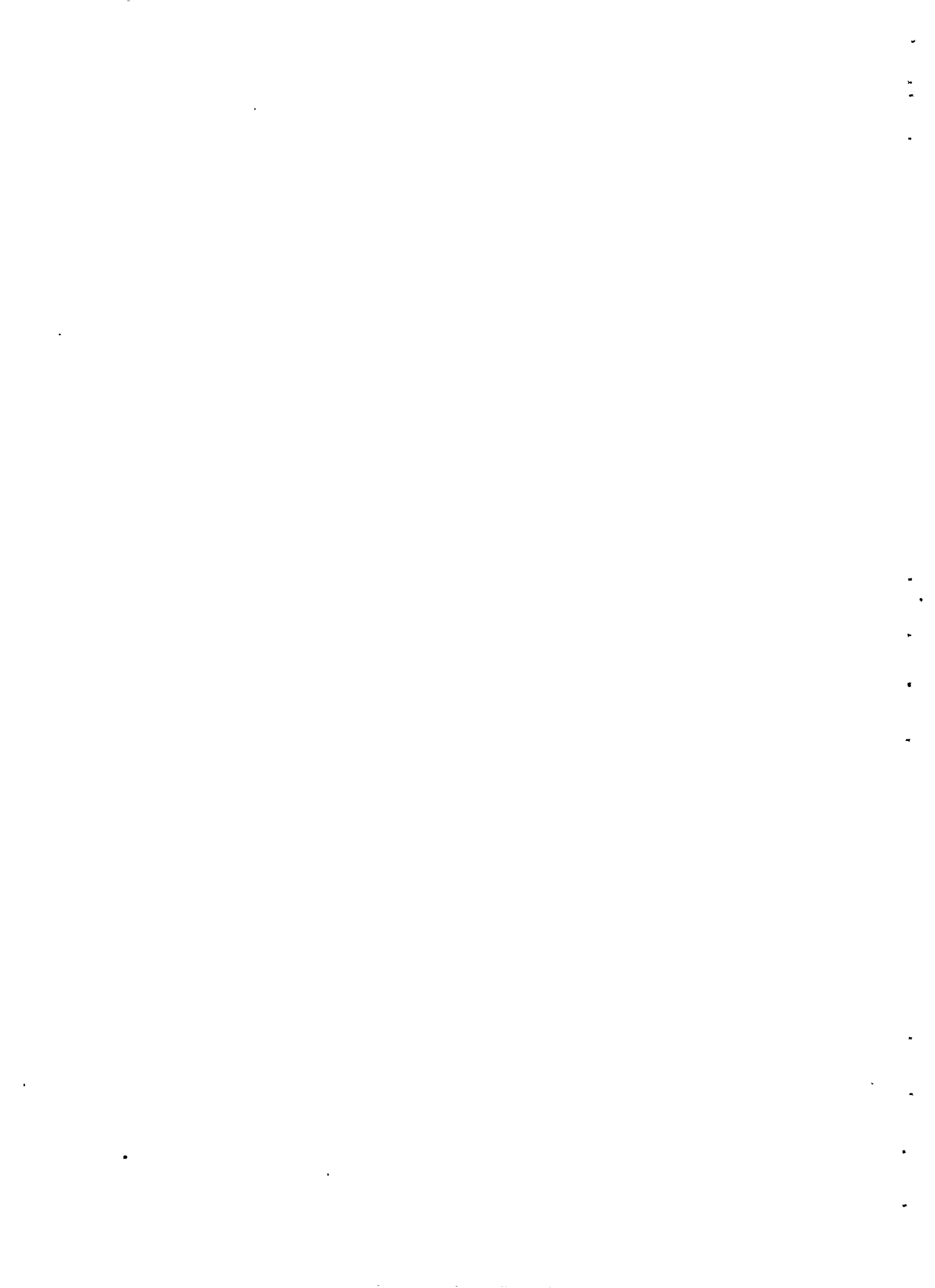
### 2.2. HAND-WASHING

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Children and adults usually wash their hands before or after eating a meal and if hands look dirty. Hardly any soap is used unless hands are very dirty.

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Very little literature exist about sanitation behaviour. In a literature review by Feachem it was noted that: "The specific behaviour that has been most studied is hand-washing. These studies were carried out in hospitals, day -



care centers and other institutions. No data have been located on the effectiveness of hand - washing in the home, or in developing countries, or using other procedures such as rubbing the hands with sand or soil" (2).

One study was found on hand-washing behaviour in Indonesia, which was carried out in 1986/1987 (interviews with housewives). Results of this study, especially West Java data (10) were compared to primary data gathered in the field. Compared to other parts of Indonesia, West Javanese respondents reported less hand-washing before preparing food, before feeding young children and coming from work (respectively 7%, 3% and 6%; Indonesia respectively 31%, 12% and 11%). Hand-washing activities after having meals and coming from the field were reported more often than in Indonesia as a whole (respectively 61% and 12%; Indonesia 35% and 6%).

In West Java itself people reported to wash their hands more often before eating and after having meals (respectively 93% and 61%), compared to hand-washing activities before preparing food, before feeding young children, coming from the field, coming from work, before sleeping and before cooking (< 12%).

In the study area of the STS project children and adults reported most often to wash their hands before and after having meals. This is comparable to West Java data of the study mentioned above. Also if hands are or look dirty (for instance after working) or stink, people wash their hands. Children usually wash their hands after playing and before going to sleep or if their mother tells them to do so. Washing hands before cooking a meal or after going to the toilet was hardly mentioned. People usually wash their hands because they look dirty and not from a viewpoint of health.

Via observation and interviews it was found that people hardly use soap when washing hands, unless hands look very dirty. Also after going to the toilet it is not common to wash hands with soap. About one piece of soap per week per family is used. Sometimes they use washing powder or cream soap (detergent).

In the primary schools visited, no soap was available. If no running water is available in the school children wash their hands in a bucket. The water in this bucket is changed about twice a day. According to teachers, if washing hands with soap they have to change the water more often which is too much work since they have to fetch the water from a pond nearby or from neighbours.



In some schools there are hand-washing activities in the framework of the school health program (UKS). This is mostly in theory since the schools visited do not have running water available in the school itself. In one school visited children were taught to wash their hands in a pond behind the school without using soap (see also chapter 3.1.1)

It was observed that most people only wash the inside of their hands. Backs of the fingers and backs of the hands are often neglected. From a viewpoint of health it is necessary to wash all parts of the hands, including nails, as a preventive measure against, among others, ascaris (13).

After washing hands people usually dry their hands by shaking off the water or dry them on their clothes. Only occasionally people use a cloth or a towel.

### 2.3 GARBAGE PROCESSING

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Children show the same habits of throwing away garbage as adults, although they learn good habits at school.

People owning a garden or yard usually burn the garbage (in the dry season) or bury it in the ground serving later as compost. In places where hardly any yards or gardens are available garbage is thrown away in drains, rivers, irrigation canals or at the side of the road (because there is not other place).

Sometime a garbage collecting system exists, especially along the main roads.

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Children as well as adults throw away garbage daily. Habits of throwing away garbage differ per area and per season. In some areas with many gardens or yards, garbage is usually buried in the ground, serving later as compost. Also garbage is burnt. The latter is not possible in the wet season. In areas with hardly any gardens or yards, many people throw away garbage in the drain, river or irrigation canal or at the side of the road. People know that this habit is no good, spoiling the environment, causing stench, attracting flies, etc. Still this habit is performed since in many town areas there is no system of collecting garbage, so they are forced to do so. Near the main road such system is sometimes organized by the office of Public Works. Then a cart ("gerobak") comes by once a day or a few times a week collecting garbage from tons near the fences. A small fee of Rp. 250.- - Rp. 500.- per month is asked (about US\$ 0.15 - US\$ 0.30). Some areas have their own private system of

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collecting garbage. Then someone from the area is hired to collect garbage for a small fee. The garbage is taken to a final dumping area. In one town the final dumping causes a problem, especially in the wet season if the garbage cannot be burnt. The place is already full. Only in the dry season garbage can be burnt, but this poses a problem for the people nearby because of smoke and stench.

Children follow the habits of their family members or neighbours, although at most schools they are taught to throw away garbage in a ton. Also campaigns are organized by the National government to clean up the environment. This is followed in the school health program where children have to clean up the school area every Saturday (see also Chapter 3.1.1 and 3.1.3).

Garbage poses the most problems in areas where hardly any yards or gardens are available.

