The Socialist Republic of Vietnam
Danida

NRWSS

National Rural Water Supply & Sanitation Strategy Study

Mid Term Report

Volume 3

Social and Hygiene Situation

November 1997

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National Rural Water Supply & Sanitation Strategy Study

MID TERM REPORTS

Vol 1 - Main Report
Vol 2 - Institutional Situation
Vol 3 - Social and Hygiene Situation
Vol 4 - Technical Situation
Vol 5 - Economic and Financial Situation
9 Provinces Survey Report
Regional Experience
WATSAN Evaluation

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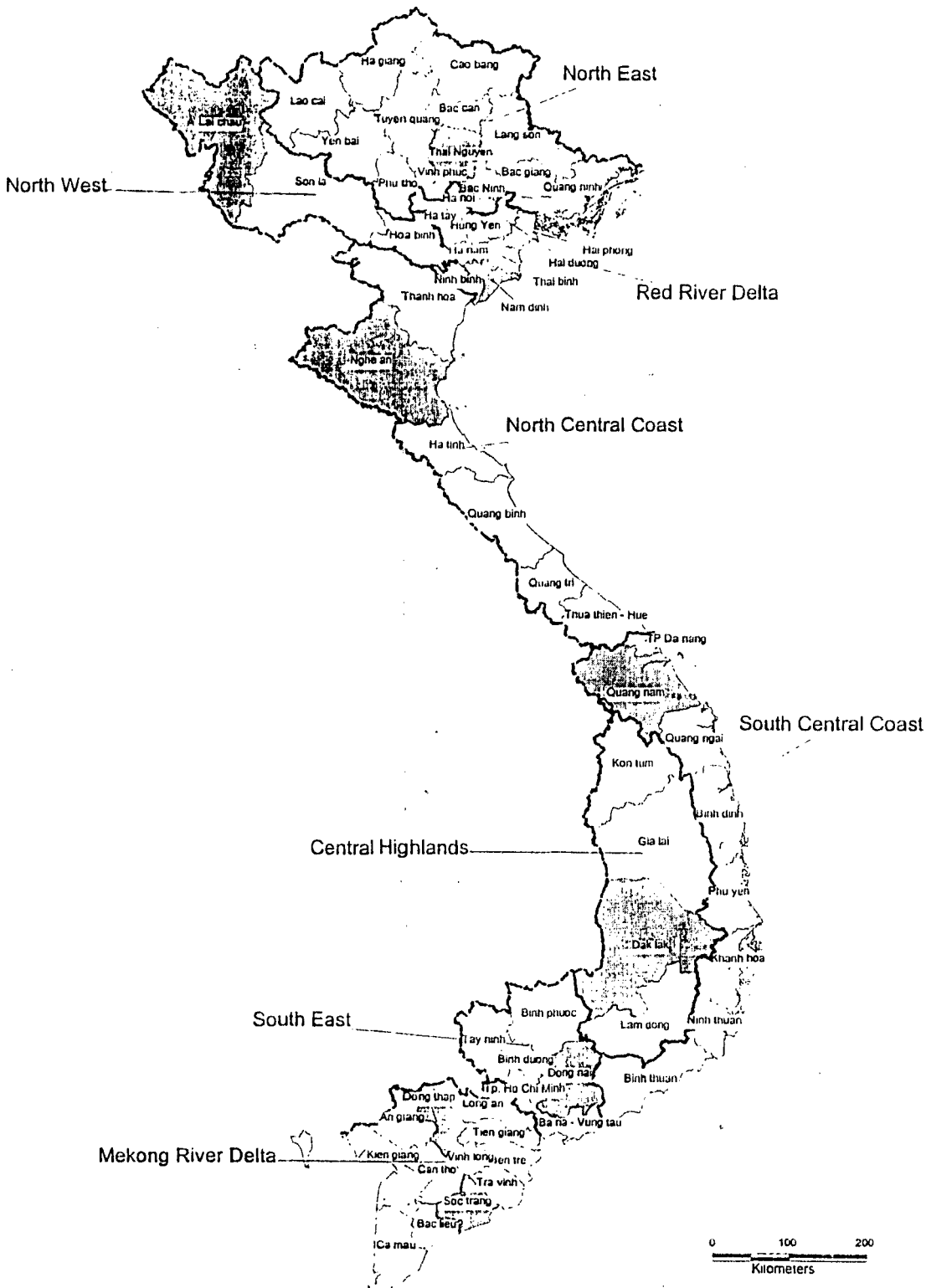
ABBREVIATIONS

AFA	Area Focused Approach
A&R	Assumptions and Risks
ARI	Acute Respiratory Infections
bn	Billion
CERPAD	Centre for Residential Planning and Development
CERWASS	Centre for Rural Water Supply and Environmental Sanitation (central & provincial)
Consultants	The team of study consultants, or the companies involved in the study
consultants	Individual consultants
CTA	Chief Technical Adviser
Danida	Danish International Development Assistance
DARD	Department of Agriculture and Rural Development
DID	Department of Investment and Development
DKK	Danish Krone
DOC	Department of Construction
DOET	Department of Education and Training
DOF	Department of Finance
DOH	Department of Health
DOLISA	Department of Labour, Invalids and Social Affairs
DOSTE	Department of Science Technology and Environments
DPC	District Peoples Committee
DPI	Department of Planning and Investment
DVC	Double Vault Composting (latrine)
GDP	Gross Domestic Product
GoV	Government of Vietnam
GSO	General Statistical Office
HCMC	Ho Chi Minh City
HDPE	High Density Polythene
HRD	Human Resource Development
IDWSSD	International Drinking Water Supply and Sanitation Decade
IEC	Information, Education and Communication
KAP	Knowledge, Attitudes and Practices
l/c/d	Litres per capita per day
LFA	Logical Framework Approach - special planning approach based on the Logical Framework
Logframe	Logical Framework - a special structured project framework used by most donors.
MARD	Ministry of Agriculture and Rural Development
MOC	Ministry of Construction
MOET	Ministry of Education and Training
MOF	Ministry of Finance
MOH	Ministry of Health
MOLISA	Ministry of Labour, Invalids and Social Affairs
MOSTE	Ministry of Science Technology and Environments
MPI	Ministry of Planning and Investment

NEZ	New Economic Zones
NGO	Non Government Organisation
NPM	National Project Manager
NRWSS	National Rural Water Supply and Sanitation
NCWSES	National Committee for Safe Water Supply and Environmental Sanitation
ODA	Official Development Assistance
O&M	Operation and Maintenance
OW	Over Water (latrine)
PC	People's Committee
PMC	Preventive Medicine Centre
PPC	Provincial Peoples Committee
PROWWESS	Promotion of the Role of Women in Water Supply and Sanitation
PSC	Project Steering Committee
QA	Quality Assurance
QC	Quality Control
RWS	Rural Water Supply - including towns of up to 30,000 people
RWSS	Rural Water Supply and Sanitation - including towns up to 30,000 people
SOE	State Owned Enterprise
SRVN	Socialist Republic of Viet Nam
SV	Single Vault (latrine)
TDS	Total Dissolved Solids
TL	Team Leader
TOR	Terms of Reference
TTg 200	Decision of the Prime Minister setting out the approach and responsibilities towards RWSS
UN	United Nations
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
USD	US Dollar
VIP	Ventilation Improved Pit (latrine)
VKI	Water Quality Institute (Denmark)
VLSS	Vietnam Living Standards Survey
VLOM	Village level operation and maintenance
VN6	Standard handpump used in Viet Nam
VND	Vietnamese Dong
VNICDS	Viet Nam Inter-Censal Demographic Survey
VWU	Vietnam Women's Union
WATSAN	Existing national RWSS Programme, with UNICEF funding
WRAI	Water Resources Administration and Irrigation (a section in DARD)
WSC	Water Supply Company

LOCATION MAP



1. INTRODUCTION

1.1 BACKGROUND

The National Rural Water Supply and Sanitation (NRWSS) Strategy Study will prepare a strategy for the sector for the next 10 to 20 years. The Study, which includes small towns of up to 30,000 people, will have three outputs:

- A description and assessment of the existing RWSS situation
- A strategy for the future sector; this will comprise a description of the new situation that the sector wants to achieve and an outline of how the sector will achieve the new situation
- An Action Plan and Investment Programme for initial implementation.

The Mid Term Report is the first of these three outputs and its main purpose is to give stakeholders a clear picture of the existing situation in the sector and to outline the main sector issues. The report does this by:

- Describing the existing situation in the supplementary reports (with a short summary in the Main Report)
- Identifying the issues that the sector faces - Chapters 2 to 6 of the Main Report
- Analysing the issues that the sector faces - Chapter 7 of the Main Report

The Mid Term Report's main function is therefore one of providing *information* to stakeholders as a basis for future discussions on what should be done. The report is not intended to provide solutions, and does not even attempt to give the implications of specific strategy scenarios[1]. The report is only one of several ongoing initiatives to generate informed discussion between stakeholders.

This volume presents the existing social and hygiene situation in relation to the RWSS sector, with emphasis on views at the community level. The report is aimed both at sector specialists with a social or health background and at the general readers who want a picture of people's knowledge, attitudes and practices in relation to water and sanitation and the many variations found within Vietnam.

1.2 METHODOLOGY

Information for this report was collected at both central level and during in-depth studies in nine provinces.

At national level, statistical data and a number of reports were collected and reviewed and many discussions held with different ministries, mass organisations, NGOs, donors etc. In March 1997 the Study Team also attended a review meeting in the Women's Union on community mobilisation activities in 1996 in relation to water and sanitation.

In-depth studies were carried out in nine provinces in the period April - August 1997. The following provinces were selected as representative of the eight regions in Viet Nam:

[1] The term scenario is used to mean a specific combination of fundamental strategy decisions which give a particular direction to the strategy.

Region	Province
North West Mountains	Lai Chau
North East Mountains	Thai Nguyen (old province: Bac Thai)
Red River Delta	Nam Dinh (old province: Nam Ha)
North Central Coast	Nghe An
South Central Coast	Quang Nam (old province: Quang Nam-Danang)
Central Highlands	Dak Lak
South East	Dong Nai
Mekong River Delta	Soc Trang and Dong Thap

In each province, two communes and one small town were selected for in-depth studies. Information was collected on institutional, technical, social and hygiene aspects. The main purpose of the social and hygiene component of the in-depth study in the nine provinces was to collect information in relation to:

- the demographic and socio-economic situation
- knowledge, attitudes and practices in relation to water use, sanitation and hygiene
- present payment for water and sanitation
- community organisations, networks and other structures
- water and sanitation related diseases
- information, education and communication activities

Furthermore, informants were asked to identify and rank their main problems and suggest improvements. This included a discussion of their ability and willingness to pay for the suggested improvements and how to organise them.

Quantitative data were collected from the provincial and commune/town authorities. The main emphasis was, however, on the collection of qualitative information during interviews with key informants and households and during focus group discussions. Information and views were collected from both women and men. However, as generally women are responsible for the collection and use of water for domestic purposes and also responsible for the health of the family, it was of particular importance to have interviews and discussions with women. Annex 1 includes more information about the methodology used for the in-depth studies.

In September and October 1997, two mini-workshops were held in Hanoi to collect more information, exchange experience and receive suggestions for the NRWSS strategy. The first workshop was on water and sanitation related diseases and was organised in co-operation with Hanoi Medical School. Most participants were from different ministries, research and education institutes in Hanoi and selected provinces. The second workshop was on information, education and communication (IEC) and community participation and was organised in co-operation with the Women's Union. Participants came from ministries, mass organisations, UNICEF, an urban water and sanitation project and NGOs. Each workshop was attended by around 40 people. A number of papers were presented at each workshop, followed by discussions. Annex 2 describes the objectives of the workshops and contains lists of presentations made and lists of participants.

Annex 3 includes a list of the reports and other documents directly referred to in this report. A number of other reports have been consulted. A list of all reports and other documents available to the whole Study Team can be provided upon request. Annex 4 includes a list of definitions commonly used in all Mid Term Report volumes.

1.3 REPORT STRUCTURE

The report is structured as follows:

Chapter 1: is this introduction.

Chapter 2: contains a summary of the report and also some conclusions to be used for the next phase of the NRWSS study.

Chapter 3: gives an overview of the demographic situation, with a description of the population distribution and density, the ethnic minority groups and where they live, the migration patterns and population structure.

Chapter 4: focuses on the socio-economic situation, including educational levels, sources of income, income distribution, the prevalence of poverty and characteristics of the poor.

Chapter 5: looks at family and community structures, including gender roles and relations within the family, local administrative and more traditional community structures as well as mass organisations and other networks.

Chapter 6: concentrates on the Government's strategy for rural development and particularly the degree of community participation in decision-making, planning, implementation and maintenance.

Chapter 7: focuses on rural and small town people's knowledge, attitudes and practices in relation to domestic water supply, including an analysis of the priority attached to improvements.

Chapter 8: looks at rural and small town people's knowledge, attitudes and practices in relation to sanitation, including an analysis of the priority attached to improvements.

Chapter 9: provides an overview of the health sector and of the health and hygiene situation, including the general health status in relation to water and sanitation and people's knowledge, attitudes and practices in relation to hygiene.

Chapter 10: looks at water and sanitation related diseases in Vietnam, including incidence rates and trends as wells as people's knowledge, attitudes and practices in relation to these diseases.

Chapter 11: analyses the present information, education and communication (IEC) activities in relation to water and sanitation, including health education in schools, information provided at community level and the organisations involved in IEC activities.

2. SUMMARY AND CONCLUSIONS

2.1 INTRODUCTION

This chapter contains a summary of the social and hygiene situation in relation to the RWSS sector and also some conclusions to be used for the next phase of the study. Social and health issues identified so far are included in the Main Report of the Mid Term Report.

The intention with this chapter is to give a brief overview of the present situation and also to serve as an "appetiser" for reading the following chapters.

2.2 GENERAL DEMOGRAPHIC AND SOCIO-ECONOMIC SITUATION

The total population in Vietnam is estimated to be 75.4 million in 1996. Of these, around 80% live in rural areas. The average population density for the country as a whole is estimated to be 228 persons/km^2, which makes it one of the most densely populated countries in Asia. The population density varies, however, considerably between the regions, from 57 persons/km^2 in the Central Highlands to 1,158 persons/km^2 in the Red River Delta, and also within a region and province. Most people live in village settlements and are not scattered over large areas. This is the case for both the majority population of Kinh and the many ethnic minority groups, who mainly live in the mountainous and highland areas. Over the past decades there has been a considerable rural-to rural migration, mainly from densely populated areas in the North of the country to the Central Highlands and to a smaller extent to the South East Region. The population distribution between rural and urban areas has been fairly constant over the last 20 years, with around 80% of the population living in rural areas. The migration into urban areas is, however, increasing, mainly to cities and big towns. The migration into small towns appears to be very limited. The seasonal migration of men to urban and other rural areas is relatively high; one estimate says hundreds of thousands. The population density and settlement patterns are of importance when looking at the implications of different water and sanitation practices and the cost-effectiveness of different water supply technology options.

Subsistence agriculture, particularly rice cultivation, is the main occupation in rural areas and in many small towns. Cash crops, such as coffee, and small scale industries and trading are also important sources of income. The national average GDP per capita was VND 3,445,000 in 1996 equal to around US$ 300, compared to an average of about US$ 1,000 in all developing countries. The average income in rural areas is considerably lower. Although the social stratification is less pronounced in Vietnam than in many other countries, there are still significant income disparities between different socio-economic groups. The Vietnam Living Standards Survey (VLSS) carried out in 1992-1993 showed that the richest 20% of the rural population has an average income around four times as high as the poorest 20%. Apparently the income disparities are increasing. In rural areas, this is especially the case in areas with cash crops, whereas the difference between rich and poor often is less pronounced in areas more dependent on subsistence farming.

Although poverty is reported to have been reduced since the introduction of "doi moi" in 1986, it is still widespread, especially in rural areas. Depending on the definition used, 20% to 50% of the population are classified as poor. Many poor and often also so-called medium households are short of rice and other food for several months each year. This means that their main concern is to get enough to eat. The prevalence of poverty is highest in mountainous and other remote rural areas especially among many ethnic minority groups. The literacy rate in rural areas was 93 in 1989 which is very high compared with many other countries at the same level of socio-economic development. It is for example at the same level as Thailand, which in 1994 had a GNP per capita

12 times as high as Viet Nam. However, the literacy rates and levels of education are much lower among the poor than among other socio-economic groups, and are especially low among ethnic minority groups. Several of the ethnic minority groups, thus, have reported literacy rates below 20%, often with even lower rates for women. The poor are also most disadvantaged as far as infrastructure is concerned. The high level of poverty in many areas has serious implications for the ability to pay for improved water and sanitation facilities. The low level of education among many ethnic minority groups is another matter which has to be considered when formulating the NRWSS strategy.