#### 2.4 PLAY BEHAVIOUR OF CHILDREN

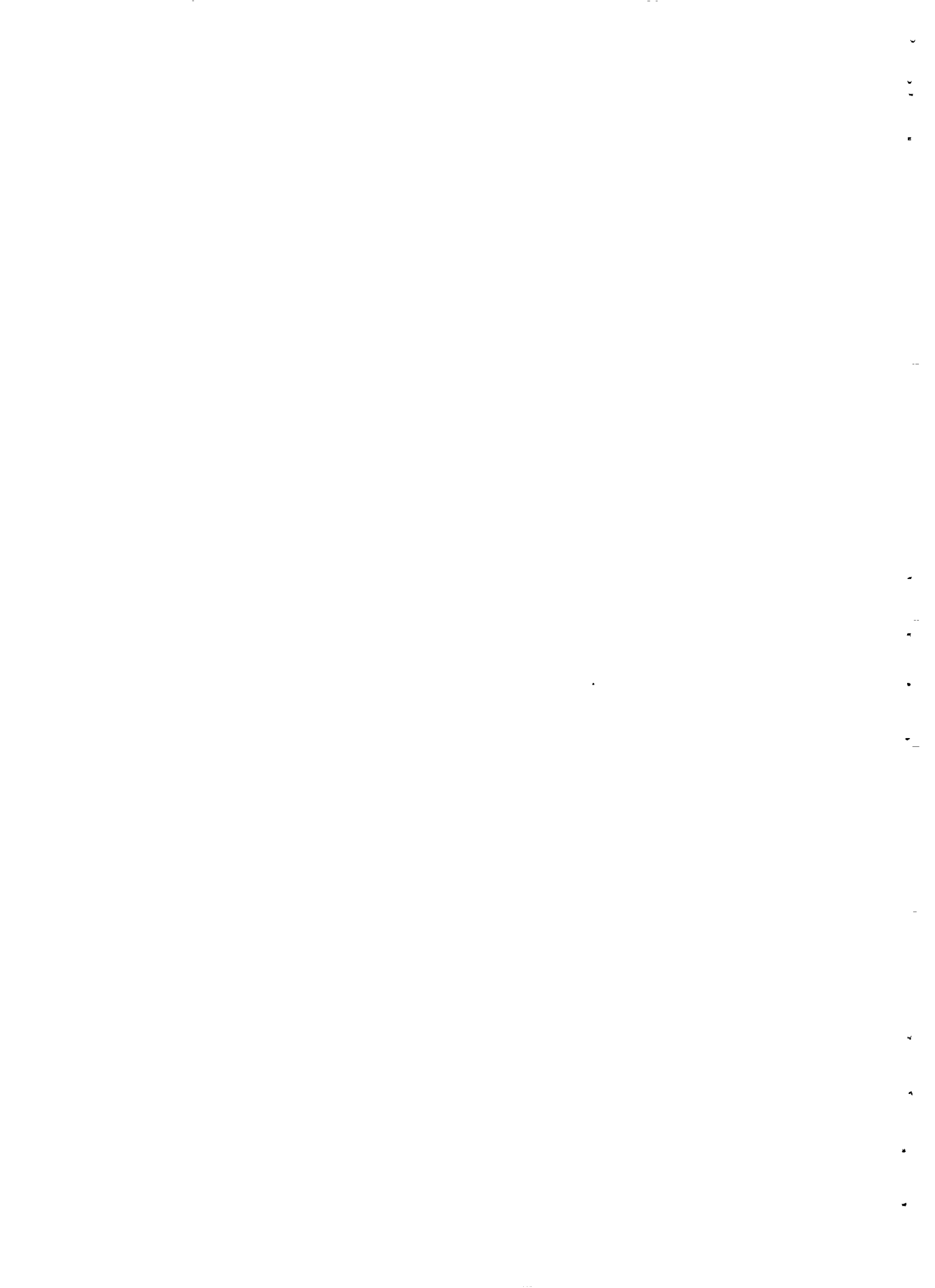
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The knowledge of mothers and children about the relationship of play behaviour and health is still small.

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Small children usually play in the vicinity of their mother. Children of school age play further from home, in the fields, nearby the school, river, irrigation canal, fishpond, etc. Occasionally children swim in the irrigation canal, river or fishpond, but most of them do not like it because of the dirt. The same holds for garbage places.

Usually children do not wear shoes or sandals, unless they visit school or if their mother tells them to do so. Only a small part of the mothers know about the relationship between playing in dirty places without wearing shoes or sandals and the possibility of becoming ill (like obtaining ascaris). The most common reason mentioned for wearing shoes is to avoid being hurt by glass, stones, thorns or other sharp material on the ground.





### 3. EDUCATION/INFORMATION ON ENVIRONMENTAL HEALTH

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Environmental health education is given in a formal and informal way. Knowledge does not always mean that people act according to it.

Small children are taught sanitation habits mainly by their mothers. School age children usually obtain information about a clean environment by school teachers.

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#### 3.1 FORMAL HEALTH EDUCATION

##### 3.1.1 School Health (UKS)

In most primary schools health education is included in the curriculum together with sport (about 2-3 hours a week). In general sport plays a bigger part than health education. A special teacher is appointed in each school for these two subjects ("guru ORKES"), although other teachers also occasionally give health information. Health education is mostly concerned with theory, about one hour per week. Then children are taught about various illnesses and how to prevent them, nutritious food, personal hygiene and environmental health.

Also once in a while staff of the subdistrict health center visit the schools for a medical control of the children and immunization of children in the first and sixth class. Usually in schools with a school health programme about 20 children from class three until six are appointed to follow the "small doctor" programme in the health center. There they learn simple first aid and receive information on preventive health measures in order that they can spread this information again to other (school) children.

Health education concerning environmental health contains information on room ventilation, prevention of dengue fever (to close water reservoirs), hand-washing and to put garbage correctly in garbage places to obtain a clean environment. The latter is also practiced on Saturdays when children help to clean the school area for about one hour. This programme is connected to the clean environment programme of the National government (see chapter 3.1.3.)

Sometimes there are hand-washing activities to teach children a proper way of cleaning their hands. In schools with no running water available children wash their hands in a bucket (without soap). In one school visited children were taught to wash their hands in a pond behind the school without using soap.



Usually no soap is available in primary schools. Sometimes hands of the children are checked by the teacher.

In the schools visited there was a shortage of teaching materials for the school health programme (besides a shortage of medicines for first aid). Teachers usually draw a picture on the blackboard or show pictures from a book on health care. These books, of which usually one or two are available in the schools, originate from the Department of Health Care, the Red Cross or the Office of Education and Culture. Hardly any posters were available.

Generally primary schools own toilets for teachers and pupils (sometimes separated for boys and girls). In some schools visited no toilet was available or only one for the whole school. There pupils use the toilet of people living in the neighbourhood of the school.

The knowledge of school children concerning a clean and healthy environment is generally well enough. According to teachers the school health programme has success within the school. Only extra materials are required. The success of the spread of the pupil's knowledge to their family or neighbours is still doubtful since it is difficult to change people's habits.

### 3.1.2 Puskesmas and Posyandu/PKK

The subdistrict health center (puskesmas) has as one of its tasks to promote environmental health. For this purpose a sanitarian is appointed. He/she has to control sanitation in the area from a viewpoint of health, and has to give health education on this subject. No special information meetings are organized, usually information can be obtained in a passive way at the puskesmas by way of posters. Occasionally the sanitarian gives direct information to people in the area if situations are met which treat the health of people.

The Family Welfare Movement (PKK) is a women organization existing at every administrative level (national to village or town ward). Wives of officials at every level automatically are head of the PKK. The PKK has a programme containing ten subjects, including health. This subject does not contain health or sanitation education. Women told that they are reluctant to take initiative since they are afraid to give the wrong information. Only PKK women becoming a health cadre in the POSYANDU programme (integrated health post at ward level in every town or village) follow a course of a few days at the health center. These cadres give health



education but this is especially focussed on mother-and child health.

Sometimes at the monthly meetings of the PKK in the several wards information on sanitation or another health subject is given by a health cadre. The general role of the PKK in environmental health is to help cleaning the yards and roads, together with other people, in the framework of the clean environment campaign of the National government.

The POSYANDU is an integrated health post where once per month mothers can come with their small children (balita) for general health care, immunization, information on nutritious food and family planning (12). Officially environmental health is integrated in the POSYANDU programme, in practice the activities are more directed to mother-and child health. Only occasionally, if many illnesses occur connected with environmental health, information/education on this subject is given.

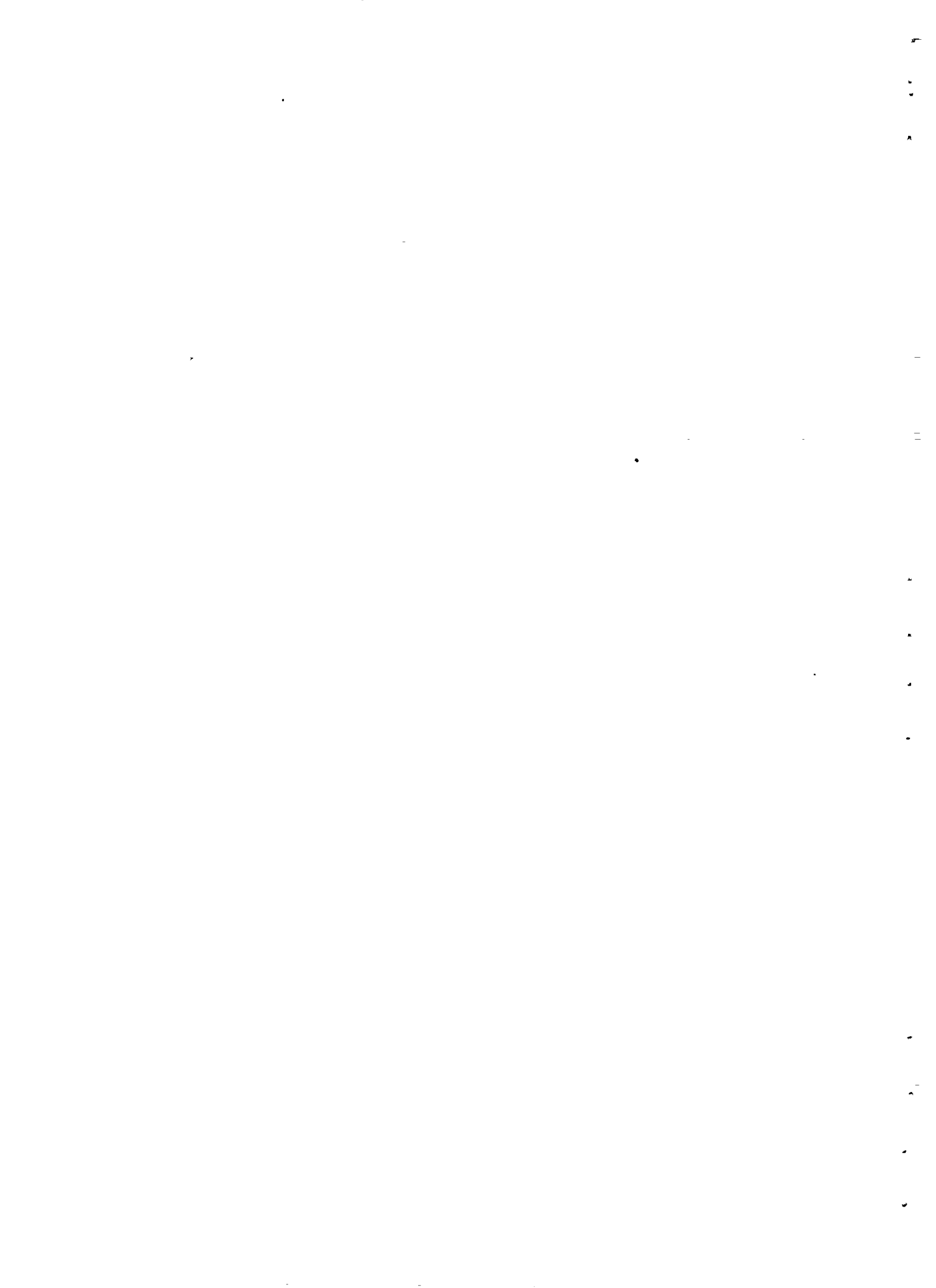
### 3.1.3 Clean Environment Campaigns

In Indonesia a campaign started coordinated by the local government to promote a clean environment. ("Operasi Bersih"). For this purpose people in the community are stimulated to clean yards near the houses, near school-and office buildings and roadsides. Activities are performed by pupils, civil servants, women (PKK) and other people on a certain day of the week, usually Tuesdays or Saturdays. The campaign is focussed on garbage (solid waste). No attention is paid to human waste or drainage.

The campaign has positive effects but it is more a doing than a knowing process. With some exceptions, no special information/education is given to explain why a clean and healthy environment is needed.

### 3.1.4 Mass Media

Information on sanitation is also spread by means of radio, television, newspapers, posters and banners. This information is mostly directed to garbage and prevention of diseases like dengue fever, related to water.



### 3.2 INFORMAL HEALTH EDUCATION

Mothers are the prime educators of small children. They teach them sanitation habits concerning washing hands, going to the toilet, wearing shoes, throwing away garbage etc. Their own behaviour is an example for their children. Children generally follow their (right or wrong) behaviour. Also elder brothers and sisters and fathers give education/examples to smaller children, usually if mothers are busy with other work.

Small children are accompanied to the toilet place, are told when and how to wash their hands (with or without soap), to wear shoes when playing (if this is considered necessary) and where to throw their garbage. School children, receiving sanitation education from teachers, can also act as educators to their parents or brothers and sisters. Especially when they learn other habits than they are used to at home.

In some areas informal leaders promote correct sanitation behaviour, for example by forbidding children and adults to throw away garbage in drains, at the side of the road etc., or forbidding them to defecate in irrigation canals.





#### 4. THE OPINION OF KEY PERSONS CONCERNING THE IMPROVEMENT OF SANITATION IN THEIR ENVIRONMENT

Various opinions were obtained from key persons (teachers, heads of villages which are part of a town (kelurahan), heads of town wards (RW) and midwives), concerning the possibility of introducing sanitation programmes, the type of sanitation programmes, and the acceptance of the population towards the introduction of an innovation.

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Generally, key persons were of the opinion that it takes a long process to change peoples's habits. The consciousness of the people is still low, if people do not feel the consequences directly they are less motivated to change their habits. If new facilities are built, people should get the feeling that it is their own, facilitating responsibility for cleaning and maintenance. More education/information is needed when introducing sanitation programmes.

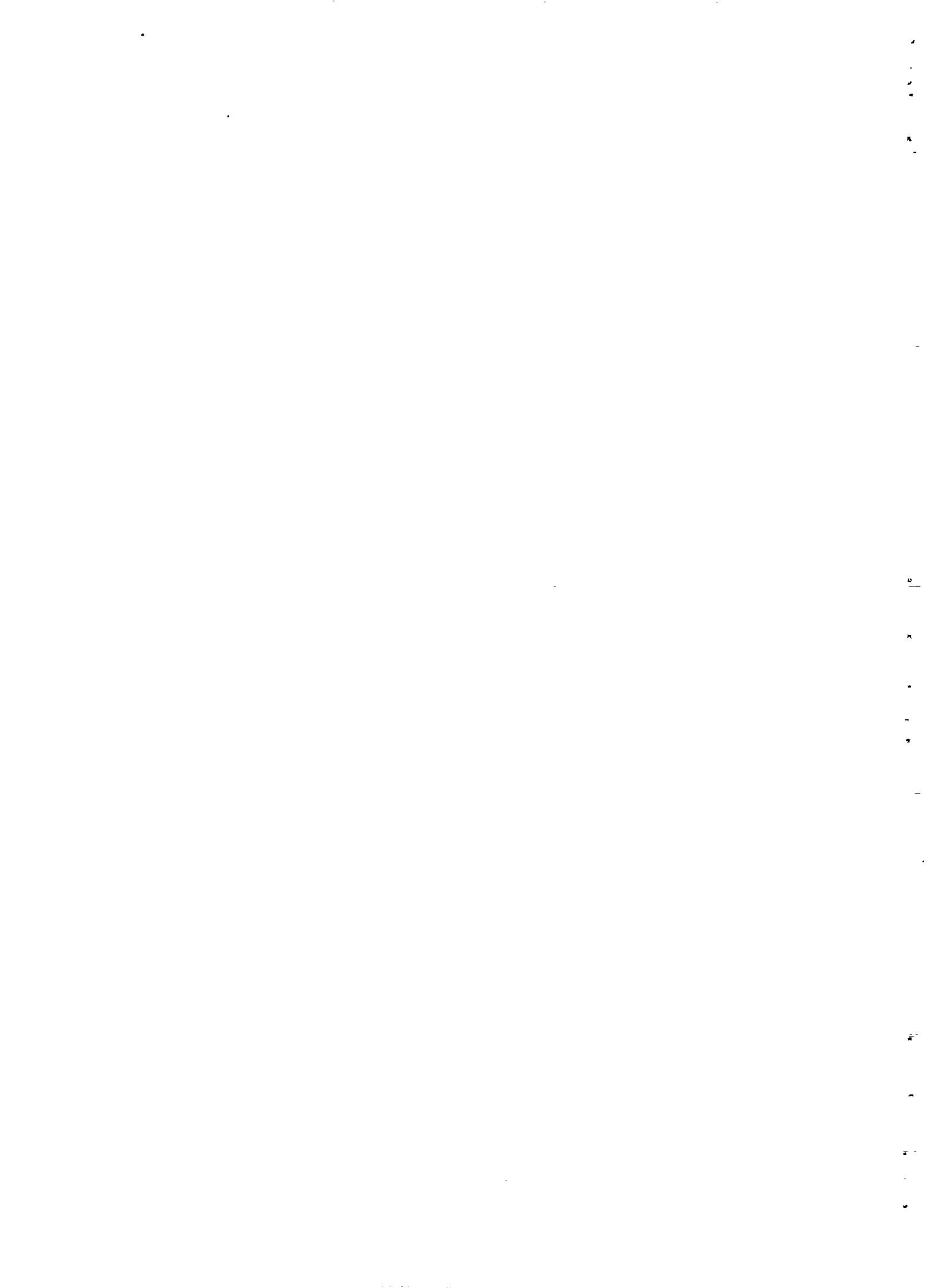
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In various places it was told that innovative programmes concerning (environmental) health are successfully adapted by (part of) the population. In other places the introduction of new programmes poses problems. These problems are said to be related to the low consciousness of the people. If for instance a programme is started to clean the environment ("Operasi Bersih") people follow this programme at the beginning. After a while they fall back again to their old habits because they are less conscious of the need to change these habits.

It was told that if people not directly feel the consequences of certain habits, like getting ill, they are less motivated to change these habits. One example is defecating in the river. The waste flows away, cannot be seen any more and therefore poses no problem for them (not thinking/knowing that people living further away from the defecation place use the contaminated water to wash food or dishes).

In one area in Kadipaten toilet and bathing places (MCK's) were built via the INPRES programme (funds on a presidential decree). People do not use these places. No education was given why to use these places and how to clean them. People living in the neighbourhood told that no clean water is available so they dislike the use of it. This was admitted by key persons. The MCK's were put on public grounds but in these places it happened that no clean water was available (a prerequisite for sanitation as they told).