2.3 FAMILY AND COMMUNITY STRUCTURES

The majority of households in Vietnam are nuclear, with an average household size around 5 people. The figure is somewhat higher among some of the ethnic minority groups. Gender relations within the family have changed over the last 40-50 years. Today the contribution of women to the family economy is at least partly recognised. The division of labour within the family is gender-based, with both men and women often being involved in agricultural work, but having different tasks. In addition to this, women do almost all the house work and look after the children. This means that women have the main responsibility for the collection of water and also for the health of the family, including looking after children and other family members when they fall sick. In many ways, women can therefore be said to be most affected by poor water and sanitation facilities and poor hygiene conditions. It appears to be fairly common that husband and wife discuss before major household decisions are made. However, in most cases the husband is said to make the final decision on e.g. major investments. This makes it important to design a strategy which empowers both women and men to make an informed choice between different technologies and behaviours.

Generally, the head of village/ward is a very important person in local community matters. He is the link between the commune administration and the local community. He co-operates closely with the People's Committee for dissemination of information, implementation of decisions and activities, mobilisation of local contributions etc. He is, however, also involved in settling local disagreements and solving local problems. Some of the traditional community structures appear to have increased in importance since the introduction of "doi moi". This is especially the case with the head of the family clan. Furthermore, the "Gia Lang" among some of the ethnic minority groups, the local priest and the head of the pagoda often play very important roles in local community matters. Mass organisations are other community structures which will be of importance in connection with the implementation of a NRWSS strategy. The Women's Union is of particular interest as it is generally considered the most active mass organisation at community level, with an organisational network reaching from central to village and ward levels. A household survey carried out in 1996 in 7 provinces showed that as many as 60% of the households had females who were active in the Women's Union. Furthermore, the Women's Union has been involved in information, education and communication (IEC) activities and the administration of revolving funds in connection with the UNICEF supported water and sanitation (WATSAN) programme.

2.4 COMMUNITY PARTICIPATION

International experience shows that community participation in the whole planning, implementation, maintenance and evaluation process is very important for the establishment of a sense of ownership and for the sustainability of interventions. This is also in line with the "Draft Plan for Rural Development in Vietnam for the Period 1996 - 2000 and up to the Year 2010".

In the WATSAN programme, there has been an increasing focus on IEC activities and the use of participatory tools in this connection. However, there appears to have been very little community

involvement in the planning of actual improvements. The final choice of technologies and the selection of beneficiaries are normally made by the Commune or Town People's Committee. There is a fairly high level of community participation in the form of contributions, with the household contributions for hand pumps ranging from VND 300.000 - 800.000 in the areas visited. However, this has meant that mainly fairly affluent households have benefited from improvements. There is also very little experience with community based maintenance systems for gravity and other piped schemes, including community based payment systems.

Two rural infrastructure projects have been reviewed in this report in order to learn lessons for the NRWSS strategy. The two projects are the "Assistance to Human Settlements Planning and Development in Rural Areas", implemented from 1990-1992, and the "Rural Infrastructure Development Fund", to be implemented from 1996-2001. Both projects use(d) a participatory planning and implementation approach, where the priorities for improvements were/are set by local residents. Support was/is provided for renovation and construction of different types of infrastructure such as roads, schools, health stations, water supply etc. The establishment of a fund for rural infrastructure development is one way of encouraging the setting of priorities at the local level. The two most important lessons from the two projects seem to be that (1) mechanisms should be established to ensure that both women and men participate in the planning, implementation and evaluation of water and sanitation improvements and that (2) participatory methods and mechanisms should be kept relatively simple to avoid that the identification and priority-setting process becomes too long and also to avoid a long gap between the identification and implementation of activities.

2.5 WATER SOURCES AND USE

Most households use different water sources for different domestic purposes. There are also sometimes seasonal variations in the type of water sources used especially for drinking and cooking. If people have access to different water sources, the perceived water quality, taste, convenience and cost appear to be the most decisive factors influencing their choice of water source. Individual household-based water supply systems are used and preferred by the majority of people in Vietnam.

There is a long tradition in most parts of Vietnam of using dug wells, most of which are open with a bucket being used to draw the water. Consequently, well water is often prone to contamination from leaves and dirt falling into the well, from the bucket which is left on the ground or the yard around the well and from the rope. Some people in the more densely populated areas are also concerned that their well water might be contaminated by close-by latrines. However, in many areas people are satisfied with their dug well water; they consider the water quality to be good and use it for all purposes. In other areas, well water is considered to be of inferior quality, the main complaints being too high iron content, acidification and too much salt. It is therefore only used for washing and bathing and sometimes as a substitute for rain water during the dry season.

In many areas, rain water is the preferred source of water for drinking and cooking. The good taste of rain water is often given as the main reason for using rain water. However, in many cases alternative readily available water sources are also considered to be of inferior quality. Relatively rich households have invested in rain water tanks, while other households collect and store the rain water in jars of different sizes. Some households use water from dug wells or village ponds/wells as a substitute for rain water during the dry season; in areas in the South with salinity problems, people buy water for drinking and cooking purposes when they run out of rain water.

Springs and streams are the main water sources in many of the mountainous areas. Often these are the only available water sources and women sometimes have to walk long distances each day to collect water, especially during the dry season. Surface water is also the most common water

source in some provinces in the South, where many people live close to rivers and canals and use water from these for all domestic purposes. Many people consider river and canal water to be clean after treatment with alum.

Both convenience and water quality are mentioned as reasons for having invested in drilled wells and house connections to piped schemes. Generally, there is little interest in establishing public hand pumps and stand posts, where the construction and maintenance costs would be shared between several households. This means that at present only fairly affluent households can afford to invest in these two types of water supply.

Whatever the source, water is most likely contaminated from handling and storage before it is consumed. Different types of containers and buckets are used to get water from dug wells, rain water tanks and jars. Other people collect water in buckets, bamboo containers etc. from surface water sources. Furthermore, storage of water for some time before using it for drinking and cooking purposes is common, both when rain water is used and when water is collected from springs, streams, rivers, canals etc. Storage of water is also common in connection with piped schemes, as water is often only supplied for a few hours each day. Sometimes, water from dug and drilled wells is stored before use in order to get rid of a bad smell or to allow for sedimentation of especially iron particles. Often these jars and containers are not covered and different containers are used to get the water.

The boiling of water for drinking purposes has been promoted for a number of years by the Government. At present, although most people boil their water, many also drink unboiled water, especially when in the fields and at school. The question is whether the Government should continue its promotion efforts. On one hand, boiling of water is a way of treating poor quality water before it is consumed. On the other hand, it is an additional work burden for many women, especially in remote areas where fire wood has to be collected at a fair distance from the house. Some people also prefer the taste of unboiled or "fresh" water, as it is often called.

2.6 USE OF LATRINES AND HUMAN EXCRETA

It is estimated that approximately half of the population in rural areas and small towns do not have a latrine. This is especially the case in rural areas with a low population density. Open defecation is also the most common practice among most ethnic minority people and among children under 6 years. Common reasons given for this practice are that it is pleasant to defecate in the open, that it is nature, that there is no smell like with some latrines and that latrines are too expensive. Open defecation appears to have increased in some areas over the last few years. This is the case in some areas where double-vault composting (DVC) latrines were constructed during the campaign in the 1970s. When they were ruined, people did not reconstruct them because they smelled, were dirty and they did not want to use human excreta for agriculture. They also found them too expensive. In areas in the South where there has been very intensive campaigns to destroy fish pond latrines, open defecation appears now to be common. Many people do not want to use simple latrines, because they are considered to be dirty and to smell.

The most common types of latrines found in Vietnam are dug pit and one vault latrines. Furthermore, old DVC latrines are fairly common in some provinces. Many people have, however, replaced their DVC latrines with one-vault or dug latrines; the reasons for this being that these latrines are cheaper and it is easier to take human excreta out of them to use for agricultural purposes. The dug latrines are often open, or partly open, pits with a few bamboo poles or a concrete platform over them. Many of the dug latrines are very unhygienic. This is also the case with many of the DVC latrines, which are not maintained properly. Furthermore, normally no actual composting of human excreta takes place. In the South, fish pond latrines were very common before the Government campaign to destroy them. They are still common in some areas

where the campaign was less rigorous and appear to be the preferred latrine in many of the areas where they were destroyed. Some of reasons mentioned for this preference are that they are the only appropriate latrines in flood prone areas, they are cool and pleasant to use, have no smell and are cheap to build. The possibility of making a profit on fish raised in the ponds is another important factor.

It is clearly more common for households in small towns than in rural communes to use latrines. The higher population density in many small towns is important in this connection as is the fact that the living standards and housing conditions generally are better. There appears to be a trend among the more affluent households to construct septic tank latrines, and in some areas sulab latrines. These latrines are often made in connection with the construction and improvement of more permanent houses. In both small towns and rural areas, the septic tank latrine is the preferred type of latrine because it is hygienic, clean and has no smell. However, with an average cost of VND 2 million, most people consider them too expensive.

In the North of Vietnam, human excreta is commonly used for agriculture. Although it is fairly common to leave the excreta for 1-3 months before using it, often no actual composting takes place. 1-3 months is also considerably less than the recommended composting time of 6-12 months. There is no special protection for the women, who are normally responsible for spreading the human excreta on the fields. Often a small shovel or a hoe is used, but sometimes the faeces is spread by hand. In the South, people do not want to use human excreta for agriculture; instead there is a tradition of using it for aquaculture. One of the reasons for using fish pond latrines is that the excreta can be used for raising fish. The attitude towards eating fish from ponds where human excreta has been used appears to be rather ambiguous. Some people say that they are afraid of eating the fish. However, they do not hesitate to sell the fish at the market nor to buy the same type of fish. There is a tradition of eating raw fish in some areas, but apparently only fish caught in rivers.

2.7 PRIORITIES, ABILITY AND WILLINGNESS TO PAY

There appears to be an interest in improved water supply in many parts of the country, especially in areas with shortage of water or shortage of what people perceive as good quality water. However, in a significant proportion of the country people are satisfied with their existing water supply systems and give a low priority to investment in improvements. Many of them feel that they have already invested much money and/or labour in their dug wells, hand pumps, rain water tanks etc. In some of the mountainous areas, there is some interest among poor households in communal arrangements, like simple piped systems with one or a few collection points in the village. However, as mentioned earlier, the most Vietnamese people prefer household-based water supply systems, which makes improvements relatively expensive. The average cost for a tube well with a hand pump is thus VND 1.6 million, while a house connection to a piped system typically costs VND 300,000 - 500,000.

The present payment for water is an indication of the ability and willingness to pay for improvements. The far majority of poor and so-called medium income households pay very little for their present water supply. Poor women in mountainous areas often spend much time collecting water from public ponds, streams, rivers etc.. In other areas, relatively poor households have invested in dug wells. Many of these have, however, been made with assistance from relatives or neighbours, so the cost in terms of money has been limited. Most households spend very little, if any, money on the maintenance of dug wells, as often neighbours and relatives help each other clean the wells, when required.

Only in relatively few areas with severe salinity problems, are poor households "forced" to pay a considerable amount of money for drinking and cooking water. The average household in the

survey areas visited in Soc Trang province, thus, uses 3-7% of its monthly income on the purchase of water in those months where it has to buy water, while poor households use a significantly higher proportion of their income. For the country as a whole the VLSS, which was conducted in 1992-1993, found that the expenditure for fuel, light and water for the poorest 20% of households was close to 3%. Assuming that an equal amount of money is spent on the three items and using the official poverty line of VND 55,000, this would mean that a poor household spends on average VND 30,000 per year on water. In poor areas, like among ethnic minority groups in the NRWSS survey areas in Lai Chau, high priority was given to improved water supply and sanitation, but most people are not able to pay any money. Instead people are prepared to contribute with manual labour, as they have done in connection with other Government supported programmes.

Among the more affluent households, especially in small towns and other densely populated areas, there appears to be a trend that they themselves invest in domestic hand pumps, electric pumps, rain water tanks etc. This indicates a willingness to pay for improvements. Generally, people in the South appears to be more used to paying for water than people in the North of Vietnam and they are also used to paying a higher price. It appears that in many areas, especially in the North, it is a common perception that infrastructure improvements, like water supply, should be paid for by the Government. In the South, several small piped schemes have been constructed by local contractors, where people pay either according to the metered consumption or a fixed monthly fee. The high connection cost (on average VND 300,000 - 500,000, but up to VND 1 million in the NRWSS survey areas), which has to be paid up front, is often an impediment to improvements. Although many households would like to have a house connection to a piped water supply system, many of them find it difficult to pay the connection fee. It has been suggested that it should be possible to pay the contribution in instalments and that all households should pay the same connection fee, regardless of the distance to the main pipeline. Another suggestion is easy access to loans to construct deep dug wells, drilled wells, rain water tanks etc. People has mentioned it as important that repayments can be made in instalments and that the interest rate is low.

Generally, construction of (improved) latrines is given low priority. There is, however, some interest among more affluent households, especially in small towns, in investing in improved sanitation. Most people prefer septic tank latrines, but as mentioned earlier find them too expensive (average cost of VND 2 million). The VLSS showed a clear correlation between people's economic situation and their investment in sanitation facilities. The probability of having no latrine was found to be double as high for the poorest 20% the population as for the richest 20%. Similarly, only around 1% of the poorest households had access to a flush latrine, while the corresponding figure for the richest was 39%. If poor households have latrines, these are normally made from locally available materials. Often the only investment required is in the form of labour. The interest in taking out loans from the revolving funds for latrines, managed by the Commune or Town People's Committees, appear to have been very limited, especially among poor households. Mainly fairly affluent households have benefited from these loans. The Women's Union has had more success with revolving funds for construction of different types of latrines. Repayment in instalments and flexibility in the loan conditions have meant that relatively poor households have wanted to take out loans. Furthermore, the Women's Union has an organisational network at village and ward level.

2.8 HEALTH AND HYGIENE

Vietnam's health situation is relatively favourable for a developing country. Although its main health problems remain those common to most developing countries - with infectious and parasitic diseases still posing a substantial threat to the population at large - infant and child mortality rates have been lowered considerably in the last few decades. The fact that Vietnam has managed to bring down infant mortality in the face of low levels of economic development is believed to be due

to large investments in the public health sector, which may have reduced the negative effects of poor and unsanitary living conditions.

Since 1955 the Ministry of Health has developed a basic health care system covering the whole country, and Vietnam now has a widespread infrastructure of medical services, with commune health stations and health workers available in almost all communes. It has been one of the highest priorities of the Vietnamese Government to provide basic health care to all citizens and although before 1986 the economy of Vietnam was highly centralised, the provision of basic health services has always been decentralised, with health activities managed, implemented and financed at the grass-roots level.

However, the disappearance in the late 1980s of the agricultural co-operative system, which largely financed and supported commune health station staff, resulted in a marked deterioration of the public health services. Inputs to the health sector - drugs, equipment, medical supplies, maintenance - began declining, and the quality of care offered by the primary health care facilities slipped, as did utilisation rates. Thus a well-functioning health care system began breaking down and the gains in health achieved over the previous decades are now being threatened.

The morbidity and mortality profile in Vietnam is characterised heavily by diseases that are linked to water and sanitation. Excreta-related and water-borne diseases, such as gastro-enteritis, dysentery, intestinal worms, typhoid, cholera and trachoma, are all important sources of morbidity, especially among children, and diarrhoea alone accounts for 25% of child deaths. Severe and acute child malnutrition is now uncommon, but chronic under-nutrition manifested as stunting is still the fate of almost half of the children.

Initially, economic growth is known often to result in deteriorating environmental conditions, mainly due to changes in lifestyle, increased urbanisation etc. Available health data appear to confirm the presence of such a trend of deteriorating environment and hygiene in Vietnam. Diarrhoea, as well as several of the other water and sanitation related communicable diseases, have been increasing steadily during recent years and diseases which were previously confined to a single region have now spread throughout the country. The incidence of diarrhoea has thus increased from around 300 per 100,000 inhabitants in 1990 to over 1,200 in 1996. The fact that diarrhoea is still among the leading causes for hospital treatment is an indicator of the magnitude of the problem.

Intestinal worms constitute a major problem, especially in the northern parts of the country where fresh human faeces is used as fertiliser. Some studies have found that up to 95% of the population were hosts to some kind of intestinal worm. People's knowledge about how worms are transmitted appears to be quite limited. This, combined with the fact that worms are widely regarded as part of the "normal scenery" in childhood, means that very little is done in terms of prevention

The NRWSS survey in 9 provinces found that in general people had little knowledge about the possible causes of water and sanitation related diseases, and that the level of knowledge was associated with the economic situation and level of education for the household. Whatever the level of knowledge, however, actual hygiene practices were found to be almost invariably bad. Hand washing after defecation, for example, is not commonly practised and children are normally allowed to defecate indiscriminately around the house.