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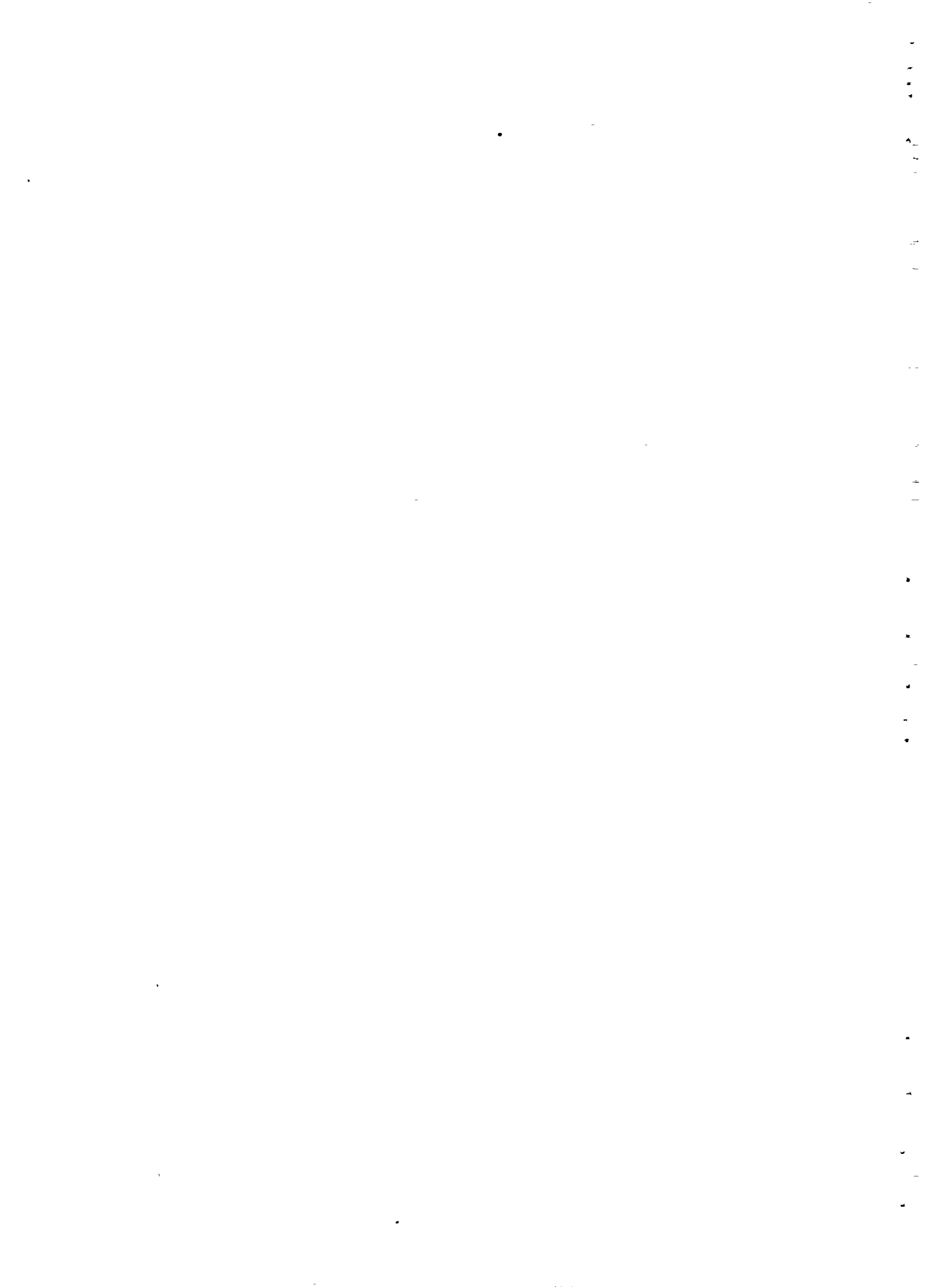
Another reason mentioned for not using these places was that people do not feel it as being their own. This poses problems concerning cleaning tasks. According to a key person in this neighbourhood more education/information is needed when starting an innovation like the example above. Further that people must have the feeling that the MCK's are for them, meaning responsibility for cleaning and maintenance. Also more public grounds are needed to choose a proper place for MCK's where clean water is available so that people can use them.

Some people are of the opinion that sanctions are needed to educate the people.

In some areas social pressure of informal leaders is used to discourage bad sanitation habits.

Generally it is felt that more information/education is needed to raise the consciousness of the people, which is a long process.

School teachers hope that with the school health programme pupils learn good habits and practice them. Further that they spread the information to their family and other people in their neighbourhood.



6.

**SUMMARY**

A study was carried out in West of West Java and East of West Java on sanitation behaviour of small children. Subjects contained place, time and habits of defecation, bathing, hand-washing and playing. Also garbage processing was looked at, not directly related to behaviour of small children but to sanitation behaviour in general, serving as an input for preventive actions. The sanitation behaviour of mothers was also looked at since they are the prime educators of small children.

Generally, the sanitation behaviour of small children (and adults) was not so good from a viewpoint of health. Most people know about the relationship between sanitation behaviour and health but do not act according to it, because of habits to which they are accustomed, a shortage of water (a prerequisite for sanitation), facilities available which are in a bad condition or organizational problems. Children learning sanitation habits from their family and environment, generally show the same behaviour as adults.

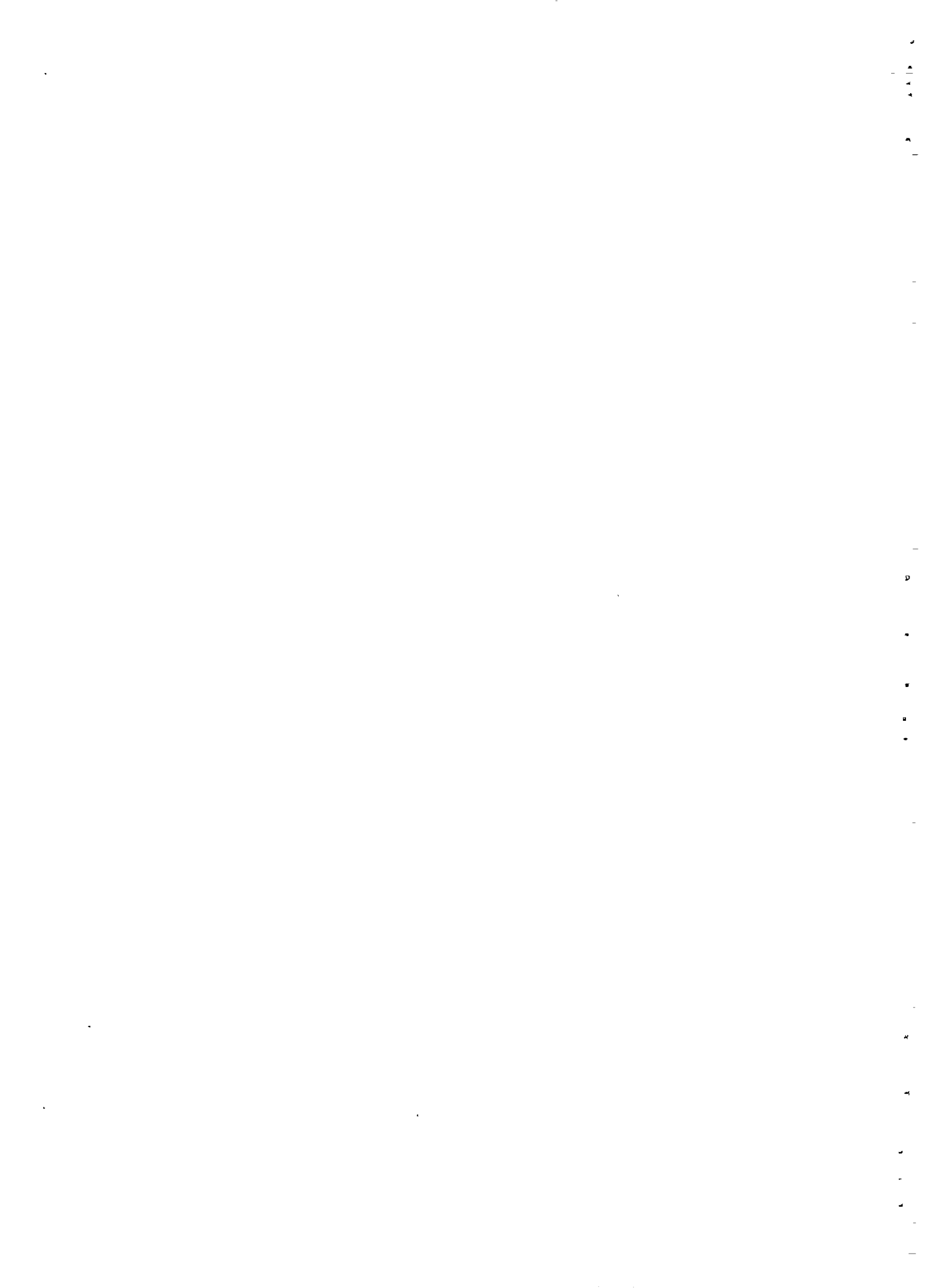
Sanitation habits concerning going to the toilet, hand-washing, garbage processing and playing are summarized below, together with the organization of health education and opinions of key persons concerning sanitation programmes.

**TOILET BEHAVIOUR**

The greater part of the people in the study areas own a toilet. Still many of these people use a public toilet in the early morning, especially in the dry season. Then wells are often dry, and although public toilets are further away, people prefer to go there rather than fetching water for their own toilet from far.

In the evenings and in the rainy season, they do use their own toilet because in the dark public toilets are considered too far from their home, and in the rainy season enough water is available for their own toilet. People who do not own a toilet sometimes go to the one of their neighbours or to a public one, usually located near water places.

Babies defecate in napkins. Children until the age of about three years are accompanied to (public) toilets by one of their parents, usually the mother. In the evening they defecate near the house, in the garden or drain. Elder children perform the same habits as adults.



## HAND-WASHING

Children and adults usually wash their hands before or after eating a meal (comparable to other West Java data), and if hands look dirty. Seldomly soap is used unless hands are very dirty. Also after going to the toilet it is not common to wash hands with soap. Most people only wash the inside of their hands. Backs of the fingers and backs of the hands are often neglected. Hardly any cloth or towel is used to dry hands, usually they shake off the water or dry them on their clothes.

## GARBAGE PROCESSING

Children show the same habits of throwing away garbage as adults, although they learn good habits at school.