2.9 INFORMATION, EDUCATION AND COMMUNICATION

Since 1994, health education has been one of the compulsory subjects to be taught in primary schools, but in many provinces has only been introduced in 1996. Text books and instruction manuals have been prepared and active teaching methods introduced. Furthermore, since 1996

there has been more focus on health education for school children in ethnic minority groups. In general the curriculum and contents of the health education in primary schools appears to be comprehensive and appropriate. Clean water, sanitation and environmental issues are included in the text books, especially in the higher grades. It is, however, a major problem that only around 5,000 out of 13,000 primary schools have proper water and sanitation facilities. Lack of such facilities is especially a problem in remote areas. In some of the schools, where water and sanitation facilities have been installed, these have not been maintained properly. This means that the health and hygiene education in schools cannot be put into practice. Furthermore, the demonstration and promotion effect, which good water and sanitation facilities in schools and other public places is likely to have for the wider community, is lost.

The main sources of information in rural areas and in small towns appear to be the Women's Union, the head of the village or ward and often also the local priests or monks. Information is often provided through loudspeaker systems and community meetings. Television and radio are other important sources of information. However, most programmes are in the Kinh language, which is not understood by many ethnic minority groups. Furthermore, many ethnic minority people in remote areas do not have radio or television. The Vietnam Inter-Censal Demographic Survey (VNICDS) also showed that there is a close correlation between the level of education and the exposure to different types of mass media. Women with no schooling were least likely to get any information from radio, television and newspapers.

Generally, very little information appears to be provided on water and sanitation in rural areas and small towns. Most information focuses on family planning, mother and child health care, state policies and economic activities. Sometimes, information about water and sanitation is provided as part of other programmes. Both mass organisations and the Ministry of Health are involved in IEC activities on water and sanitation.

The Women's Union has established a network of motivators in communes included in the WATSAN programme. The motivators are all volunteers, who receive no salary or incentives. Training of the motivators is mainly based on the well-known World Bank/PROWWESS training kit, which focuses on participatory tools. There is no follow-up training after the initial training of the motivators, which would seem very appropriate, especially considering that water and sanitation is a fairly new topic for many branches of the Women's Union. Monitoring of change appears mainly to be based on observations by the motivators and the feed-back and answers received during community meetings. No regular surveys on knowledge, attitudes and practices appear to have been made.

The Youth Union is often considered as a vanguard in connection with campaigns and as more mobile than members of the Women's Union. Their activities include information campaigns, competitions on writing newspaper articles, songs, dramas and the production of training and information materials on water and sanitation. The Youth Union has been involved in setting up youth groups, youth clubs etc., while the Pioneer Association has concentrated on establishing propaganda groups of youngsters. These have also been involved in campaigns on water and sanitation among pioneer members.

MOH integrates its IEC activities on water and sanitation with other health activities and also co-operates with mass organisations, MOET and other sector organisations. At present, there is, however, not much training of commune health staff on water and sanitation. This might be one of the reasons why very few of the people interviewed during the NRWSS survey mentioned the Commune Health Stations as sources of information on water and sanitation. As is the case with the Women's Union, MOH has no regular in-depth surveys on people's knowledge, attitudes and practices, which makes it very difficult to monitor change.

3. DEMOGRAPHY

3.1 INTRODUCTION

Volume 2 of the Mid Term Report contains an overview of the demographic situation in Viet Nam. This chapter provides more details on the existing situation and trends, while population projections are covered in volume 5. The population density and settlement patterns are of importance when looking at the implications of different water and sanitation practices, e.g. the use of untreated surface water and open defecation, and also when looking at the cost-effectiveness of different water supply technology options.

The first section of the chapter gives an overview of the population distribution and density with a description of the regional variations. Information about the annual growth rates is also included. The second section looks at the ethnic minority groups and where they live, while the following section gives a description of the migration patterns, both international and internal. The last two sections contain an analysis of the population structure and household size.

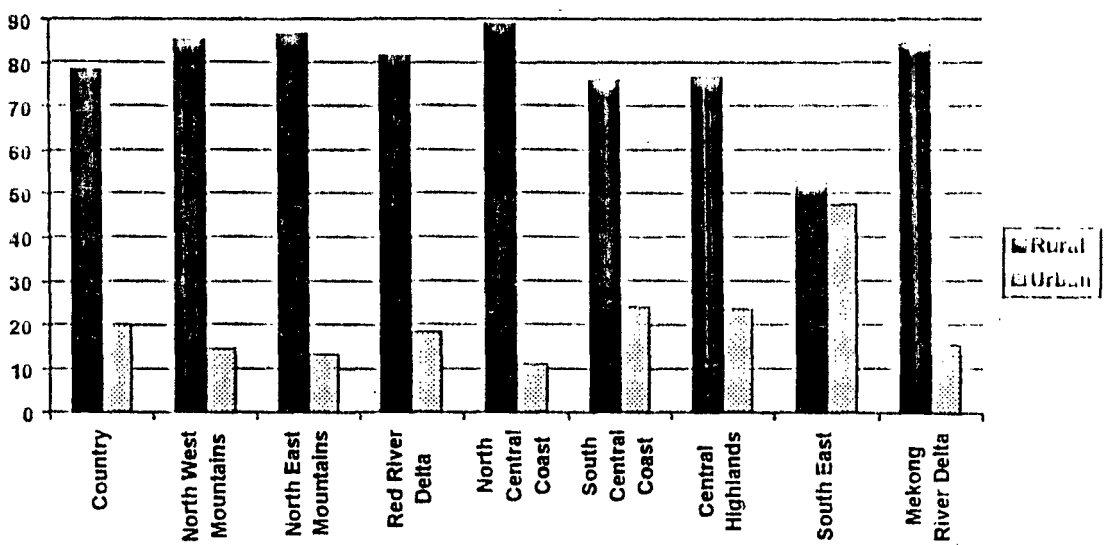
The chapter is mainly based on official statistical data from the General Statistics Office (GSO), including detailed analyses made in connection with the Vietnam Inter-Censal Demographic Survey (VNICDS) in 1994, studies on ethnic minority groups and documents on rural development. The NRWSS survey in nine provinces is another source of information.

3.2 POPULATION DISTRIBUTION AND DENSITY

3.2.1 Rural and Urban Population

The total population in Viet Nam was estimated to be 75.4 million in 1996. Of these, 58.3 million or 80% were estimated to live in rural areas. The population distribution between rural and urban areas has been fairly constant over the last 20 years (GSO 1997a). There are, however, some regional differences as illustrated in the graph below.

Graph 1: Population in Rural and Urban Areas in 1996



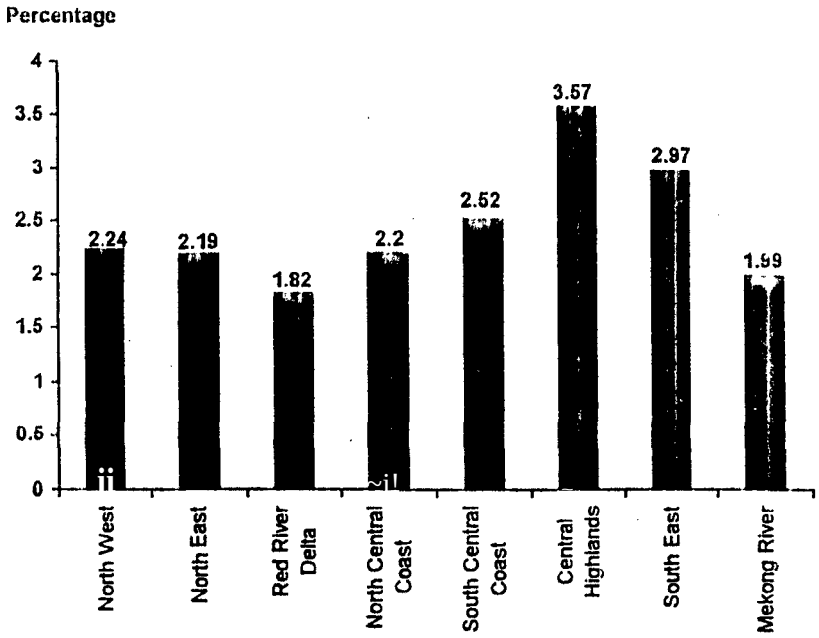
Source: GSO in Hanoi

It has been difficult to get information on the population living in small towns below 30 000 people. The 1989 census showed the small towns population to be just over 3 million people. With assistance from the GSO, information has been collected about small towns in the nine NRWSS survey provinces. Based on these figures, the NRWSS study team estimates that in 1996 a total of around 4.2 million lived in small towns in Viet Nam. The total 1996 population to be covered by the NRWSS Strategy is thus around 63 million. Annex 5 contains information about the population by sex and the distribution by urban/rural for 1996.

There has been a continuous reduction of the annual growth rates over the last 20 years (GSO 1997a). From 1991 to 1995, the annual growth rate was reduced from 2.3% to 2%. The annual growth rates for urban areas is considerably higher than for rural areas and shows an increasing trend. The annual urban growth rate increased from 2.5% in 1991 to just over 3% in 1995. MPI predicts that this trend will continue over the coming years, so that by the year 2010 almost 30% of the population will live in urban areas, compared with around 20% at present. Further details on population projections are contained in volume 5.

As can be seen from graph 2, there are considerable regional variations in the annual growth rates. Part of the difference can be explained by higher fertility rates, especially among some of the ethnic minority groups; most of the difference is, however, due to internal migration, which is described later in this chapter.

Graph 2: Regional Annual Growth Rates 1991-1995



Source: GSO, Hanoi.

3.2.2 Population Density

In 1995, the average population density for the whole country was 223 persons/km^2 (GSO 1996a), which makes it one of the most densely populated countries in Asia. In 1996, it is estimated to have been 228 per km^2.

The population density varies considerably from region to region.

Table 1: Population and Population Density by Region in 1996 (estimate)

Region	Population	Population density (persons/km^2)
Whole country *	75,355,200	228
North West Mountains	2,135,500	59
North East Mountains	10,676,100	159
Red River Delta	14,488,600	1,158
North Central Coast	10,042,000	196
South Central Coast	7,822,500	173
Central Highlands	3,209,600	57
South East	9,563,800	408
Mekong River Delta	16,372,400	414

Source: GSO, Hanoi

* The sum for the eight regions does not add up to the total population, because special groups, notably personnel of the armed forces, are not included.

Annex 4 includes maps showing the population density by province for 1995 and 1996 and also a table giving the population figures and population density by region and province. Furthermore, there is a map showing the population density by district based on data from 1992 from the National Institute of Agricultural Planning & Projection (NIAPP).

As can be seen from table 1, the population density is much higher in the Red River Delta (1,158 persons/km^2) than in any of the other regions. The Central Highlands and the North West Mountains are the least densely populated regions (57 and 59 persons/km^2, respectively). The population density varies, however, also within a region and within a province. The following table shows the population density in the 9 provinces included in the NRWSS survey, compared with the average for the regions.

Table 2: Population Density in the 9 NRWSS Survey Provinces in 1996*

Province	Population Density in NRWSS Survey Province (persons/km^2)	Population density in the Region (persons/km^2)
Lai Chau, North West Mountains	33	59
Thai Nguyen, North East Mountains	303	159
Nam Dinh, Red River Delta	1141	1158
Nghe An, North Central Coast	171	196
Quang Nam, South Central Coast	131	173
Dak Lak, Central Highlands	70	57
Dong Nai, South East	335	408
Dong Thap, Mekong River Delta	470	414
Soc Trang, Mekong River Delta	370	414

Source: GSOs in the 9 provinces and GSO in Hanoi.

*The population density figures for the NRWSS survey provinces are from the provincial GSOs, as figures for the divided provinces were available here, but not at central level.

Most people in rural areas, including areas with a low population density, live in village settlements. In many cases farmers have most of their agricultural land at the outskirts of the village. It is, thus, not common to find houses scattered over a large area of land. In areas with a low population density, as for example in Lai Chau, most of the villages are very small settlements of around 300 people (50 households) or less, while the villages in more densely populated areas are bigger. Here, villages are often also very close to each other.

3.3 ETHNIC GROUPS[2]

The majority of the population belongs to the Kinh group. Official figures show that there are 53 other ethnic groups in the country, the so-called ethnic minority groups. According to the 1989 census, these groups constituted around 13% of the population; it is estimated that the figure is close to 15% today. The Tay, Thai, Hoa, Kho Me, Muong, Nung, H'Mong, and Dao are the 8 main minority groups according to the 1989 census, accounting for 79 percent of the non-Kinh population in 1989. Many of the groups have their own languages, which belong to three major language group: the Austro-Asiatic, the Austronesian, and the Sino-Tibetan. Most of the ethnic minority people, as well as the Kinh, speak languages belonging to the Austro-Asiatic language group.

The ethnic minority groups vary significantly in ways of earning a living, social organisation, their degree of assimilation into the Vietnamese society etc. There are, however, also some similarities among many of them. Most of them, especially the most vulnerable and poorest groups, live in the mountainous and highland areas. There are four main agro-ecological zones where most of the ethnic minority people live; the Northwest Region, the Northeast Region, the Central Mountain Chain (Truong Son) and the Central Highlands.

In the Northwest Region, which includes the provinces of Lai Chau, Son La, parts of Hoa Binh, and small parts of Lao Cai and Yen Bai provinces, there are 23 different ethnic groups in a population of about 2.5 million people. The main groups are the Thai (42%); the Kinh (19%); the H'Mong (18%); the Muong (10%) and the Dao (5%).

In the Northeast Region, which consists of the provinces of Lao Cai, Ha Giang, Tuyen Quang, Yen Bai, Cao Bang, Lang Son, Quang Ninh and Bac Thai provinces, there are 20 different ethnic groups in a population of around 5.2 million. The main groups are the Tay (25%), the Nung (14%), the H'Mong (7-8%) and the Dao (5-6%).

The Central Mountain Chain (Truong Son) Region consists of a very long, and narrow range of high mountains from Thanh Hoa province to Thua Thien province. There are many relatively small ethnic minority groups in this area, ranging from some tens of thousands to only several hundred. These groups include the Co Ho, Gie Trieng, Bru Van Kieu, the Kho Mu and the H'Mong. Most of them are reported to be relatively isolated and little assimilated into the Vietnamese society.

The Central Highland (agro-ecological) Region consists of the four provinces of Lam Dong, Dac Lac, Gia Ria and Kon Tum. The area contains about a dozen different ethnic groups, the main ones being the Gia Rai, the Ede, the Ba Na, Xo Dang, Co Ho and Mnong.

In the Mekong River Delta, there is also a significant ethnic minority population, consisting mainly of the Kho'Me. Over 95% of the Kho Me live in the six lower delta provinces of Tra Vinh, Soc Trang, Can Tho, Kien Giang, An Giang and Minh Hai.

[2] Most of the following is based on Neil Jamieson's report from 1996 "Ethnic Minorities in Viet Nam. A country Profile". Only other sources are mentioned in the text.

Most ethnic minority people live in rural areas. With the urbanisation process there is, however, a trend of minority people moving into urban areas[3]. Most of them live in mixed settlements ("xen ke"), with two or more ethnic minority groups living together. This is especially the case in the North. A few settlements consist of one group only. Some of the ethnic minority groups, such as the H'Mong, are concentrated in the highland areas, whereas it is more common for minorities such as Tay, Thai and Nung to live in the lowland areas together with the Kinh. (B.V. Dang (ed.)1996).

Some of the ethnic minority groups practice slash-and-burn agriculture. Estimates in 1990 of slash-and-burn cultivators (migratory and settled) varied from 600,000 to 3 million people. The migratory farmers belong to the H'Mong and Dao minorities and live mainly in the highlands of the North-western provinces, whereas the settled farmers using slash-and-burn methods live in western and coastal borderlands (Gammelgaard, 1990 "Ethnic Minorities in Viet Nam", quoted in S.M. Fong 1994). Differences between the Kinh and ethnic minority groups are described as an integrated part of the following chapters.

3.4 MIGRATION PATTERNS

3.4.1 International Migration

Many people left Viet Nam after the end of the war in 1975. It is, thus, estimated that 1.3 million people left Viet Nam in the period 1975-1988, either legally or illegally. Most of them came from the South and settled in the United States, Australia and different European countries. UNHCR estimates that around 130,000 people left Viet Nam after 1989, most of them ending up in camps for asylum seekers in other Asian countries. Some of them were recognised as political refugees and obtained asylum in other countries.

In 1989, an agreement was reached on a Comprehensive Action Plan for the voluntary return of asylum seekers. This agreement included assistance for the returnees to be repatriated in their home country. According to UNHCR, around 111,000 people have returned to Viet Nam, most of them settling in Hai Phong, HCMC and Quang Ninh, while the return of an additional 2,000 people from other Southeast Asian countries is under negotiation.

After 1975, a large number of people went to the East European countries to work or study. Unofficially, it is estimated that a relatively large number of people remained there after they had completed their labour contracts and studies.

3.4.2 Internal Resettlement Programmes

The internal resettlement programmes started in the 1960s, where especially Kinh people moved to upland areas. This resettlement process slowed down from around 1970, but was intensified again after unification of the country in 1975. At this time there was resettlement into so-called new economic zones and hundreds of state farms and state forest enterprises were established in upland areas (Jamieson 1996). The main aim of the internal resettlement programmes was to move people from densely populated areas to areas with a low population density.

According to MOLISA, there were around 1.1 million internal migrants during the period 1960-1976, while the figure for the period 1976-1993 is estimated to be around 4.4 million (MOLISA 1995). Most of the migrants were Kinh people who moved from lowland to upland areas, formerly inhabited by ethnic minority groups. Most of the internal migration took place under different Government-sponsored resettlement programmes and was mainly from the Red River Delta to

[3] In 1992, 12% of the urban population were estimated to belong to ethnic minority groups. The biggest group was the Hoa (National Institute of Urban and Rural Planning, 1992).

Northern provinces like Lai Chau and to the Central Highlands. In recent years, especially areas in the Central Highlands have been the target for Government resettlement programmes. After 1984, less funds were allocated to resettlement programmes and, consequently, the level of migration decreased (GSO 1994a).

Parallel with the internal resettlement programmes, the Government launched a campaign to make ethnic minority people settle permanently in one place, reportedly to reduce the cutting of forest for cultivation of land. By 1990, nearly two million people were reported to have been permanently settled (P.X. Nam et al., 1997).

3.4.3 Spontaneous Internal Migration

As mentioned above, the migration in connection with internal resettlement programmes has decreased considerably over the last 10-12 years. The more spontaneous migration has, however increased at the same time. This has included the migration of both Kinh people from lowland areas and ethnic minority people from the northern upland areas to especially the Central Highlands and to a smaller extent to the South East Region.

According to the UNDP report on poverty, it has been estimated that since 1990 over 100,000 people per year moved from the north to the Central Highlands or South East Region, mostly for farming (UNDP 1995b). According to another estimate, from 1990 to 1994, nearly 100,000 spontaneous migrants moved to Dak Lak province and over 90,000 to Lam Dong, while a smaller number of people migrated to Gia Rai, Kontum, Dong Nai and Song Be. The official regional growth rates for 1991-1995 confirm that the main migration flows have been into the Central Highlands and the South East Region, where the annual growth rates were 3.57% and 2.97%, respectively. Many of the immigrants are reported to be ethnic minority people from the northern uplands (Jamieson 1996) and Kinh people from densely populated areas like the Red River Delta

The NRWSS survey also showed that there has been considerable migration to Dak Lak in the Central Highlands and to Dong Nai in the South East Region over the last couple of decades. In Dak Lak, migrants were reported to have come because of the possibility of earning a good income from coffee production. Some of them have obtained land, while others work as labourers in the coffee fields and have no land. In Dong Nai the rate of immigration was reported to have been around 20,000 people a year since 1995, i.e. the equivalent to approximately 1% of the total population per year. The main reasons for the immigration were reported to have been the previous low population density in the province and the good agricultural land.

As described above, the rural-to-rural migration has been considerable over the last decades. The migration to urban areas is, however, increasing, which is reflected in the different annual growth rates for rural and urban areas. For 1995, the figures were 1.76% and 3.04%, respectively. Most migration is reported to be to cities, like Hanoi and HCMC, and to big towns. The permanent immigration to small towns appears to be very limited.

3.4.4 Seasonal Migration

The seasonal migration from rural to urban areas is considerable. Hundreds of thousands of labourers are estimated to go to cities, particularly to Hanoi and Ho Chi Minh City, in search of work (P.X. Nam et al. 1997). The NRWSS survey in 9 provinces indicates that the seasonal migration to rural areas in the Central Highlands and the South East Region is also substantial Most of these migrants work as labourers in coffee fields and other cash crop plantations.

In the 9 NRWSS survey provinces, the seasonal migration was found to be highest from the densely populated rural areas in Nam Dinh, Nghe An and Quang Nam. It was found mainly to be men who migrate part of the year to urban or other rural areas to supplement the household

income. This has increased women's work burden considerably as they have to do all the work in the fields and also the housework, while their husbands are away. However, normally these households have a higher income than other households in the same area.

Too busy to wash her hands ....

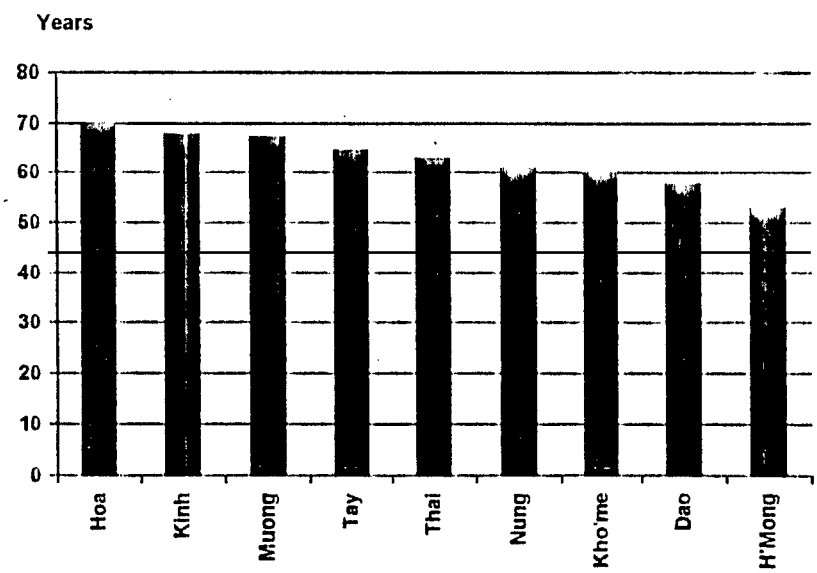
The following is from a group discussion among women in Kim Thai commune in Nam Dinh. One of the women said:

"Naturally, everybody wants to live in a better house and keep everything clean. However, as you know, because of the difficult conditions, you cannot do whatever you want "cai kho bo cai khon". Here we have 4 crops, including 3 rice crops and 1 secondary crop, but the men mostly go away to earn a salary, so we have to do all the work and we don't even have enough time for eating. About hand washing, we know hands should be cleaned before eating and after defecation or whenever they are dirty However, we have no time to do that and even after returning from the rice field we take food at once, although we haven't washed during the whole day".

3.5 POPULATION STRUCTURE

The average life expectancy at birth in Viet Nam in 1994 was 65 years for males and 67 years for females (GSO 1996b). The average life expectancy varies, however, significantly among the ethnic groups. It ranges from 70.2 years for the Hoa to 52.8 years for the H'Mong, while it is 67.7 among the Kinh. Graph 3 shows the variations between the major ethnic groups:

Graph 3: Life Expectancy Among Ethnic Groups



Source: Jamieson 1996

The population in Viet Nam has a young age structure. The 1994 VNICDS showed that 36.8% of the population was below 15 years in 1994. There has, however, been a sharp fall in fertility over recent years, with a reduction of the population below 15 years from 40% in 1989 to 36.8% in 1994. There is a significant difference in the age structure in rural and urban areas. In 1994,

38.5% of the population in rural areas were below 15 years, while the corresponding figure for urban areas was 30% only (GSO 1997b). More details are included below in the section on household size.

A comparison was made between the age structures in 1989 (census data) and in 1994 (VNICDS data) for the Northern, Central and the Southern areas. This comparison indicates that fertility was reduced in all three areas, but that the reductions were not at the same pace. Broadly speaking, the population in the Central areas can be classified as younger than in the other two areas (GSO 1997b).

In 1994, the overall sex ratio of the total population was 95, i.e. for every 100 women there were 95 men. The sex differential among adults below 50 years is most likely due mainly to the international migration, which has involved more males than females (GSO 1997b). The sex differential among adults above 50 years of age is partly due to the effects of the wars from 1946-1975 and partly to the higher mortality risks for men than for women in the older age groups. In 1994, the sex ratios were fairly similar for urban and rural areas. In the age group of 40-49 years, the sex ratio was higher in urban than in rural areas. This is most likely due to seasonal migration of men to urban areas, while their families stay in the rural areas.

3.6 HOUSEHOLD SIZE

The following table shows the trends in the average household size from 1979-1994.

Table 3: No. of Households and Average Household Size 1979-1994

Characteristic	1979 census	1989 census	1994 VNICDS
Total population	52,741,000	64,376,000	70,345,000
Number of households	9,666	12,958	14,895
Average household size	5.22	4.84	4.84

Source: GSO 1997b

There are two main factors which influence the household size; the number of children born into the household and the number of adults who live together in one household. The decrease in the average household size from 5.22 in 1979 to 4.84 in 1989 is most likely due to the decrease in the fertility rate during this period. The average household size was the same in 1989 and 1994. However, during this five-year period there was a sharp fall in the average number of children per household from 1.90 in 1989 to 1.78 in 1994. At the same time there was an increase in the average number of adults per household, from 2.94 in 1989 to 3.06 in 1994.

Table 4: Average Household Size, 1989-1994

	1989		1994	
	% in the population	Average per household	% in the population	Average per household
Whole country				
Children	39.2	1.90	36.8	1.78
Adults	60.8	2.94	63.2	3.06
Total	100.0	4.84	100.0	4.84
Urban				
Children	33.5	1.62	30.0	1.41
Adults	66.5	3.23	70.0	3.29
Total	100.0	4.85	100.0	4.70
Rural				
Children	41.3	1.99	38.5	1.87
Adults	58.7	2.84	61.5	3.00
Total	100.0	4.83	100.0	4.87

Source: GSO 1997b

There was very little difference in the average household size in urban and rural areas in 1989. From 1989-1994 there was a significant decrease in the average household size in urban areas (from 4.85 to 4.70) because of a decrease in the number of children per household. The decrease in the fertility rate was thus much more pronounced in urban than rural areas. The household size in rural areas increased slightly during the same period (from 4.83 to 4.87) because of an increase in the number of adults per household. The household composition in urban and rural areas varies significantly. The average number of children per household in 1994 was 1.41 in urban areas, while it was 1.87 in rural areas; the number of adults were 3.29 and 3.00, respectively. GSO finds it likely that one of the reasons for the increasing number of adults per household is the increasing mobility of the population; this has meant that many people have to live with relatives or friends until they are able to establish their own residence in a new area. The increase in the duration of schooling, later ages at marriages and lack of affordable housing for young couples might be other contributing factors (GSO 1997b).

The NRWSS survey in 9 provinces shows that there are considerable variations in the average household size, from 4.0 persons per household in Nam Dinh to 6.5 persons in Lai Chau.

Table 5: Household Size in the 9 NRWSS Survey Provinces in 1996

Province	Average Household Size
Lai Chau, North West Mountains	6.5
Thai Nguyen, North East Mountains	4.5
Nam Dinh, Red River Delta	4.0
Nghe An, North Central Coast	4.8
Quang Nam, South Central Coast	4.6
Dak Lak, Central Highlands	5.2
Dong Nai, South East	5.3
Dong Thap, Mekong River Delta	5.3
Soc Trang, Mekong River Delta	5.4

Source: GSOs in the 9 NRWSS survey provinces

The above figures show that the average household size is somewhat higher in provinces with a high concentration of ethnic minority groups; this is especially the case in Lai Chau. Visits to communes in other provinces with a high proportion of ethnic minority people showed the same tendency, but also that the difference might not be all that great. Generally, there was not much difference in the household size in the rural communes and the small towns visited.

4. SOCIO-ECONOMIC SITUATION

4.1 INTRODUCTION

Different indicators can be used to describe the socio-economic situation in a country. UNDP uses the concept of human development to describe and compare people's living standards and well-being in different countries. A human development index and a gender-related development index have been developed, based on average achievements in a country in three basic areas: life expectancy, educational attainment and real GDP per capita. The human development index places Viet Nam as number 121 out of 175 countries, while Vietnam is number 101 in the gender-related development index. The following table shows how this compares with other countries in Southeast Asia.

Table 6: International Comparison - Development Indexes

Country	Human Development Ranking	Gender-Related Development Ranking
Thailand	59	39
Indonesia	99	86
Viet Nam	121	101
Lao	136	114
Cambodia	153	n.a.

Source: UNDP 1997

The first section of this chapter looks at the literacy rate and the level of education among men and women in Viet Nam and the differences between regions and ethnic groups. The following section gives a description of the sources of income in rural and small town areas as well as the income distribution, while section three looks at the level of savings and access to credit. The last section focuses on poverty. It analyses the prevalence and distribution of poverty, the prevalence of malnutrition and gives characteristics of the poor and some of the reasons why they are poor. The same section also includes a brief outline of the poverty alleviation tasks, which MOLISA considers important for the coming years.

The chapter is based on official statistical data, including detailed analyses made in connection with the Vietnam Inter-Censal Demographic Survey (VNICDS) in 1994, a number of studies and reports on poverty and rural development as well as the NRWSS survey in 9 provinces.

4.2 EDUCATIONAL LEVEL

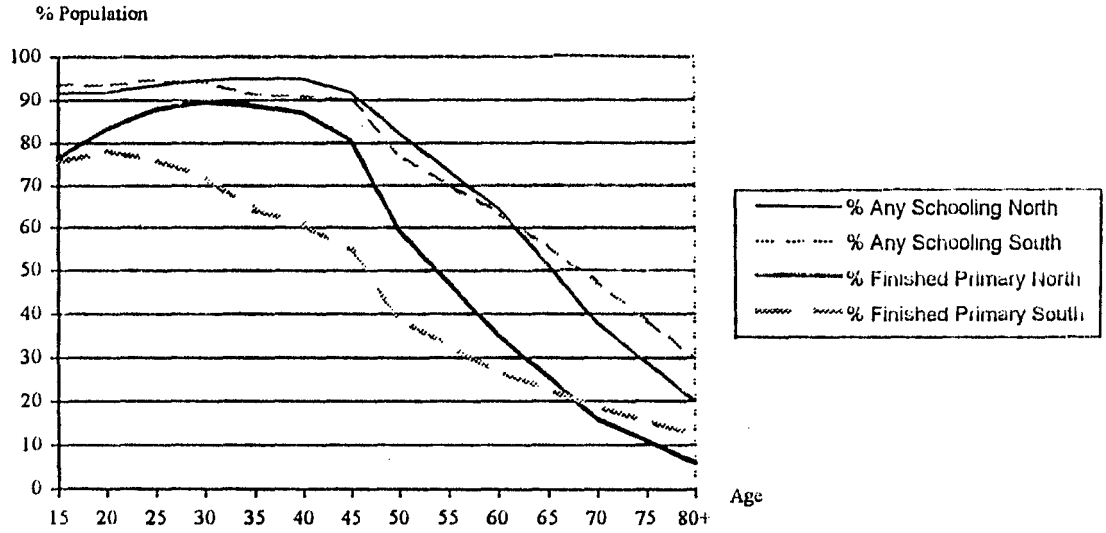
The 1989 census showed a literacy rate of 93.2 for the population between 15 and 35 years of age, with the figure for urban areas being 97.3 and for rural areas 93.1. This is very high compared to many other countries at the same level of socio-economic development. It is for example at the same level as Thailand, which in 1994 had a GNP per capita 12 times as high as Viet Nam, and 10% higher than Indonesia, which in 1994 had a GNP per capita almost five times as high as Viet Nam (UNDP 1997). These educational achievements can be seen as a result of the high priority which the Vietnamese Government has given to education over several decades.

The 1994 VNICDS showed that substantial progress as far as education is concerned has been achieved over the last six decades. While less than 1/3 of the population aged 80 had been to school, more than 80% of people between 50 and 60 years and around 90% of all people between

15-49 years had had some kind of education. The literacy rate appears to have remained fairly stable over the last three decades (GSO 1996c).