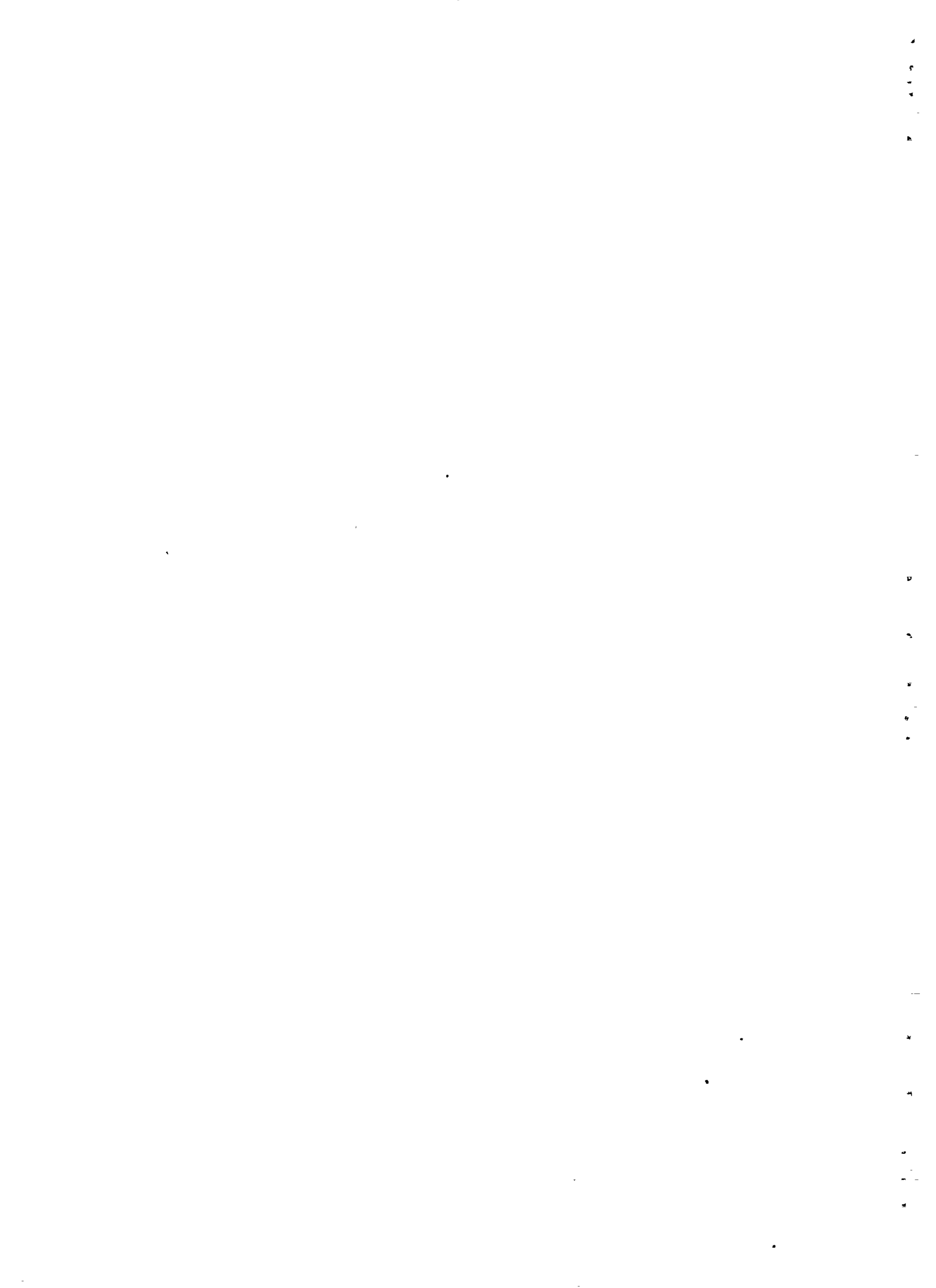
People owning a garden or yard usually burn the garbage (in the dry season) or bury it in the ground serving later as compost. In places where hardly any yards or gardens are available garbage is thrown away in drains, rivers, irrigation canals or at the side of the road (because there is no other place). Sometimes a garbage collecting system exists, especially along the main roads. Coordination problems hamper the spread of such systems. Garbage processing is said to be a big problem in the study area, especially if final dumping places are already full.

## PLAY BEHAVIOUR

The knowledge of mothers and children about the relationship between play behaviour and health is still small. Most children wear no shoes or sandals while playing. Children who do are told to do so because of the possibility to step in glass or other sharp materials (only occasionally from a viewpoint of preventing infections). Occasionally there are children who swim in rivers, irrigation canals or fishponds, or play nearby garbage places. Most of the children do not like this because of the dirt.

## EDUCATION/INFORMATION ON ENVIRONMENTAL HEALTH

Environmental health education is given in a formal and informal way. Formal health education is channeled via primary schools, puskesmas, Posyandu (in which many PKK women are active), campaigns of the government and mass media. Generally information is given in a passive way, directed to garbage

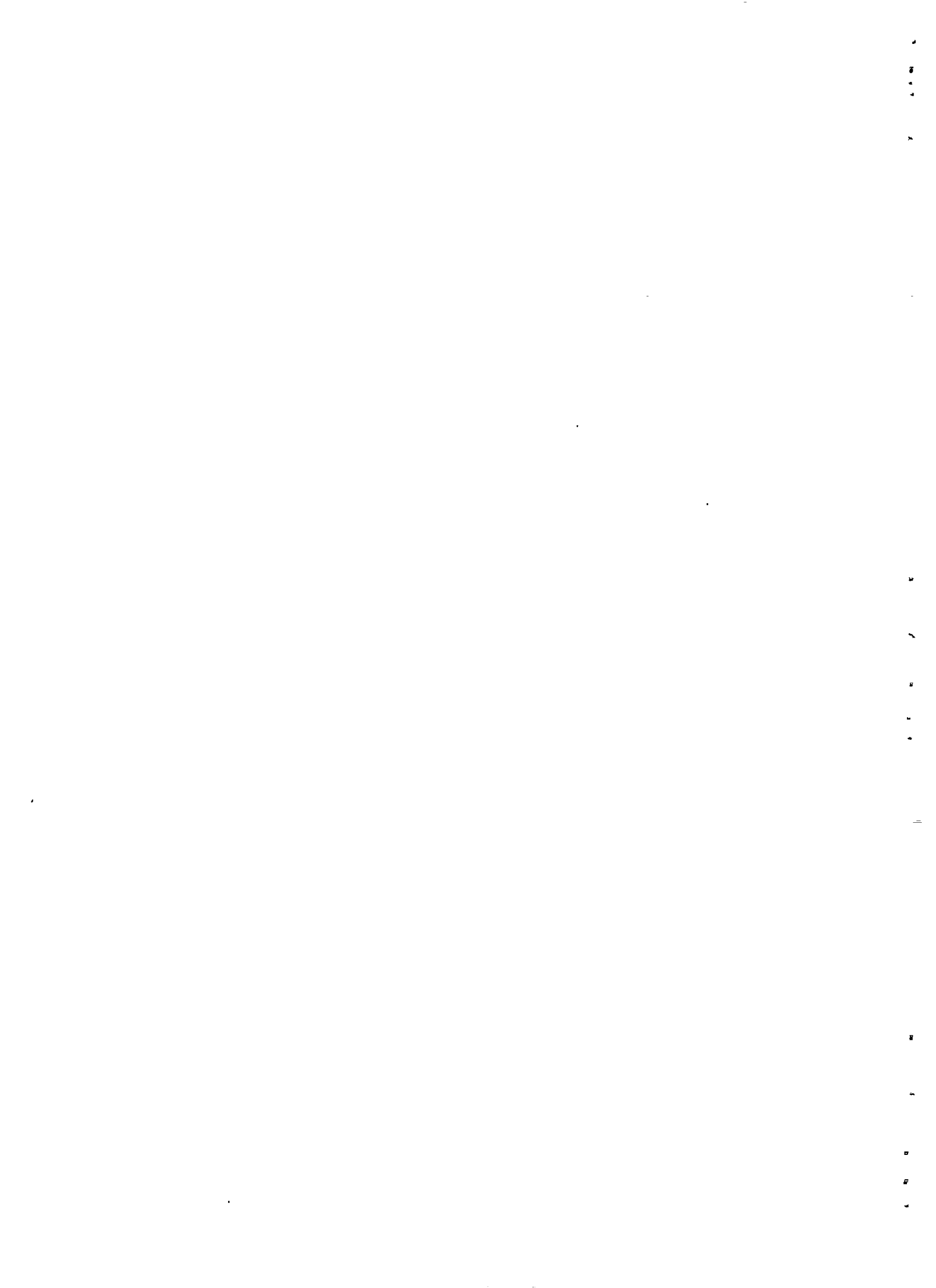




(sweeping yards, roads, etc.). Information via the Puskesmas, Posyandu and mass media is more directed to general (mother-and child) health. At schools usually hand-washing is also included in the curriculum. A shortage of teaching materials like books and posters was noticed. With regard to informal health education, mothers can be seen as the prime educators of small children.

#### OPINION OF KEY PERSONS CONCERNING SANITATION PROGRAMMES

Generally, key persons were of the opinion that it takes a long process to change people's habits. The consciousness of the people is still low, if people do not feel the consequences directly they are less motivated to change their habits. If new facilities are built, people should get the feeling that it is their own, facilitating responsibility for cleaning and maintenance. More education/information is needed when introducing sanitation programmes.



6.

## RECOMMENDATIONS

In view of the gathered information on sanitation behaviour, opinions of key persons and other people interviewed, some recommendations are given concerning programmes on toilet behaviour, toilet construction and maintenance, hand-washing, play behaviour, garbage processing and environmental health education.

### TOILET BEHAVIOUR

Active health education is needed to raise the consciousness of children and adults concerning the why of using a (public) toilet with a proper discharge of the waste. At the same moment the number of proper toilets have to be increased.

### TOILET CONSTRUCTION AND MAINTENANCE

Availability of clean water is a prerequisite. Existing public grounds may have to be made available for public toilets. To stimulate the construction of toilets by the community credit facilities are recommended. Also technical assistance is needed for building and maintenance. People should feel that toilet facilities are a priority and owned by themselves, otherwise cooperation is hampered and cleaning and maintenance neglected.

### HAND-WASHING

More education is needed to show the relationship between hand-washing with soap and health. More hand-washing is required even if hands do not look dirty.