There has also been remarkable increases in the percentage of people who finished at least primary education and in the percentage who received some secondary education. However, a considerable number of school children have also dropped out from school before finishing primary school (grade 5). This is illustrated in the following figure:

Graph 4 Educational Level by Region and Age



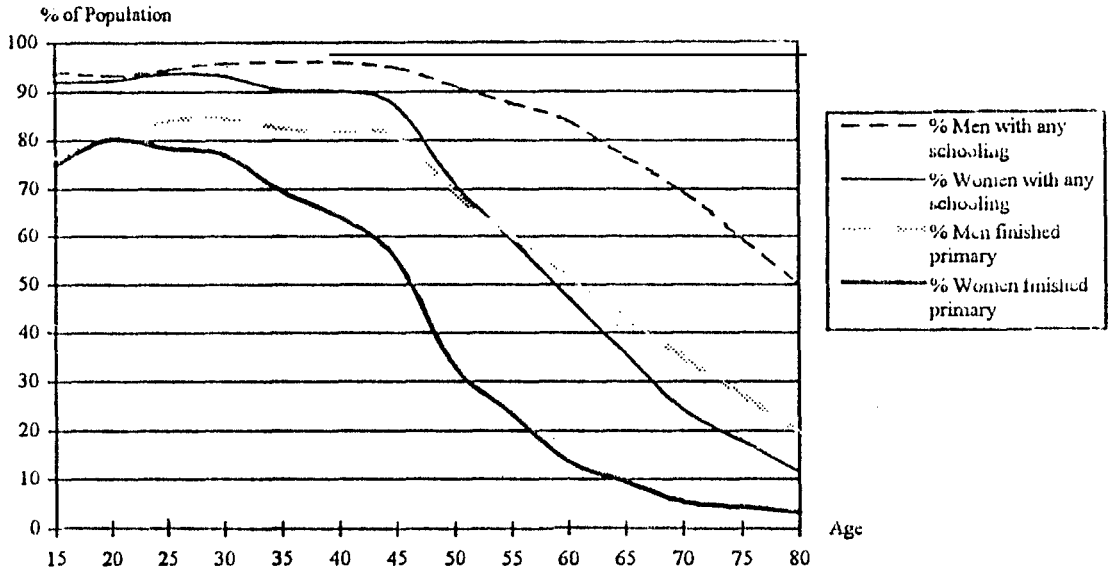
Source: GSO 1996c

The graph shows that the proportion of the population with some kind of education is almost the same in the North and the South. However, the proportion of school children who dropped out of school before completing the primary level is considerably higher in the South than in the North. For people between 30-60 years of age the difference ranges from around 15% to around 25%. It should be noted that the drop-out rate from primary school now appears to be increasing in the North. The difference in drop-out rates is most likely a result of the different educational traditions in the North and South before their unification in 1975. In the North, primary education was given high priority by the Government, including free education and text books, whereas apparently education was given lower priority in the South.

The drop-out rate is considerably higher among school children in rural areas than in urban areas. According to the 1994 VNICDS, around 90% of the urban population between 15 and 35 years had finished primary school, while the corresponding figure for rural areas was around 77%. The drop-out rate from secondary school is even higher; in 1994 approximately 70% of the population between 20 and 35 years had started secondary school, but only around one quarter of them had completed their studies. The drop-out rate is particularly high in rural areas.

The 1994 VNICDS found a considerable gender gap at all educational levels. While 92% of all men had some kind of education, this was only the case for 81% of the women. The proportions which had finished primary school were 77% and 60%, respectively. The following graph shows, however, that there has been a change in attitude as far as the importance of education for women is concerned.

Graph 5 Educational Levels by Sex and Age



Source: GSO 1996c

For the age groups up to 35 years, there was only a small difference between the proportion of men and women who have attended any schooling. The difference increases substantially after this age, especially from around 50 years. In 1994, the drop out rate from primary school for girls and boys is more or less the same, but was somewhat higher for women above 25 years. Based on the VNICDS, it can be concluded that today women and men have fairly equal access to education up to and including primary education. The gender gap is, however, greater in many of the remote areas, especially among some of the ethnic minority groups. Often less priority is given to the education of girls than to that of boys, as girls have to help their mothers. Among many ethnic minority groups there is also a tradition that girls marry early (B.V. Dang (ed.)1996).

There are considerable regional differences both in the percentage of children who enter school at all and the percentage who start late. The 1994 VNICDS showed that low school attendance is largely confined to rural areas and particularly to regions with a high proportion of ethnic minority groups. In the Central Highlands as many as 20% of rural children between 10-14 years of age had never attended school, while the figure for the North Uplands was 14%. In the Red River Delta less than 1% of the children had never been to school. The Central Highlands is also the region with the highest percentage of children entering school between 8 and 10 years of age. The main reasons for the high drop-out rate appear to be that children have to help with agricultural work, that parents cannot afford to buy text books, pay the school fees (there are small fees starting from grade 3) or contribute to construction work and purchase of equipment for the school. The difficult access to schools in many remote areas is another important reason, as children often have to walk relatively long distances to get to the school and the roads are often in a poor condition, especially during the rainy season.

Children drop out of school early in Lao Cai ....

The following is from an assessment of health needs carried out in Nam Lu commune in Lao Cai province in 1996.

In 1996, there was a total of 537 children between 6 and 14 years in Nam Lu commune. 86% of the boys and 62% of the girls were reported to attend school. More than half of the children were attending grade 1 and another quarter grade 2. This means that a considerable number of children drop out of school during and after first and second grades. The drop-out rate of girls was reported to be particularly high during the school year.

According to school teachers, children drop out of school because their parents want them to help with agricultural work and because "you can't eat the letters you have learned". This attitude was confirmed during interviews with parents. Some of them also mentioned that their children gave up school because of the shame of being much older than classmates. Reasons mentioned for starting school late was poor household economy and bad, inaccessible roads to the school.

Source: Hanoi Medical College 1996

The literacy rates vary significantly among the ethnic groups. The Hoa, Tay, Tho, and Muong have for example educational levels comparable to that of the Kinh, while other groups - such as the Thai, San Diu and Nung - are only a little behind. Several of the ethnic minority groups, however, have literacy rates below 20%. In for example Lai Chau province, the 1989 census showed that the non-Kinh/non-Thai population over five years old had a literacy rate for men and women of 16% only, while the literacy rate was as low as 3-4% for females above five years. The 1989 census showed that for 10 of the ethnic minority groups the literacy rates for females aged five and above was less than 10%, while it was below 20% for another 10 groups (Jamieson 1996). The information collected in 9 provinces during the NRWSS survey showed the same tendencies.

Many H'Mong women in Lai Chau cannot read and write ....

The following is from an interview with the Vice-Chairwoman of the Women's Union in Toa Tinh commune in Lai Chau province.

"In my village there are very few people who can read and write. For example, only two out 13 women in this group can read. This is the reason why they do not speak Vietnamese. Women in my village are backward due to low education. We only know how to deliver babies and take care of children. This year I am 39 years old. I studied grade 4 and I can still read newspapers and also write, but only slowly. My knowledge is limited."

4.3 HOUSEHOLD INCOME

4.3.1 Sources of Income

Rice production is the main economic activity in most rural areas and the production has increased significantly since the late 1970s. The production of coffee and other cash crops has also gone up. There is, however, an increasing scarcity of arable land in many parts of the country, especially in the northern delta and coastal areas, where typically land holdings are only 500-700 m^2 per capita (UNDP, 1995). Unemployment, or rather under-employment, is an increasing problem in many rural areas and also in some of the small towns. It is thus estimated that in 1994 around 30% of the rural workforce were under-employed (P.X. Nam 1997).

Many households in both rural and small town areas have several sources of income - or are involved in both subsistence agriculture and other economic activities. The diversification in sources of income has increased since the renovation process started in the mid 1980s (McGee et al. 1996). A survey of the household economy conducted by the General Department of Statistics for the whole country showed that in 1994, agriculture, forestry and fishery activities accounted for 74.5% of the total income of rural households; 9.7% came from small and handicraft industries and construction and 15.8% from trade and services. Within agriculture, the value share of cultivation and husbandry has remained fairly stable for many years; in 1995 it was 73% and 27%, respectively (P.X. Nam, 1997). The Viet Nam Living Standards Survey carried out among 4,800 households in 1992-1993 also showed that the rural income derived from other sources than agriculture was significant.

During the NRWSS survey in 9 provinces, agriculture was found to be the main occupation in almost all the rural communes visited. Rice is the main crop in most of the areas; in the mountainous and other areas with low fertility soil there is only one crop of rice per year; in other areas, especially in the Mekong River Delta and the Red River Delta, it is common to have two and sometimes three crops of rice per year. In Dak Lak and Dong Nai, many households in the survey areas get most of their income from cash crops like coffee and rubber. In a few of the villages visited, fishing is the main occupation; in others it is an important supplementary source of income or food for own consumption. In most of the small survey towns, agriculture is also an important source of income, especially in wards at some distance from the town centre. In some of them agriculture is the main occupation, while in others it is small business and services.

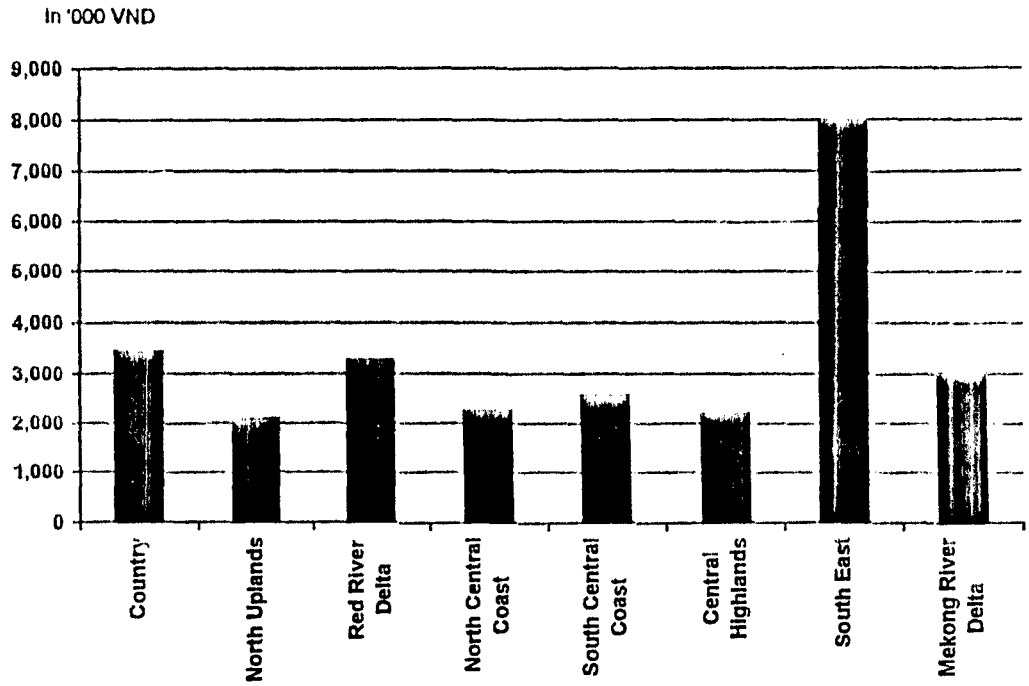
The NRWSS survey confirmed that often the same household has several sources of income. Many households in the small towns and other densely populated areas, and also other households close to the (main) roads, thus often have incomes from both agriculture and small business and/or service. Furthermore, income from seasonal migration to urban areas and to other provinces like Dak Lak and Dong Nai is common in many survey areas. More detailed information about migration is contained in chapter 3. In many communes, poor households (both men, women, and sometimes teen-age children) work as daily agricultural labourers for their richer neighbours. Especially in the more densely populated areas, poor households often have very little or no land.

4.3.2 Income Distribution

Over recent years, real GDP has grown at the rate of 8 to 9 per cent per year, implying growth in real per capita income in the order of 6 to 7 per cent (UNDP 1995b).

According to the GSO, the national GDP per capita was VND 3,445,000 in 1996, equal to around US$ 300, compared to an average of about US$ 1,000 in all developing countries (UNDP 1997). The following graph shows the variations among the 8 regions.

Graph 6: Regional Differences in GDP per capita in 1996



Source: GSO, Hanoi

As can be seen, the South East Region has by far the largest GDP per capita, followed by the two delta regions.

The figures show average incomes for a whole region and do not take into account the income disparities between different socio-economic groups. The income of a few rich people, from e.g. cash crops, can thus increase the average GDP per capita substantially and thereby give an incorrect picture of the level of income for the majority of the population. Often it is also difficult to incorporate the value of subsistence production, i.e. agricultural and other food products used for own consumption. The social stratification and the level of poverty in different parts of Viet Nam is thus in many ways more important than the per capita GDP figures.

The social stratification is not so pronounced in Viet Nam as it is in many other countries. However, it appears to be increasing since the introduction of a market-oriented economy. In rural areas, this is especially the case in areas with cash crops, whereas the difference between rich and poor often is less pronounced in areas more dependent on subsistence farming. The VLSS from 1992-1993 showed the following average annual per capita income by expenditure quintile in rural areas.

Table 7: Income Distribution in Rural Areas in 1992-1993

Expenditure Quintile	Average Annual Per Capita Income (in VND)
1	483,700
2	698,000
3	944,500
4	1,164,400
5	1,864,300

Source: GSO 1994b

In 1992-1993, the richest 20% of the population, thus, had an income around four times as high as the poorest 20%. The average level of income has, however, increased considerably since 1993 (the national average GDP per capita nearly doubled from 1993 to 1996, i.e. an increase from VND 1,923,000 to VND 3,345,000). The income disparities are also like to have increased in same period of time.

Another indication of the social stratification is the distribution of land. The VLSS found that the land area per capita was nearly equal between the socio-economic groups in the North, while in the South the wealthiest fifth of households had three times as much land as the bottom fifth. (UNDP 1995b).

The NRWSS survey showed that the average household income was generally higher in the small towns than in the rural communes. Furthermore, the average income in low-land communes close to the district centre is higher than in the highland communes visited in the same district. Further details about social stratification in the 9 survey provinces is contained in the section on poverty.

4.4 SAVINGS AND CREDIT

The level of savings was found to be very low in the nine NRWSS survey provinces, especially among poor and so-called medium income households. As described in further detail in chapter 5, the Women's Union has facilitated the establishment of saving and credit groups of women in some areas. Generally, these groups were reported to be popular among women, as it gave them easy access to credit at conditions set by the group itself. However, both the savings and the loans from the groups were normally quite small.

The small savings which some households are able to make are mainly being used for economic activities, like the purchase of a buffalo.

Savings cannot be used for improved water facilities ....

The following is from a group discussion with both men and women in Toa Tinh commune in Lai Chau province.

"Where do we take money from for digging a well! If we have money, we have to spend it on buying a buffalo. If we do not have a buffalo, who has to do the ploughing? If we are lucky, after two years of hard work, we may have saved enough money to buy one buffalo. We cannot spend 1.5 million VND on anything else!"

Some of the more affluent households in the NRWSS survey areas also make savings to improve their houses.

In many of the NRWSS survey areas, there was found to be a number of credit schemes. Loans are extended through the Agriculture Bank, the Bank for the Poor, the National Credit Fund, the Poverty Alleviation Fund, the Women's Union etc. Loans are mainly used for income generating activities, such as animal raising, planting of trees, etc. Many households complained, however, about the loan conditions and the complicated procedures of especially the Agriculture Bank. Frequent complaints were a high interest rate (1-1.2% per month), too short a repayment period (normally around 12 months), too long a period required for processing of applications and unofficial payments having to be made before getting a loan. Some people also mentioned that they do not want to take a loan in a bank, as they are afraid of not being able to repay it. In some survey areas, like e.g. in Quang Nam, they prefer to borrow from each other with no interest or sell paddy when they are in need of money. In other survey areas, people borrow from richer neighbours or more "professional" money lenders at interest rates as high as 8-10% per month.

4.5 POVERTY

4.5.1 Poverty Lines

There has been much discussion about the level of poverty in Viet Nam and especially about the indicators to be used to measure poverty. The Ministry of Labour, Invalids and Social Affairs (MOLISA) and the GSO use a poverty line based on monthly income. This is measured either in money or as the equivalent in rice (the present conversion rate used by MOLISA is 1 kg of rice equal to VND 3,500).

The following definitions were published by MOLISA in May 1997; they confirm the definitions used since 1995 and are valid for 1997 and 1998.

- very poor or hungry: below 13 kg rice/capita/month, equivalent to VND 45,000;
- poor in rural mountainous areas and islands: below 15 kg rice/capita/month, equivalent to VND 55,000;
- poor in rural, delta and midland areas: below 20 kg rice/capita/month, equivalent to VND 70,000;
- poor in urban areas: below 25 kg rice/capita/month, equivalent to VND 90,000.

The poverty line might be set higher for an area if (a) the average income per capita of the area is higher than the average income for the whole country; (b) if the poverty rate is low compared with the rate for the whole country or (c) the area has the resources to support the elimination of hunger and poverty.

At commune and ward levels there is often a poverty alleviation group, which collects information about poverty from heads of village/ward or directly from households. These data are forwarded to the district, which again sends them to the province. The aggregated poverty data for the provinces are then forwarded to MOLISA. During the NRWSS survey in 9 provinces there were, however, found to be considerable variations between the poverty definitions used in different provinces and often also variations within a province. There is thus some uncertainty about the reliability of the data available on levels of poverty.

In its Report on Poverty Assessment and Strategy from 1995, the World Bank operates with a poverty line based on a benchmark per capita calorie requirement of 2,100 calories per day. This is based on the composition of an underlying food basket chosen to be representative of typical consumption patterns in Viet Nam and taking into account geographic price variations in the cost of the same food basket. The World Bank poverty assessment is based on data from the VLSS, carried out in 1992-1993.

In its report on Poverty Elimination in Viet Nam from 1995, UNDP defines poverty as a lack of ability to participate in national life, most especially in the economic sphere. UNDP recognises that this definition is not directly operational in the same way as the one used by the World Bank. It allows, however, for different dimensions of poverty to be recognised, not simply as "associated variables" but as part of poverty itself. The UNDP assessment is based on an analysis of existing data and research, including the World Bank Report, and on field trips to selected poverty stricken areas.

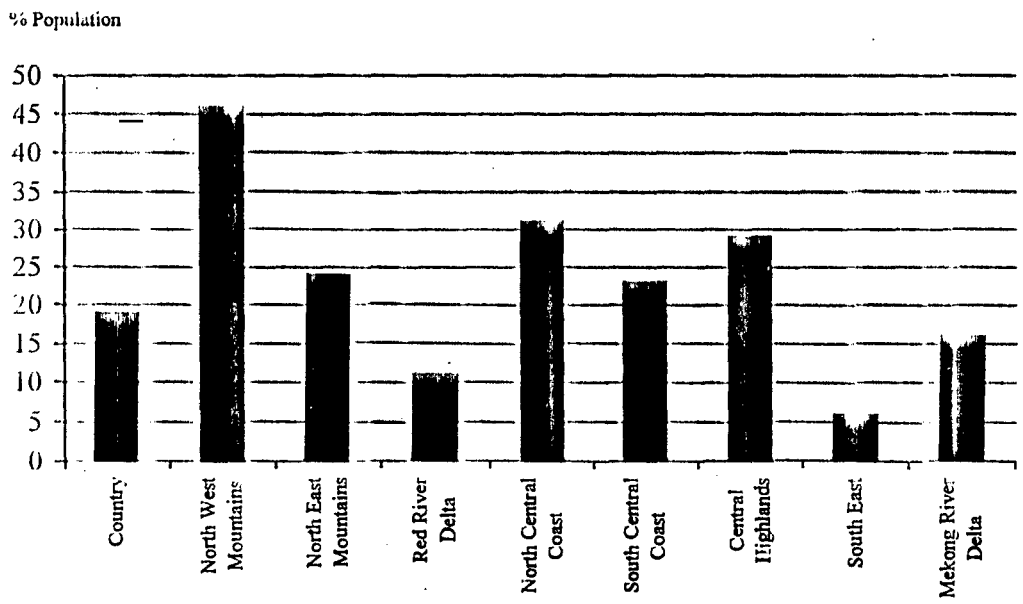
4.5.2 Prevalence and Distribution of Poverty

Available data indicate that poverty has been reduced since the launching of "doi moi" in December 1986, and continues to decline. Poverty is, however, still widespread in Viet Nam, especially in rural areas. 90% of the poor are, thus, estimated to live in rural areas.

As indicated by the different poverty lines mentioned above, there are different estimates of the level of poverty. The latest estimate from MOLISA is that around 26 % of all households were poor in 1993, while the figure was 19% for 1996 (MOLISA 1997). The World Bank's estimates are considerably higher, but show the same trend of reduced levels of poverty. The World Bank thus estimates that the level of poverty was reduced from around 70% in the mid-1980s to around 50% of the population in 1992-1993, when the VLSS was carried out. According to the UNDP report on poverty, at least 40% of the population are poor enough to be of serious concern, as they spend between 66% and 70% of their income on food.

The prevalence of poverty varies significantly between regions. The following graph shows the official estimates of the regional levels of poverty.

Graph 7: Level of Poverty by Region in 1996

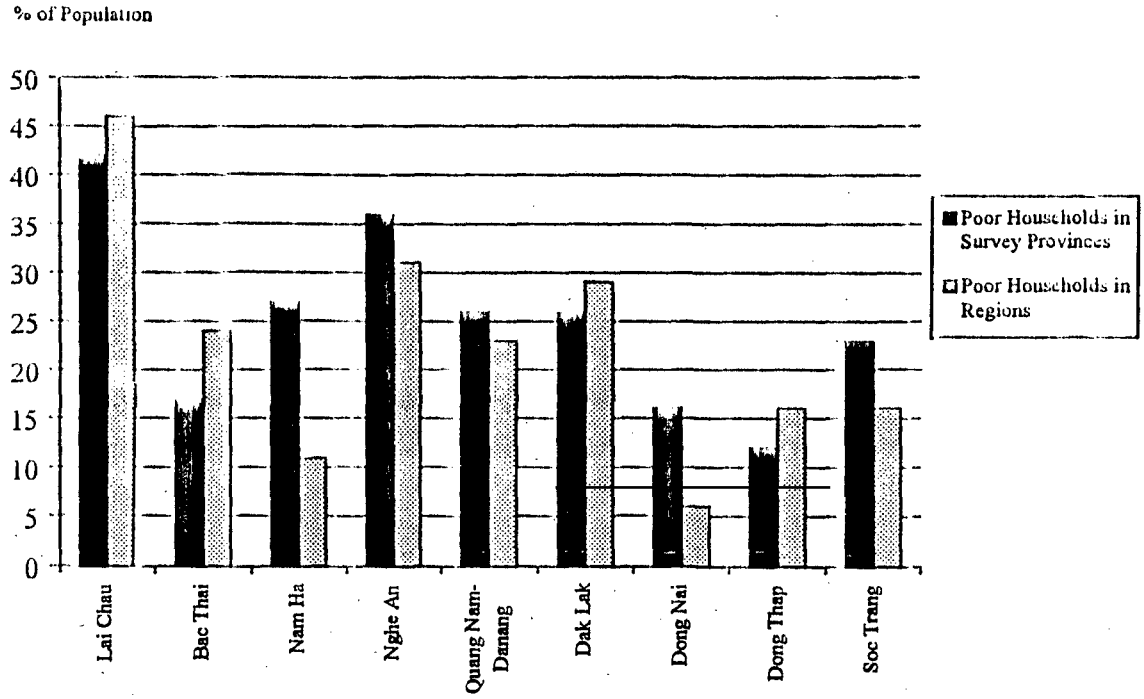


Source: MOLISA 1997.

As can be seen, poverty is most widespread among households in the more isolated regions of the North West Mountains, the North Central Coast and the Central Highlands; it is lowest in the South East Region, i.e. in HCMC and the areas around it, and in the Red River Delta.

The prevalence of poverty also varies within a province, district and commune. The following graph shows the levels of poverty for the 9 provinces included in the NRWSS survey, compared with the average for the respective region. There are many variations between the poverty definitions used in different provinces; therefore figures reported at central level have been used. No central figures are available for the new provinces of Thai Nguyen, Nam Dinh and Quang Nam; figures from the old provinces have therefore been used here.

Graph 8: Level of Poverty in 1996 in the 9 NRWSS Survey Provinces



Source: MOLISA 1997

Annex 6 contains the poverty figures for the 53 provinces of Viet Nam, before the division of several provinces in 1997, and also two maps illustrating the differences between regions and provinces.

The income levels, or rice equivalents, among most of the ethnic minority groups, who typically earn only three-fifths as much as the Kinh ethnic majority group. Apart from the Hoa, ethnic minority groups are 50 to 250 percent more likely to be poor than the Kinh (UNDP & UNICEF 1996). Jamieson describes the material differences between the ethnic minority groups as follows:

Table 8: Level of Poverty among Ethnic Minority Groups

Ethnic Group	Characteristics
Hoa	In many ways materially better off than the Kinh
Tay	Slightly behind the Kinh
Thai, Muong and Nung	Relatively better off than most other minority groups, although they are significantly behind the Kinh
Kho'Me	Relatively disadvantaged, especially considering that most of them live in the comparatively fertile Mekong River Delta
Dao	Their situation varies, but they are low on most measures of well-being
H'Mong	Among the most disadvantaged groups in Viet Nam

Source: Jamieson 1996

4.5.3 Prevalence of Malnutrition

Prevalence of malnutrition is an indication of whether people can afford an adequate daily basic food intake and therefore also an indication of the level of poverty. Severe and acute child malnutrition is now uncommon in Viet Nam, but cronic under-nutrition is extremely high.

Estimates of the prevalence of under-height for age (stunting) of children under five years are 47% and for under-weight for height (wasting) 12%. The 1992-93 VLSS found that for children aged 1-2 years, which is the age group where the impact of malnutrition has its most serious long-term consequences, one in ten children is wasted. Similarly, around three of every five Vietnamese children in that vulnerable age group are already stunted. Low birth weights, an outcome of intrauterine malnutrition, showed figures for 1990 and 1992 of 12% and 14%, respectively (World Bank 1995a).

Table 9: Regional Malnutrition Rates among Children under 5

	Underweight children under 5 years (%) 1990-1996
Thailand	26
Viet Nam	45
Indonesia	35
Laos	44
Cambodia	40
All Developing Countries	31

Source: UNDP 1997

Viet Nam's major child nutrition problem appears to be stunting from longer-term, chronic under-nutrition rather than wasting from short-term, acute food deficits (World Bank 1992).The effects of chronic malnutrition and intestinal infections on children are of special concern, since they are long lasting. Malnutrition adversely affects cognitive development and schooling performance, both of which in turn reduce future well being and economic productivity.

According to the VLSS, women are more likely to suffer from malnutrition than men. The gender gap in nutritional status was found to be greatest amongst the poorest households and smallest amongst the richest households. This indicates that women are more likely to reduce their food intake or eat less nutritious food when there is a shortage. The number of children in a household was also found to have a negative effect on the nutritional status of women, but not on that of men (UNDP 1995a).

4.5.4 Characteristics of the Poor

As earlier mentioned, 90% of the poor households live in rural areas. Many of them are subsistence farmers who face a serious shortage of rice for several months each year. Shortage of rice for some months each year is, however, also found among so-called medium income households. A study in nine communes in the Red River Delta in 1996 showed that 35% of the households were short of rice for 1-8 months each year (Research Centre for Gender, Family and Environment 1996). In the NRWSS survey areas, many people also mentioned that they are short of rice and other food for a number of months each year. Many poor households have to borrow food or money in order to survive or find substitutes for their normal food.

Not enough food between crop seasons ....

The following is from an interview with a woman in Quai Nua commune in Lai Chau province.

"My family has lived here for more than 30 years. My husband is a war veteran and works as a farmer now. I'm 55 and he is 60 years old. We have 7 children; the oldest son is 28 years and the youngest son is 10. All children live with us, except the oldest son and the second daughter who are married and live in other places. We have 4 children in school and one more daughter at home. In the last two years, my family has not had enough food. In between crop seasons my children had to go to the forest to find "cu mai" (a special potato found in the forest) to eat. But my family is not the poorest in the village. We are poor because we have many children and have to spend too much money for them to go to school".

Poor and also many so-called medium income households spend a very high proportion of their income on food. As earlier mentioned, the VLSS in 1992-1993 found that the poorest 40% of households spend between 66% and 70% of their income on food. The NRWSS survey showed that, in addition to food, poor as well as other households have to spend money on the purchase of daily necessities like oil for lighting, clothes, school books and fees, furniture and also on funerals and wedding parties.

The following table shows some of the characteristics of poor households compared with other socio-economic groups. The data are for rural plus urban areas.

Table 10: Social Indicators by Socio-Economic Groups

	Poorest	II	III	IV	Richest	Viet Nam
Household Size (persons)	5.3	5.1	5.1	4.9	4.5	5.0
Children per Family (age 0-14)	2.5	2.2	1.9	1.6	1.3	1.9
Elderly per Family (age 60+)	0.4	0.4	0.4	0.5	0.5	0.4
Age of Household Head (years)	42.0	43.0	45.0	48.0	48.0	45.0
Literacy (% adults aged 15+)	79.2	86.8	88.8	89.7	94.2	88.1
Years of Schooling (average per adult 15+)	5.1	5.7	6.1	6.5	8.0	6.4
Low Birth weight (% birth<2.5 kg)	6.9	7.5	5.3	3.8	3.8	5.6
Total Fertility Rate (children per woman)	4.9	3.8	3.5	2.4	1.8	3.3
Stunting (% children 24-35 months)	69.0	62.6	48.8	43.7	29.2	54.0
Piped Water (% access)	0.7	0.9	4.0	10.5	36.8	10.6
Flushed Toilets (% access)	1.2	1.0	3.3	10.5	39.1	11.0
Electricity (% access)	28.7	39.0	44.2	54.7	73.0	47.9
Bicycle (% access)	48.9	62.4	68.0	70.0	73.0	64.9
Motorbike (% access)	0.6	2.0	3.5	8.3	35.3	10.7

Source: VLSS 1992-1993, quoted from World Bank 1995c.

As expected, the poorest 20% of households are disadvantaged on all indicators shown in the table, compared to other socio-economic groups. Literacy rates and levels of education are considerably lower for the poorest than the richest households. As far as infrastructure is concerned, less than 1% of the poorest households have access to piped water and just over 1% to flush toilets, while the figures for the richest 20% of households are 37% and 39%, respectively. It is the same pattern for electricity, where 29% of the poorest households have access to electricity, while the figure for the richest households is 73%.

In many countries, female headed households are poorer than other households. This appears, however, not to be the case in Viet Nam when looking at their level of income only. According to a

gender-specific analysis of the data collected during the VLSS, 27% of all households were headed by women. They were found not to be economically worse off than those headed by men, but generally these women had a poorer health than other women (UNDP 1995a).

4.5.5 Causes of Poverty

Based on field research, UNDP concludes in its report from 1995 (UNDP 1995b) that there are five broad underlying causes of much of the poverty in Viet Nam:

- Isolation, including geographic, social and intellectual;
- Excessive risk from disease, unwanted births, poor crops, or livestock deaths;
- Inadequate productive resources due to a lack of labour, land, or capital;
- A lack of sustainability, mainly from shrinking forests;
- Inadequate participation in planning and implementing Government programmes.

Isolation
Many poor people are geographically isolated because of a poor rural transport network in many parts of Viet Nam. 7-8% of all communes cannot be reached by car (MOLISA 1997). Furthermore, the NRWSS survey and other studies show that many other communes do not have car access during the rainy season. This makes it difficult for people to get to markets to buy farm inputs and sell products, which is often essential to sustain and improve living conditions. Poor roads within and between communes also make it difficult to reach schools, health stations, agricultural extension centres etc. More than 8-9% of all communes have no primary schools, 7% no commune health stations and markets and 9% no electricity (MOLISA 1997). Isolation is also lack of access to relevant skills and to information. The latter is a special problem for many ethnic minority people who do not understand the Kinh language.

Excessive risk or vulnerability
Shortage of rice for several months a year is a major problem for many poor households. Many of the households classified as poor have to rely on their agricultural incomes and have no savings or reserves to draw on when there is sickness within the family, when the production fails or when livestock die. During the NRWSS survey, fluctuations in prices of coffee and other cash crops were found to be another major risk factor for farmers in some of the communes and small towns visited.

Vulnerable to fluctuations in coffee prices ....

Approximately 70% of the land in Doan Ket commune in Dak Lak province is used for the production of coffee, which is the main source of income. Other crops are pepper, corn, cassava and rubber. The average land holding is 0.25 ha (2.5 sao) per person, equal to approximately 1.25 ha. per household. The land is, however, not equally distributed. One of the poor households visited had thus obtained 0.4 ha. of land for coffee production when they arrived in 1992. Another household which considered itself to be medium to rich owned 11 ha. of land used for rubber and coffee production. Good profits can be made from coffee production, but household interviews also showed that big investments have to be made and that for the first five years after the coffee trees are planted the harvest is very small. Many households therefore have to work as labourers for richer households and at the same time take out big loans in order to buy food, fertiliser and insecticides and to pay for irrigation of the coffee fields. These investments leave households very vulnerable to fluctuations in coffee prices. The prices were very high in 1994-1995, but were reported to have decreased considerably over the last two years.

Diversification of agricultural production and/or having both farm and non-farm income would diminish the risk, but such investments are often too high a risk for poor families. Many poor families and individuals thus find themselves in a vicious circle.

Inadequate productive resources
This includes the lack of land or good-quality land, lack of capital or access to credit and lack of labour. During the NRWSS survey it was found that poor households often have no or very little land and had to work as labourers for their richer neighbours. This was both the case in the densely populated survey areas in Nam Dinh and in low-density areas like Dak Lak where the distribution of land is very unequal. In the mountainous areas there is a lack of good-quality land, which is a major problem for many households in the rural survey areas of Lai Chau. Lack of labour was found mainly to be a problem for female-headed households. Lack of capital is clearly a problem in some of the areas visited, especially for the poor households.

Lack of sustainability
The poorest segments of the population often live in areas where there are problems with soil erosion, deforestation etc. Part of their survival strategies is to exploit the natural resources in their areas, sometimes destroying them due to overuse. Commercial exploitation of forests is another problem leading to unsustainable use of natural resources. Pressures on natural resources are thus often aggravating poverty. Many of the people who live in the most vulnerable areas belong to the ethnic minority groups.

Lack of participation
Poor people are often without much direct influence in their local communities. They are normally not members of any of the decision-making structures, like the People's Council, People's Committee nor have they been appointed as village or ward leaders (see also chapter 5). According to UNDP's report on poverty, the main problem is, however, that most Government programmes have a low level of community participation. Poor people are thus seldom consulted about programmes from which they are supposed to benefit (UNDP 1995b).