### PLAY BEHAVIOUR

More education is needed to show the relationship between wearing shoes or sandals and health, especially from the view of preventing infections.

### GARBAGE PROCESSING

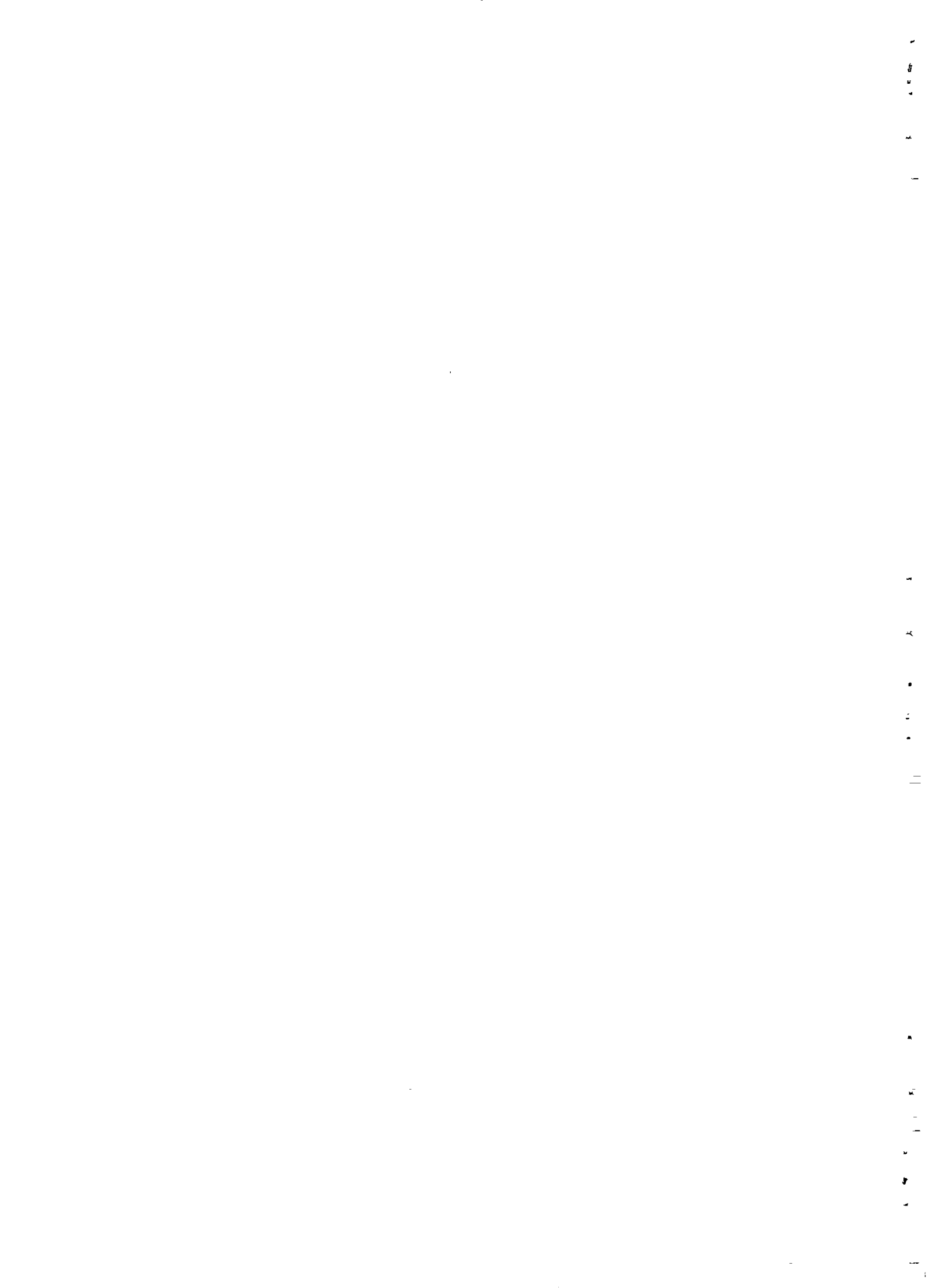
A better coordination/organization for the collection of garbage within the town wards is needed, especially in areas where hardly any gardens or yards are available. The local government should provide services to collect the garbage from the town wards and a proper disposal at final dumping places.

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## ENVIRONMENTAL HEALTH EDUCATION

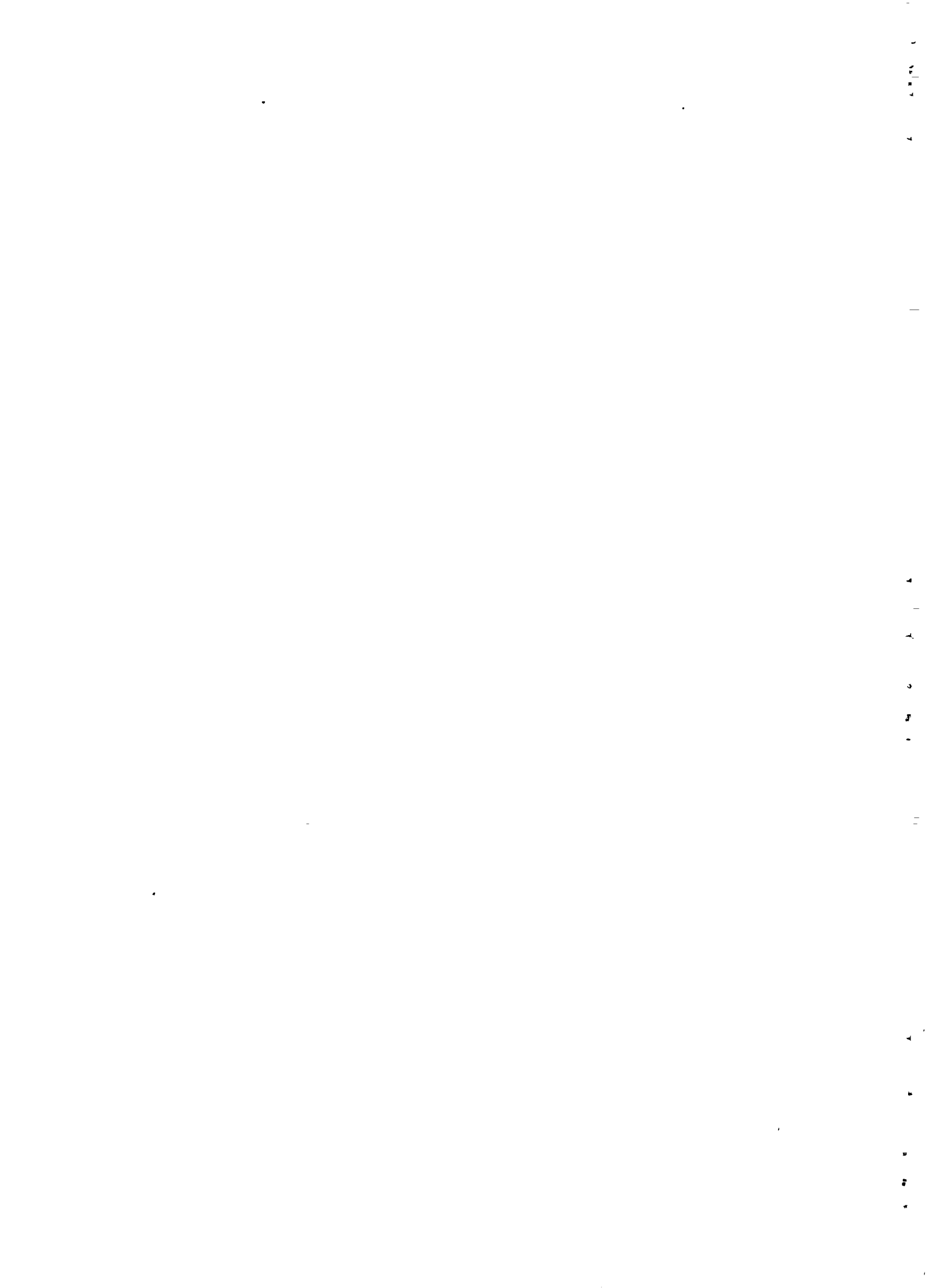
Generally, knowledge does not always mean that people act according to it. Changing people's habits takes a long process. It is recommended that programmes are directed to learn people about the why of changing habits. Passive information is not enough, a two-way process is far more effective. It is recommended that this is carried out on a small scale, ideally near the sanitation places to relate theory and practice and to facilitate discussions. Special sanitation cadres from within the community should be trained for this purpose. In view of the now existing organizations the Posyandu seems a suitable organization to carry out the sanitation education programme since it is organized at ward level, under the responsibility of the Puskesmas. Until now the Posyandu programme is more directed to mother-and child health. The programme could possibly be extended with an active environmental health programme. Incentives are needed to motivate sanitation cadres to carry out their work actively in the wards. Ideally, sanitation motivators should receive a salary. Further a more extended training is needed for sanitation cadres to prepare them for their tasks. Besides motivating people to change their habits, technical assistance should be given concerning building and maintenance.

The school health programme should be extended. More practical education is needed, for instance making a "sanitation walk" in small groups in the area. Further more education materials are needed giving practical information on environmental health.



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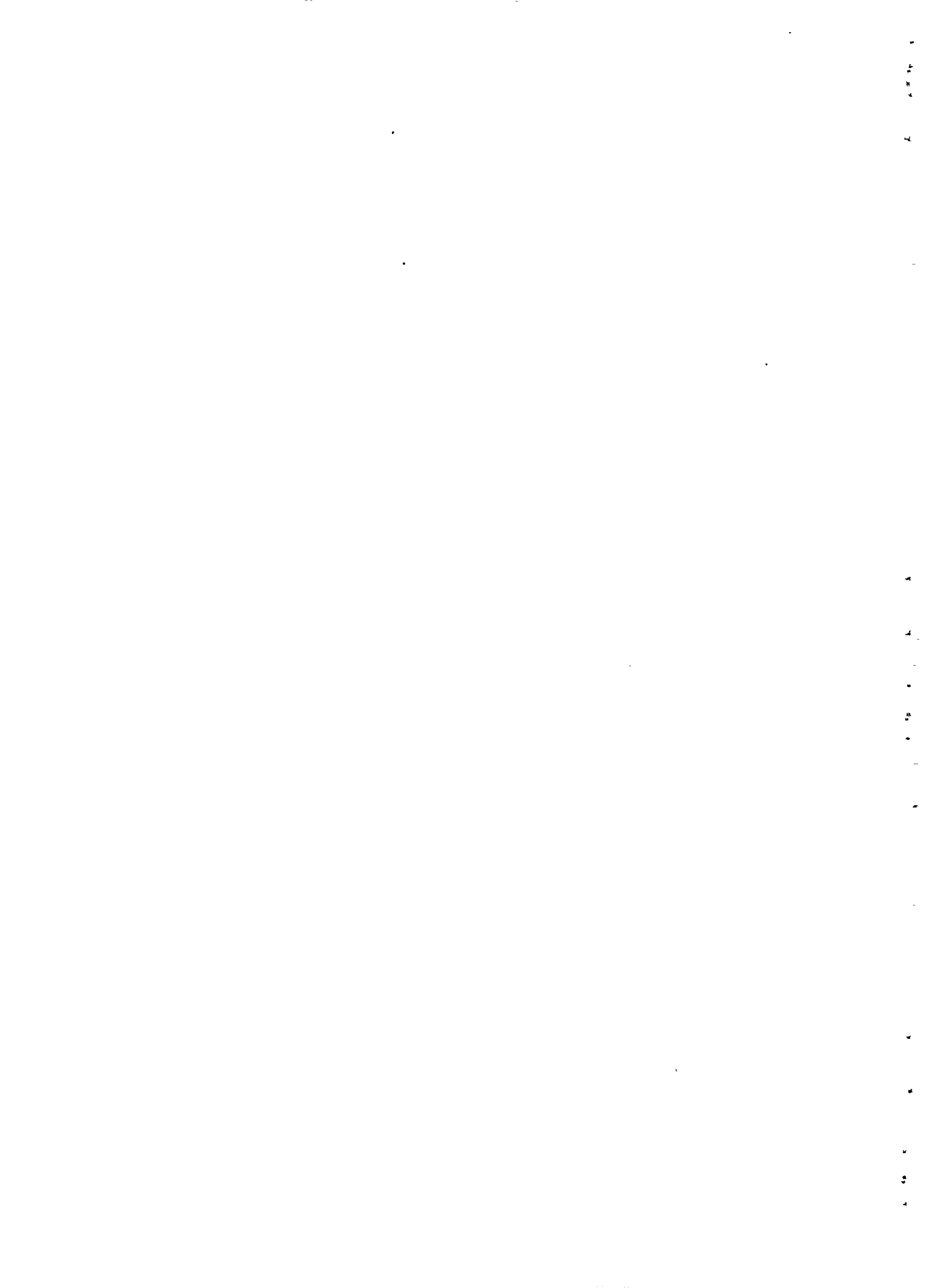


ANNEX I

CHECK LIST FOR OBSERVATIONS

AND

INTERVIEW QUESTIONS



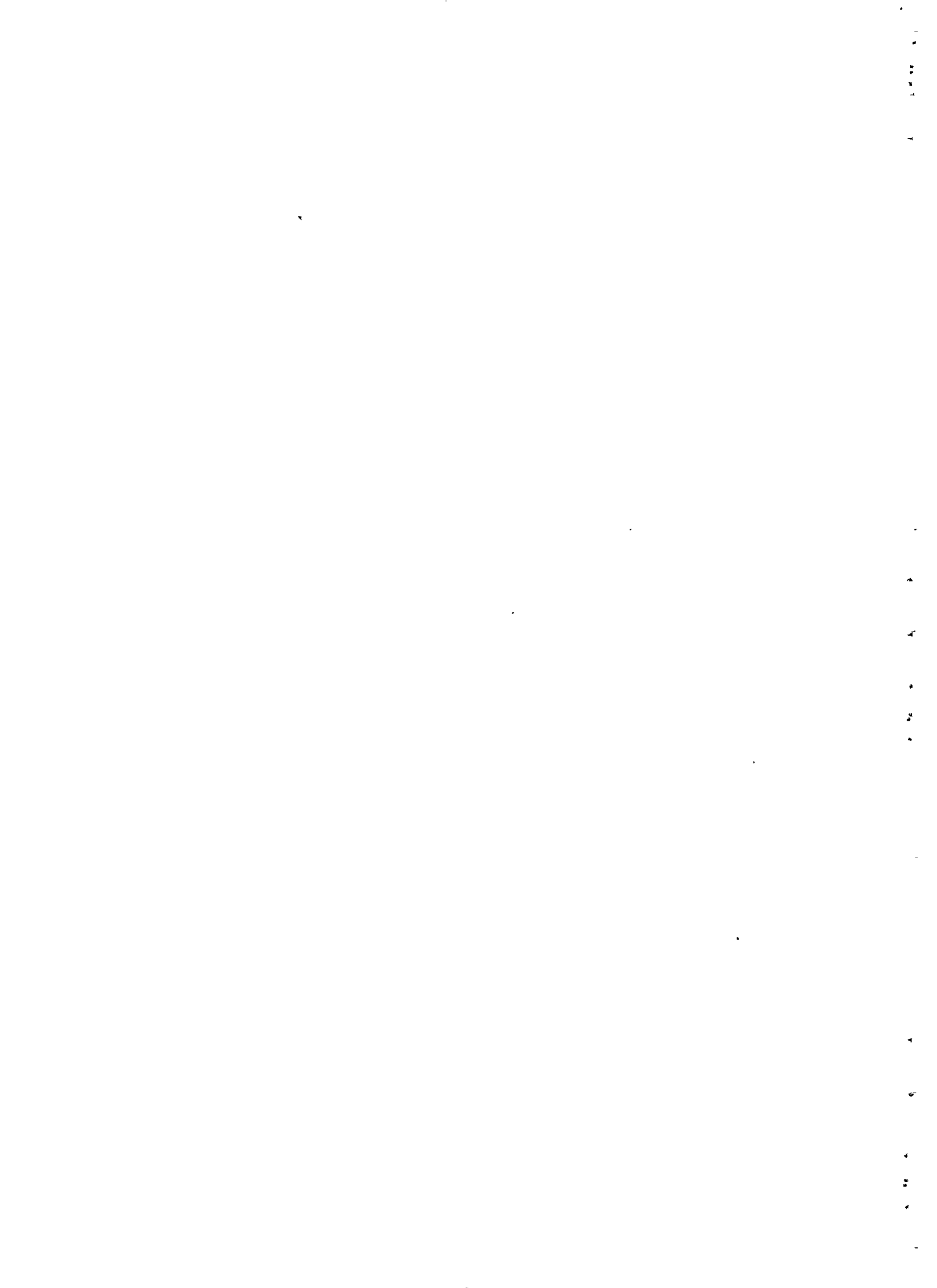
**CHECK LIST FOR OBSERVATIONS**

- Place for defecation (latrine inside/outside the house, open field, river, fishpond, .....
- Garbage places (location, type, habits of garbage processing e.g. burning)
- Play behaviour of children (location (clean or dirty places), do they wear shoes ?)

**INTERVIEWS**Women \*)

- 1 a Where are the different places you usually defecate ?  
(rainy season/dry season; day/night; inside the house/  
outside the house)  
b Which time of the day ?  
c How far is this place from your house ? (walking  
distance)  
d Why do you choose this place (places) ?  
e What do you like or dislike about using each of these  
places ?
- 2 Do you sometimes also go to other places ? Which  
places ? Why ?
- 3 When do you wash your hands ?
- 4 a How do you wash your hands ? (soap ?) (demonstration)  
b How do you dry your hands after washing them ?
- 5 Why do you wash your hands ? (indication of health  
knowledge)
- 6 What time of the day you usually take a bath ?
- 7 a Where do you take a bath ? (rainy season/dry season)  
b How far is this place from your home ? (walking  
distance)
- 8 Is this the same place as the defecation place ?

\*) These questions can also be asked to men, if meeting them during the "sanitation walks". Also key persons in the wards will be asked to answer these questions to get a general impression on sanitation behaviour in the town wards.



- 9 a From which age children are going alone to a defecation place?  
b How do you teach them ?
- 10 a How do you dispose of feces of children too young to use a toilet place ?  
b Do you think you can get ill after handling children's feces ?  
Yes ..... Why ?  
No ..... Why not ?
- 11 a Where are the different places that your small child (children) defecate (s) ? (rainy season/dry season; day/night; inside the house/outside the house) (age of the child (ren))  
b When your child defecates in place (A/B) do you remove it, and if so, where do you put it ?  
c How far is this place (these places) from your home ? (walking distance).
- 12 a Where do your child(ren) usually play ? (rainy season/dry season, inside the house/outside the house)  
b How far is this place (places) from your house ? (walking distance)  
c Do your child(ren) wear shoes or sandals when playing ?  
d Why (not) ?
- 13 Where do you throw your garbage ?
- 14 How much toilet soap is used per week in your household ?. For what purpose is it used ? (bathing only or also hand-washing)
- 15 a Are there meetings on health care in the ward (RW) ?  
b Who organizes them ?
- 16 a Have there ever been meetings on health education, especially on sanitation, in your ward ?  
b Which messages were given and by whom ?  
c Did you change your habits after receiving these messages ?