4.5.6 Poverty Alleviation Tasks

The programme for Hunger Eradication and Poverty Reduction is part of the Government's overall socio-economic development strategy. According to the UNDP/UNICEF report "Catching Up" from 1996, there are three key elements in the latter, i.e. sustainable economic growth, stability and equity. All three elements are inter-linked. For example achieving equity - meaning minimum standards and equal access to emerging opportunities - directly supports both growth and stability, as well as being desirable in its own right (UNDP & UNICEF 1996).

The following are the tasks which MOLISA considers as important for the period 1997-2000 in order to reduce the present level of poverty (MOLISA 1997):

- Invest in infrastructure
- Re-distribute cultivated land and provide production tools to poor households
- Provide credit loans for poor households
- Support the poor in connection with education and health care
- Provide training and transfer new technologies to poor households
- Mobilise funds for poverty alleviation
- Establish systematic poverty alleviation structures from central to grassroots levels
- Integrate poverty alleviation programmes with other socio-economic programmes.

5. FAMILY AND COMMUNITY STRUCTURES

5.1 INTRODUCTION

The following chapter describes and analyses the structures within the family and at community level. The first section looks at family structures, with particular attendance paid to gender roles and relations within the family and the changes which are taking place. The following section gives an overview of the local administrative structure, including the level of community information and participation, while the third section analyses the importance of traditional community structures, including the head of the family clan (mainly among the Kinh group), the "gia lang" among some ethnic minority groups and the religious structures. The fourth section focuses on mass organisations and their activities at community level, while the last section looks at other group formations and networks.

The chapter is based on the NRWSS survey in 9 provinces and various books and other documents analysing the development of family and community structures over time. Information has also been obtained from discussions with Vietnamese researchers within these fields.

5.2 FAMILY STRUCTURES

5.2.1 Nuclear and Extended Households

The majority of households in Viet Nam are nuclear, i.e. consisting of wife, husband and their children. However, often children, especially sons, live close to their parents' house and have very close contacts to them. Furthermore, there is reported still to be a substantial number of extended households. The 1994 Inter-Censal Demographic Survey (VNICDS) found that the proportion of extended households was nearly 30%, with a variation from 27% in the North to 33% in the South.

The VNICDS found a distinct difference between the North and the South regarding the head of the extended household. In the North the head of the extended household was more likely to be a member of the second generation (married child) than of the first generation (parent or parent-in-law of married child), whereas in the South the head of the extended household is almost four times more likely to be a member of the first generation than of the second generation. This indicates that that elderly people might have a higher status within families in the South than in the North.

Most of the extended households are patrilineal, which means that most young couples live with the husband's parents. Some extended households are, however, matrilinear, mainly among ethnic minority groups in the southern and central parts of the country. Here, normally, the young couple live with the wife's parents.

5.2.2 Head of Household

In Viet Nam only one person can be registered as head of the household. Normally, the head of household has the main responsibility for external contacts and decisions. Land is also allocated to the head of household, who receives a land-use certificate (the so-called "red book."). This is often used as a collateral to get a loan from e.g. the Agricultural Bank.

Most households in Viet Nam are headed by men. The 1994 VNICDS showed, however, that the male headship rates do not exceed 85% at any age (GSO 1997b). This is a relatively low figure compared to many other countries. According to a gender-specific analysis of the data collected in

the Viet Nam Living Standards Survey (VLLS) in 1992-1993, the number of households headed by women was even higher, namely 27%. Two thirds of these were either divorced, widowed, never married or their husbands were absent, while the husbands were present in one third of the female headed households (UNDP 1995a).

According to the GSO, a likely reason for the relatively high number of female-headed households is that the oldest surviving male or female is often declared the head of the household. As mentioned above, this might be more common in the South than in the North. The importance of age is supported by the fact that the majority of the female heads of households are aged 50 years or above, which is the age group with most widows. The VNICDS found that the number of households headed by women is higher in urban than in rural areas.

5.2.3 Gender Relations within the Family

According to several researchers, the traditional Vietnamese (i.e. Kinh) family and whole society is strongly influenced by Confucianism after more than a thousand years of Chinese rule. One of the important elements of Confucianism is the maintenance of social peace and harmony. The most important prerequisite for harmony, according to Confucianism, is obedience. For both men and women this means obedience to their parents and to relatives who have a higher position within the family clan (see also section 5.4). For women this also means obedience to men; a woman has to obey her father before marriage, her husband after she is married and her son after the death of her husband (UNDP 1995a). Mutual responsibility and solidarity are very important characteristics of the traditional Vietnamese family. Furthermore, high importance is attached to sons. Only a son can ensure the continuation of the lineage as only he can practice ancestor worship and ensure the continuation of the blood line. Furthermore, he inherits property from parents and other family members. Other researchers see the Confucian influence as more vague (Various articles in Liljestrom et al. 1991).

The Vietnamese family is, however, not a static institution, but has undergone many changes during the last 40-50 years. Gender relations within the family have also changed. Today the contribution of women to the family economy is at least partly recognised and many women have also got a significant influence on household decisions. In addition, several laws have been enacted to give women equal rights with men, e.g. in respect to inheritance.

The NRWSS survey in 9 provinces showed that generally the division of labour within the household is gender-based, i.e. men and women have different roles and responsibilities within the family. In the provinces in the North and Central parts of the country it was found that both women and men do agricultural work. However, normally they have different tasks, with men being responsible for the heavier work, while women do the lighter agricultural work as well as looking after children and household work. As in many other parts of the world, women were found to have the main responsibility for the collection of water and for the health of the family. Sometimes, children, especially daughters, assist their mother collecting water.

Some men and women share both the work and household decisions.....

The following is from an interview with a woman from the H' Mong group in Toa Tinh commune in Lai Chau.

"You ask me who does the work in my house. My husband works for the Government as commune cultural staff and gets a salary, but he also does agricultural work. I do not know how much land I have, but I know how many kilograms of rice I need for sowing. It is 30 kilograms of paddy. My husband cuts the grass and clears the land, I do the sowing. He works for the Government half day, then goes to the farm. I also take care of the children and collect water. My daughter now can help me collect water from the spring. She takes 2 bamboo containers and carries them on her back. My house is not a rich house, it does not have any facilities. Both I and my husband plan and do the farm work and we built this house together."

In the three provinces visited in the South, the division of labour was found to be significantly different from the situation in the Northern and Central provinces. In the South, men were found to do the main part of the agricultural work, while women are mainly responsible for the house work and sometimes some light work in the fields. There was, however, a difference between poor and more affluent households. Women from more affluent households were most likely to concentrate on looking after the children and house work, while most poor women also work in their own fields and/or as agricultural labourers.

As mentioned in chapter 3, the seasonal migration of men to urban and also to other rural areas is high. Interviews and group discussions in NRWSS survey areas showed that often the work burden of women has increased considerably in this connection, as they have to do all the work in the fields and also the house work. At the same time, many women were said to have gained more influence on decisions within the family, when their husbands are away for long periods of time. A number of women mentioned that they make many everyday decisions themselves, but that they have to wait until their husbands are back home, if major decisions are to be made on e.g. repair of the house and other investments.

It appeared to be fairly common that husband and wife discuss before major household decisions are made. Sometimes, decisions are made jointly, as in the case story from Lai Chau. In many cases, it appeared, however, to be the husband who makes the final decision on e.g. major investments.

The husband makes the important decisions ....

The following is from an interview with a 42 year old woman in Xuan Tay commune in Dong Nai province.

"There are four people in my family: my husband, my daughter, my son and myself. We have lived here since 1993 when we got married. My husband had already got some reclaimed area in 1982 or 1984; now we have 1 hectare for cultivation of corn. Last year we only got 5 tons of corn because of the lack of water - normally we get 7 tons. We also grow green beans and soy beans. In my family, my husband does everything in the field. I don't know about farm work. I only look after the children and do the cooking and washing. I manage the household money, but if we need to do anything important, then we discuss with each other before my husband makes the decision. I think that it is good for a family to have only one boss who is the husband."

Women's influence on household decisions were reported to differ among the ethnic minority

Central Highlands and the Kho'Me groups in the South, have a matrilineal family structure. In the traditional Ede family, women are the heads of households and lineages and are also the "owners" of the land. Here daughters are also preferable to sons (T.N. Mlo).This means that women have a strong position within the family and much influence on household decisions. In Soc Trang, some women from the Kho'Me groups were reported still to have a higher position within the family than their husbands. Among other ethnic minority groups, the family structures are reported to be rather patriarchal.

5.3 LOCAL ADMINISTRATIVE STRUCTURES

5.3.1 Background[4]

From 1959 to the beginning of the 1980s co-operatives were very important parts of rural life, playing a major role in the management and organisation of all activities in the community. They were organised as units of collective production in rural areas, especially in the North of the country, with responsibility for agricultural production, for construction of infrastructure by mobilising local labour and also for the budget which was based on the collective fund as well as contributions from other organisations. Although, theoretically, the Commune People's Committee was the most important administrative structure at grass root level, it had much less influence on the life of the local community than the co-operative had. During this period, the local mass organisations mainly played a supportive role for the co-operatives. They were part of the state structure, with the special responsibility of motivating people to participate in different activities.

After the introduction of "Khoan 100" (new contract system for production) in 1981, and especially after this had been reinforced by "Khoan 10" in 1988, the economy in the rural areas changed significantly. The household became the independent production unit in rural areas and the roles and responsibilities of the co-operatives decreased. Instead the Commune People's Committee now play a much more important role in rural areas.

5.3.2 People's Council and People's Committee[5]

The People's Council is the highest authority in the commune and is elected for a five year period. Its size depends on the population size of the commune. The People's Council is composed of representatives from political and administrative bodies as well as from mass organisations. Normally, the Council meets four times a year to make decisions and review the report of the People's Committee which is responsible for the day-to-day administration.

The People's Committee has taken over many responsibilities from the co-operatives. It manages land and other natural resources, collects taxes, takes care of social welfare and prepares development plans and projects for the People's Council to approve. It carries out the administrative, political and economic decisions of the People's Council, but is also a fairly independent body.

5.3.3 Head of Village/Ward

The head of village/ward is an official position in all rural and urban areas in Viet Nam. Most of the heads of villages/wards are men. In the administrative structure he is the link between the commune administration and the local community. He is thus the lowest representative of the state administrative system at grass root level and co-operates closely with the Commune People's

[4] The following section is based on two sources (1) the National Centre for Social Sciences and Humanities (NCSSH) 1994 and (2) GSO 1995b.

[5] This section is based on a survey carried out in seven provinces in 1996 (Carl Bro Management 1996).

Committee for dissemination of information, implementation of decisions and activities, mobilisation of local contributions etc.. He is, however, also the highest representative in local community matters He is thus involved in settling local disagreements and solving local problems based on traditions, customs and the regulations of the village or ward. To some extent, the head of village/ward is responsible for reconciling the state law and "traditional rules and regulations". As mentioned earlier, he is a link between the state and local communities.

The head of village is important for settling disagreements ...

The following is from an interview with a man in in Xuan Hiep commune, in Dong Nai province.

"The head of village is important for my village. My family and I have lived here since 1970 and know Mr. San as the head of village for about 20 years. There is lack of land in the village so the houses are very close together. Therefore, it is not easy to avoid disagreements and disputes. A neighbour built a simple latrine and dug a drain close to my house. This made it unclean around my house with a bad smell, flies and mosquitoes. I asked him to change and he said "yes" but nothing happened. I requested the head of village to help. He asked the neighbour to come to a meeting to discuss the matter. Both the neighbour, the head of village and I attended the meeting. We reached an agreement with the neighbour that he should clean the drain and move the simple latrine to another place far from my house and also far from other houses. This should be done three days after the meeting. Mr. San did not talk to my neighbour as a man who is doing an official assignment. He talked to my neighbour as a villager to a co-villager. My case is not the only one. People respect him very much because he is an elderly man and has good behaviours both towards elderly and young villagers."

The head of village/ward organises community meetings and also has to report on the current situation in his village/ward at monthly meetings with the Commune/Town People's Committee and other heads of village/wards within the commune/town.

The head of village/ward is sometimes elected at a village/ward meeting and later approved by the Commune People's Committee and the Communist Party. In other cases, a candidate is selected by the People's Committee and the Communist Party and approved at a village/ward meeting. In recent years, the heads of village/ward have got an allowance for their work. However, this allowance is not sufficient for them to live on.

The NRWSS survey in nine provinces showed that generally the head of village/ward is a very important person in community matters. Many people mentioned that they will go to him to discuss all types of problems, including problems related to water and sanitation. They found it easier and more convenient to meet and discuss with the head of village/ward than with the Commune People's Committee. In some of the survey areas, informants said that they prefer the head of the village/ward to solve problems; alternatively they would go to the Commune or Town People's Committee.

5.3.4 Community Information and Participation

The amount of information provided to local communities about state policies and other decisions and activities differed in the NRWSS survey areas and so did the means of communication The following appears, however, to be fairly common "procedures".

Regular meeting are held at commune level between the Commune People's Committee, the Chairman of the Communist Party Unit and heads of mass organisations and heads of villages/wards. In some of the areas, where religion is important or where there are many ethnic minority people, local authorities invite the "gia lang" or religious dignitaries to the meeting. Following this, meetings are then organised by the head of village/ward at community level, often

in close co-operation with mass organisations and/or the Communist Party. In some cases, representatives from the commune authorities participate in these meetings. In some survey areas mass organisations also hold separate meetings to inform their members about different policies. Another means of communication was found to be the loudspeaker network. Further details about sources of information is contained in chapter 11.

The NRWSS survey showed that people were most interested in attending meetings related to the economic situation of the household, such as production and taxation. In several communes, the heads of villages mentioned that the attendance at meetings is often low, even when only having two or three meetings each year. Lack of time due to work is one frequently mentioned reason. In remote mountainous areas, the distance to meeting venues is another reason for the low attendance and low level of information. The main purpose of many of the meetings at village/ward level is to provide information and not to involve local residents in setting priority for improvements in their own areas. However, the villages are normally quite small settlements and most people know each other. Consequently, people appear to have a fair amount of influence on local decisions and priorities through more informal discussions with the head of village, the Women's Union and other mass organisations.

There is a long tradition in Viet Nam for another type of community participation, i.e. community self-help activities, where neighbours help each other with house construction, digging of wells, in connection wedding and funeral ceremonies etc.. Exchange of labour also takes place in connection with agricultural work. A socio-anthropological study in a village in the Red River Delta (M.V. Hai et al. 1996) showed that around ¾ of the households interviewed exchange labour with other households when irrigating their fields. This co-operation is both between relatives, neighbours, villagers in the same hamlet etc. and is not necessarily done on a one-to-one basis. This means that households which are short of labour sometimes get assistance from other households without having to provide the same amount of work later.

As a continuation of the tradition of community co-operation, contributions to improve local infrastructure are common. The contributions vary from commune to commune; they are often made in the form of labour, but also sometimes in the form of money. In the NRWSS survey areas it was found that most community contributions are made to the construction and maintenance of road systems, electricity and schools. After "doi moi" the budget for upgrading rural infrastructure was reduced, which means that community contributions have become more important. It was found that sometimes local residents are involved in decisions about the level of contributions. However, this is not always the case. In some of the survey communes, the People's Committee reported that there have been substantial community contributions for e.g. the construction of roads, school class rooms and loudspeaker systems. In other survey areas many people complained about the many contributions they have to make.

Many contributions to improve the infrastructure ...

The following is from an interview with the Chairman of People's Committee in Cu Pong commune, Dak Lak province.

"We have to contribute to a lot of things such as part of the costs for installation of electricity, improvement of village roads, building of a school, and the fee for "social labour" ("lao dong cong ich"), etc.. We want very much to have electricity, so minority households have had to contribute about VND 1.5 million and Kinh households VND 2 million. So far, around 30% of the households in the village have paid the fee. Others are too poor. Construction of roads is also very expensive. I wonder whether people, especially Ede people, will be able to contribute. I know them. They want to have good roads in order to sell coffee, but they cannot pay for improvements. They can only contribute with labour for the construction."

Poor households, war veterans, households which have lost close relatives in the war, elderly people etc. ("gia dinh trong dien chinh sach") are sometimes exempted from making contributions or contribute less than other households.

5.4 TRADITIONAL COMMUNITY STRUCTURES

5.4.1 Head of the Family Clan[6]

There are normally at least two family clans in one village, but often more. The head of the family clan ("truong ho") is part of the traditional structures, mainly in rural areas. The head of the family clan is always a man. He is particularly important in lowland and some of the highland areas, mainly among the Kinh, but also among some of the other ethnic groups.

Each family clan usually has a special house ("nha tho ho") for worshipping ancestors from recent generations. In the older society, the head of the family clan played a role as organiser of meetings for members of the same clan, where problems such as disputes and disagreements between members would be solved. He was also responsible for organising different festival days for the family clan such as annual funeral ceremonies for ancient ancestors. He would make the final decision in many matters and advise family clan members on how to carry out these decisions. He represented the clan in discussions with other heads of family clans in the village.