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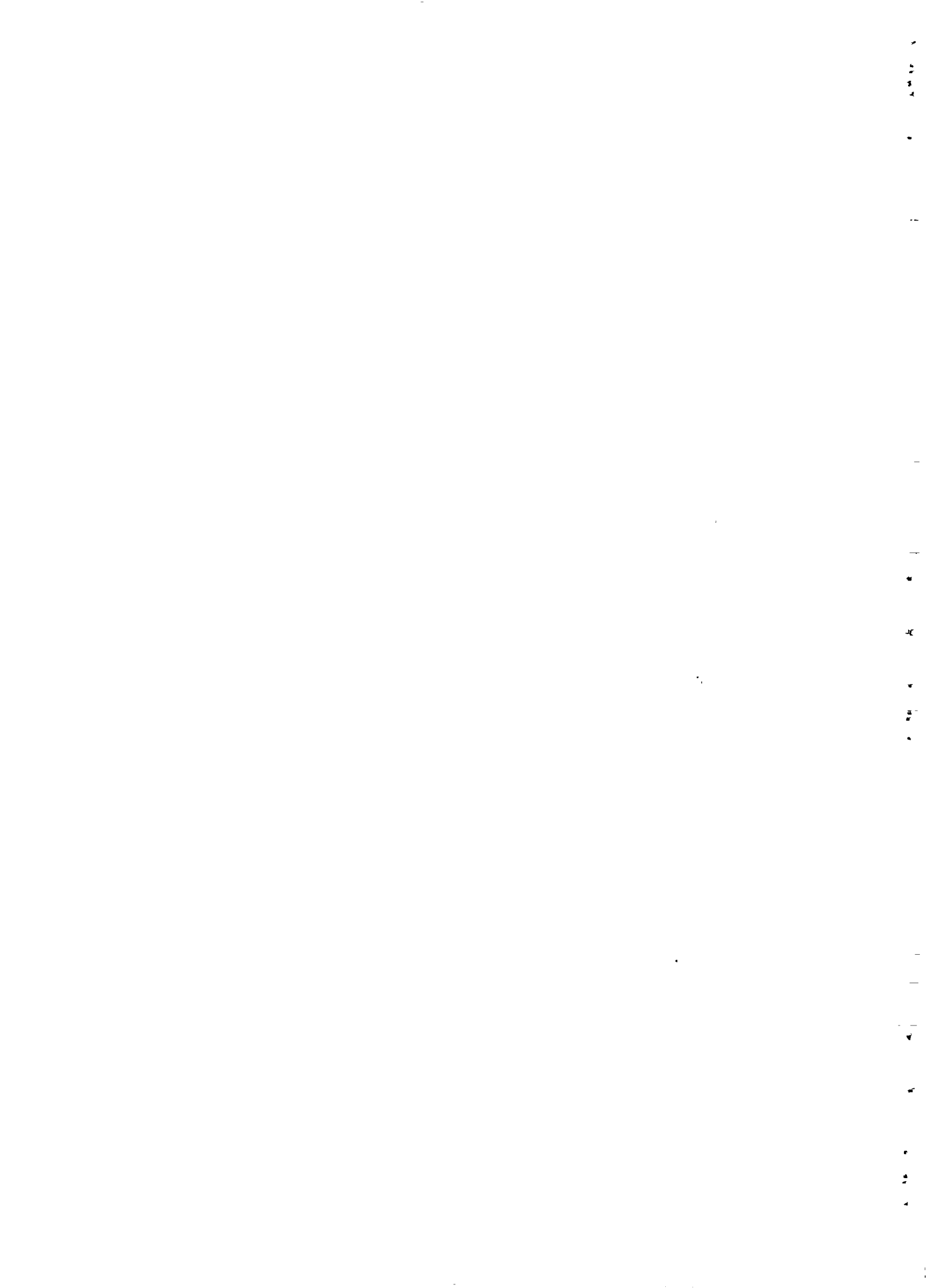
Small children \*)

- 1 a Where are the different places you usually defecate ?  
(rainy season/dry season; day/night; inside the house /outside the house)
- b Which time of the day ?
- c How far is this place 1) from your home 2) from the school ? (walking distance).
- d What do you like or dislike about using each of these places ?
- 2 Do you sometimes also go to other places ? Which places ? Why ?
- 3 When do you wash your hands ?
- 4 a How do you wash your hands ? (soap ?) (demonstration)
- b How do you dry your hands after washing them ?
- 5 Why do you wash your hands ? (indication of health knowledge)
- 6 What time of the day you usually take a bath ?
- 7 a Where do you take a bath ?
- b How far is this place from your house ? (walking distance)
- 8 Is this the same place as the defecation place ?

Other questions will be formulated after observation which are directly related to the observed behaviour.

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\*) Sometimes it is difficult to interview small children if they are shy. Then it is suggested to interview children in groups or interview children in the first class of the primary school.





Schoolteachers involved with health education

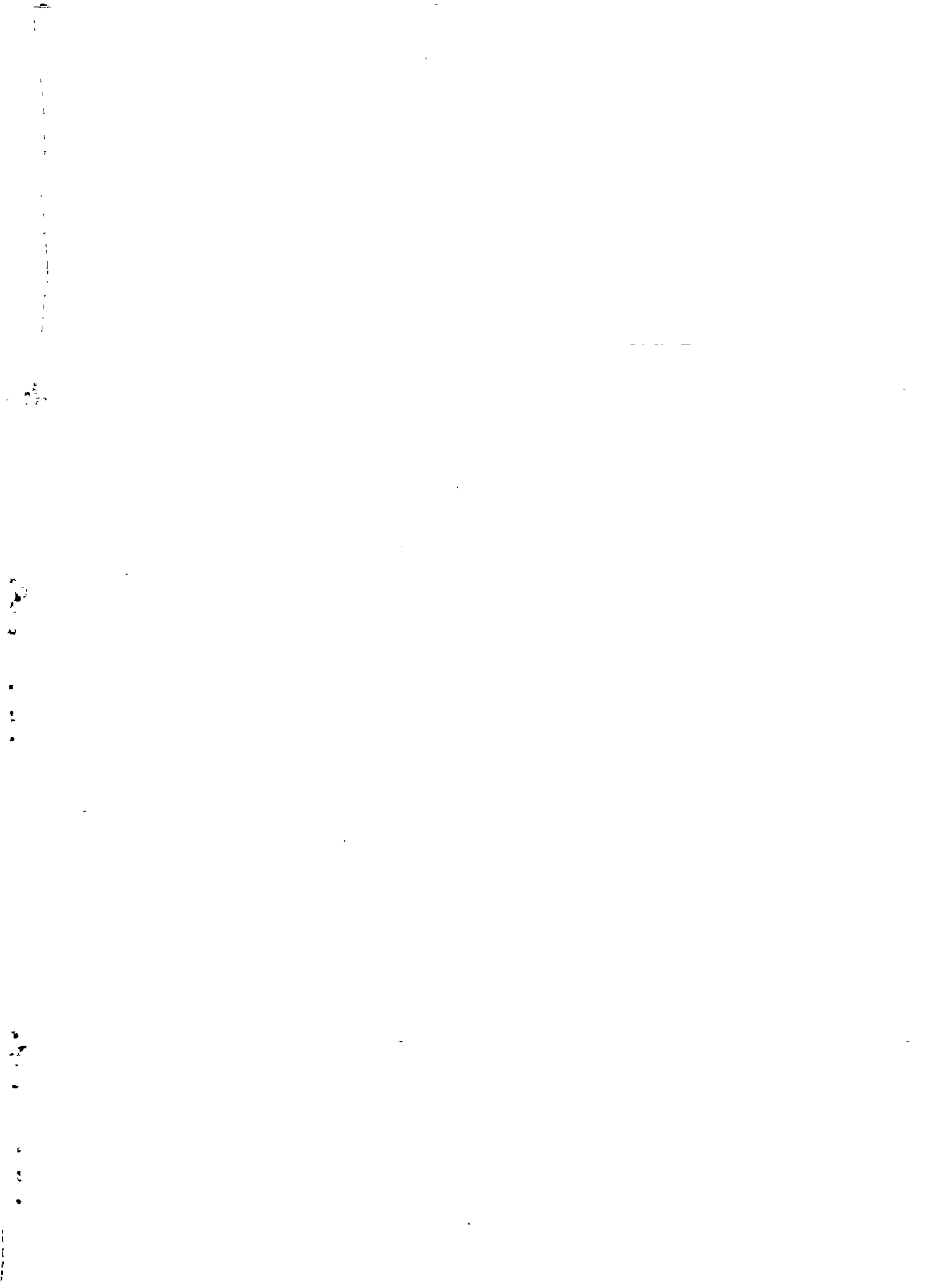
- 1 Is there a health education programme in this school ?
- 2 How many hours is this included in the curriculum ?  
..... hour(s) a week/month. (practice ?)
- 3 What kind of health education is given (subjects)
  - a. Sanitation
  - b. Nutrition
  - c. Others .....
- 4 What is the content of the health education programme concerning sanitation ?
- 5 How is health education given ? (theory/practice)
- 6 What kind of materials are used ? (books/posters etc.)  
Where did you obtain these materials ?  
Do you think the health education programme has sense ?  
(e.g. improvement of health behaviour of the children).
- 7a Is there a toilet in the school ?
  - b What kind of toilet ?
  - c Are there separate toilets for boys and girls ?
- 8 Is there soap available in the school ?
- 9 Are there any hand cleaning activities/promotion ?
- 10 What are the sanitation habits of children in this town ? (rainy season/dry season; day/night).
- 11 What is the play behaviour of children ? (location, wearing shoes)
- 12 a What is your opinion of the possibility to improve the sanitation situation in this area ? (easy; difficult).  
Why ? \*)
  - b How can it be improved ?

(Teachers will also be asked the same questions related to sanitation behaviour in the town as during the sanitation walk)

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\*) This question can also be asked to other key persons.





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