In the collective period, the role of the head of the family clan declined. However, in recent years - after introduction of "doi moi" - the position seems to have increased in importance. At present the head of the family clan might not be so important in connection with production activities as he used to be, but more in relation to social and cultural matters. He is still the person with whom many people want to meet and discuss if there are problems within the family as well as in the local community. Often he also has a special responsibility in ensuring that elderly clan members are taken care of.

Among nomadic ethnic groups in the northern mountainous areas, the head of the family clan is also the person to decide when and where to move.

5.4.2 "Gia Lang"

The "Gia Lang" is the highest position in traditional ethnic minority communities in the Central Highlands. Similar positions are found among other ethnic minority groups, e.g. the H'Mong in the North (B.V. Dang (ed.) 1996). The "Gia Lang" is always a man, although several of the ethnic minority groups in the Central Highlands are matrilineal. He is the person with most prestige and respect within the local community. He is involved in management of community affairs and acts as a judge by advising people on how to solve disputes and disagreements. The "Gia Lang" also arranges a special festival day where people in the village pray for good water and health for everyone. On this day, people help each other clean the area around the spring before they have a party.

According to key informants during the NRWSS survey in Dak Lak province, the position of the "Gia Lang" is not handed down based on blood relations; instead it is passed on to a person who is considered to have the most appropriate abilities.

In some areas, traditional customs and habits are relatively strong and villagers belonging to ethnic minority groups live according to and obey the traditional norms and regulations. The head of village, together with other local authorities, is still responsible for information and implementation

[6] Several researchers also refer to the head of the family clan as the head of the family name.

of state policies and regulations, but is often not much involved in the management of local community matters (B.V. Dang (ed.)1996). Sometimes, people believe more in the "Gia Lang" than in the local authorities when problems in the commune are to be solved. Often, local authorities collaborate with the "Gia Lang" in connection with information about state policies, campaigns and other local activities.

The "Gia Lang" is important in Ede communities ....

The following is from an interview with the Deputy Director of CERWASS in Dak Lak Province.

"In Ede communities, the "Gia Lang" is a very important and highly respected person. He keeps a high position in the village, and people go to him when they have problems in order to get his advice and assistance. He is also involved in settling private disputes - he is a kind of judge. Therefore, you know, in Ede communities the number of women who are beaten by men or have problems with drunken men seems to be lower than among other ethnic groups such as the Kinh. I believe that the main reason for this is that local people obey the "Gia Lang".

The following is from an interview with the Vice-Chairman of the People's Committee in Krong Buc District in Dak Lak Province.

"The "Gia Lang" is a very important in the local communities. If you want to inform people about state policies or make campaigns, you need to invite him to collaborate with local authorities. This is one of the lessons we have learnt after working many years with local communities, especially ethnic minority groups".

5.4.3 Religious Structures

Viet Nam is a multi-cultural and multi-religious society. Religious leaders like the head of Kho'Me pagodas, Catholic and Protestant priests and Hoa Hao and Cao Dai dignitaries are thus reported to play very important roles in local community matters, especially in rural areas and many small towns.

Most Kinh people worship ancestors in their homes, where they have a sacred place for this ("ban tho"). Worshipping ancestors is believed to bring happiness and blessing. In some areas in the lowland, many people pray both to their ancestors and to Buddha. They go to pagodas and temples in the first and fifteenth days of the month according to the moon calendar, like Buddhists do.

Buddhism is important especially in the South of the country. During the NRWSS survey, it was found that Buddhism is common among both Kinh and Kho'Me people in Soc Trang, where the two groups have their own separate pagodas. Buddhism is a very important part of the lives of Kho'Me people. Young men are encouraged to stay in the village pagodas for at least three years, where they study languages and religion and also work. The head of the pagoda was said to be a very important person in the village. He holds religious services at the pagoda, where information is provided on religious and other matters, including health, water and sanitation. Many festivals and activities are arranged by the pagodas and people were reported often to spend much money on these activities.

Around 10-12% of the population in Viet Nam are Christians (mainly Catholics, but also some Protestants) who mainly live in the South and to a smaller extent in the coastal areas of the Red River Delta and in the Central Highlands. In many of the Catholic communities within the NRWSS survey areas the church is reported to have much influence on daily life and community activities. This is for example the case in Dong Nai, where 33% of the population are reported to be Catholics, with the figure being as high as 85% in one of the survey communes. The Catholic

father was said often to provide different types of information, sometimes including some on water, sanitation and the environment The solidarity among Catholics was reported often to be higher than among other groups.

Catholic dignitaries are important...

The following is from an interview with key informants in Xuan Hiep commune, Dong Nai Province.

"The Catholic fathers are important for Catholic people in the commune. There are two parishes in the commune at present and in each parish there is an "executive group" which is responsible for religious services. The heads of these two groups are members of the Committee of the Commune Father Land Front and one Catholic father is a member of the Committee for the Father Land Front in the district.

When the Commune People's Committee has any problems relating to state policies, and even activities related to water and sanitation, we contact the Catholic fathers/dignitaries and ask them to inform people in connection with religious services, etc. People then seem to understand all things more clearly and more easily.

Catholic fathers/dignitaries are very important person in the local communities, acting as advisers in many connections. I also think that there is more solidarity among Catholics than among other groups within the community because of this. It is more common for them to assist and share with each other. It is not only in this commune, but in a lot of other Catholic communities".

There are also other religions in Viet Nam, such as Hoa Hao and Cao Dai. Many of the leaders of these other religious groups are also said to have much influence on individuals and community matters.

5.5 MASS ORGANISATIONS

5.5.1 Roles and Responsibilities

There are a number of mass organisations in Viet Nam, including the Fatherland Front, the Women's Union, the Youth Union, the Farmer's Association, the Veteran Association, the Red Cross and the Elderly Association. After introduction of "doi moi", these organisations have changed somewhat. They are still state or political organisations which are involved in public campaigns and in the implementation of state policies. Often they have a supportive role for local authorities in the implementation of Government policies and programmes. Some of them have, however, also a new function as facilitators in connection with economic activities, especially in connection with provision of credit facilities for individual households.

The NRWSS survey showed that the level of activities of the mass organisations vary. In some areas especially the Women's Union was found to be very active. However, in other survey areas, e.g. in Quang Nam, several people mentioned that they do not know much about the mass organisations and their activities and that they are not really interested.

5.5.2 Women's Union

The Women's Union is generally considered to be the most active mass organisation at community level. This was also found to be the case in the nine provinces visited in connection with the NRWSS survey. The Women's Union has an organisational network from central to village and ward levels. The structure of the Women's Union, as well as that of other mass organisations is described volume 2 of the Mid Term Report. In many of the NRWSS survey areas, a considerable number of women were found to be involved in activities of the Women's Union. According to a household survey in 7 provinces carried out in 1996 in connection with a study of the fisheries sector (Carl Bro Management 1996) a total of 60% of the households had females who were active in the Women's Union. The area with the highest rate was found to be the North with more than 70%, declining to 60% in the Centre and 45% in the South - all impressive membership rates for any organisation. The same household survey found that 35% of all the surveyed households' female members participated in organisations that specialise in production activities, most often the Farmers' Association, again with the largest participation in the North. The level of organisation was thus high among women, with the Women's Union having the highest membership rates.

The Women's Union is involved in many activities aimed at improving the position of women economically and socially. Activities carried out by the Women's Union in the 9 NRWSS survey provinces was found to focus on the following topics:

- Saving and credit groups: The Women's Union has facilitated the establishment of saving and credit groups, consisting mainly of poor women. Most groups were reported to consist of 8-15 women. The groups make their own regulations for savings, loans, interest rate, repayment period etc. The savings are used for extension of loans to members of the group. These are normally small loans for income generating activities. In a few of the provinces, loans are also provided by the saving groups for constructing latrines, bathrooms and the purchase of hand pumps. The saving and credit groups appeared to be popular in many of the NRWSS survey areas. According to the Women's Union in Nghe An province, women like to borrow money from the saving and credit groups because of the simple procedures, the flexible repayment period and a reasonable interest rate.

- Facilitation of loans: The Women's Union has borrowed money ("tin chap") from the Bank for the Poor/Agriculture Bank to re-lend to poor women in order to enable them to improve their household income; the women are thus able to borrow money without any collateral, as is the normal requirement from the Agriculture Bank. The interest rate was reported normally to be around 1% per month, while the repayment period was found to vary; repayments are sometimes made in instalments. Funds have also been received from NGOs, UNICEF and the Central Women's Union for credit schemes. Different credit models, as the Grameen Bank and the UNICEF models, are being tested. The Women's Union's involvement in administration of revolving funds for construction of latrines is described in chapter 8. Generally, women were reported to be very interested in getting loans through the Women's Union. The repayment rate was reported to be close to 100%.

- Information activities. The Women's Union is involved in a number of programmes aimed at improving women's knowledge. Most information activities in the nine NRWSS provinces focus on mother and child health care, family planning and prevention of common diseases. The UNICEF-supported F67 project, where the book "Fact for Life" is used to provide information and train women, was found in many of the provinces. The information provided on water and sanitation appeared to be limited in most of the survey communes and towns (see also chapter 11).

Where possible, the Women's Union tries to integrate its activities at community level. One example is that the heads of saving groups are also often motivators in connection with vertical health programmes.

In some of the nine NRWSS survey provinces, the Women's Union mentioned that it can be difficult to organise community meetings and activities, particularly in remote upland areas. In some areas, meetings are held every month but in most survey areas meetings were reported to be held quarterly. In some communes/villages meetings are organised in the middle of the day, as some women find it most convenient to attend meetings at this time of the day, i.e. after lunch and before they return to their work.

5.5.3 Other Mass Organisations

The Youth Union is relatively active in some of the NRWSS survey areas. Members of the Youth Union are usually involved in information activities, often making announcements on the loudspeakers in the commune/village. With a few exceptions, like e.g. Soc Trang, the involvement in water and sanitation related activities at commune and town levels appeared, however, to be limited (see also chapter 11).

In some of the NRWSS survey provinces, the Farmers Association was considered to be one of the most active mass organisations. It has mobilised farmers to participate in different activities, mainly in connection with agricultural extension, integrated pest management, etc. Sometimes the Farmers' Association is also involved in the facilitation of loans from the Agriculture Bank.

A household survey in 7 provinces carried out in 1996 in connection with a study of the fisheries sector (Carl Bro Management 1996) showed a much lower organisation membership rate for males than for females. 38% of the surveyed households had men who participated in production-related organisations, i.e. the Farmers' Association, while 90% of the women were found to be members of an organisation, mainly the Women's Union.

5.6 OTHER GROUP FORMATIONS AND NETWORKS

5.6.1 Groups of Households

Groups of households are part of the administrative system in urban areas, where they are at the level below the wards. Groups of households also exist in rural areas, but here they are formed for specific purposes. In the NRWSS survey areas it was found that groups of households had mainly been formed in connection with the payment for electricity, but also sometimes in connection with other activities, e.g. the collection of solid waste in more densely populated areas or small towns.

It appears quite common in both lowland and highland areas, which are covered by the national electricity grid, to have groups of households being responsible for the collection of payment. The fee to be collected among the households is based on the electricity consumed by the group according to a group meter. In addition to this, each individual household often has its own meter. Sometimes, a connection was found to be shared by two households. Often the groups also have some responsibility for maintenance of the smaller electrical lines. In other cases, they contact the local electricity board when there are problems with the electrical lines or boxes. Normally one group consists of around 10 households, with one person nominated as the head of the group. The group appears often to set its own rules as to when to collect payment; in some areas it is monthly and in other areas quarterly. The head of the group is responsible for collection of the fees and for passing the money on to the local electricity board. In some of the survey areas, he receives an allowance or pays a lower electricity fee than other households.

Groups of households are responsible for payment of electricity ....

The following is from a group discussion among women in Dong Dat commune in Thai Nguyen province.

"There used to be a complicated procedure for the monthly payment for electricity. Every household has its own electric meter, but earlier we always had to pay more than the fee which was calculated from the meter. There were many reasons for the extra payment, such as loss of electricity due to long electricity lines and some people got electricity before meters (illegal connections). We also had to pay for people who take care of electricity in the village, etc. To make the procedures for collection of payment for electricity easier, groups of households were set up. Each group has 7-10 households who are living near each other. One person has been nominated as the head of the group and he is in charge of everything related to electricity within his group, including the collection of payment and contact with the electricity agencies".

5.6.2 Networks of Volunteers and Motivators

In some of the NRWSS survey areas, networks of volunteers and motivators have been established. This was found mainly in connection with health care programmes, but also sometimes in connection with agricultural extension and the integrated pest management programme. A network of motivators has been established in connection with the WATSAN programme. This is described in chapter 11.

In parts of the survey areas in Thai Nguyen a network of village health volunteers has been established in collaboration with NGOs. In several of the other NRWSS survey provinces there is a network of "three colour clothes" motivators ("3 mau ao") which has been established by the local authorities in collaboration with the Women's Union. These motivators are involved in three health programmes, i.e. population and family planning, mother and child health care and general health care. There are also motivators in connection with individual vertical health programmes. Population motivators have thus been appointed in all, or almost all, communes. In some communes and small towns, there are village health workers. They have received more training than the volunteers and motivators, who only receive very basic training on health care. None of the networks are directly involved in activities in relation to water and sanitation. However, in connection with other activities they were reported sometimes to provide some information about water and sanitation. This was for example the case in Dong Thap.

Most of the village health volunteers, the motivators and the village health workers are women. Many of them are also active members of the Women's Union. They do not receive any salary as such, but often some incentives in the form of allowances, exception from community labour days, free health insurance etc.

Some evaluations have been made of the functioning and effectiveness of the village health volunteer network. In some of the evaluations, local villagers as well as local authorities have recognised the activities of volunteers as being very useful. However, the sustainability of the volunteer network has been questioned, as support from NGOs is likely to stop at some point.

6. RURAL DEVELOPMENT AND COMMUNITY PARTICIPATION

6.1 INTRODUCTION

The following chapter focuses on the Government strategy for rural development and particularly the degree of community participation in decision-making, planning, implementation and maintenance.

Volume 2 of the Mid Term Report contains an outline of the goals, approach and priorities contained in the "Draft Plan for Rural Development in Viet Nam for the Period 1996 - 2000 and up to the Year 2010". The first section of this chapter summaries the main principles of the draft plan, with particular focus on community participation and poverty alleviation. This forms the background for the following sections which look at how rural development projects have been or are being implemented in practice. Two projects have been selected in this connection; (1) "Assistance to Human Settlements Planning and Development in Rural Areas", supported by UNDP-UNCHS and implemented in the period 1990-1992; and (2) Rural Infrastructure Development Fund (RIDEF) in Quang Nam-Danang Province, supported by United Nations Capital Development Fund (UNCDF) and to be implemented in the period 1996-2001. The two projects have not been reviewed in detail. The intention has only been to learn lessons for the future NRWSS strategy. The final section of the chapter contains an analysis of, and comparison with, the community participation approach used in the UNICEF-supported water and sanitation (WATSAN) programme.

The chapter is mainly based on a review of reports and other documents. Discussions have also been held with CERPAD staff who have been directly involved in the project "Assistance to Human Settlements Planning and Development in Rural Areas".

6.2 DRAFT RURAL DEVELOPMENT PLAN

6.2.1 Goals and Principles

The first document concerned with rural development was issued in May 1996, called the "Draft Plan for Rural Development in Viet Nam for the Period 1996 - 2000 and up to the Year 2010".

The overall goal of the rural development plan is to enable the rural population to get its share of the economic and social development, thereby reducing the gap between urban and rural areas and making social development fairer and more stable. This will also put rural areas in a situation to contribute positively to the general development of the Vietnamese economy.

The plan identifies the following five basic principles in connection with rural development:

- Rural development is an important component of the socio-economic development strategy for the whole country and is to be given high priority in the period 1996 - 2000.
- A rural economy characterised by diversity, commodity production and external orientation should be developed, based on the comparative advantages of each region.
- A civilised and modern rural society should be established step by step, by improving the welfare of rural residents and by ensuring justice, democracy, security and order in rural areas.
- Rural areas with a protected and improved natural environment should be developed.
- Rural development is basically the responsibility of people. The state should provide positive support.

6.2.2 Approach and Priorities

The draft rural development plan includes (1) ten sector programmes, where priorities will be set at national and regional levels; (2) regional development programmes to promote development in particularly disadvantaged areas; and (3) rural development projects formulated and implemented by communes and villages themselves, based on needs identified by local residents. The Government is to make arrangements, provide guidelines and support with techniques and funds. Local rural habitants are mainly to contribute with labour. The Government should also create an enabling economic and legal environment. The intention is to have a combination of investment and assistance from the Government and positive participation of all rural inhabitants.

Development of rural infrastructure is one of the ten sector programmes listed in the draft plan; rural infrastructure here includes water supply, but not sanitation. Households and local communities, the Government and the private sector are encouraged to participate in improving the water supply situation under the motto "Government and people work together". Training, information and awareness activities and technology transfer are mentioned as part of the water supply component.

Poverty alleviation is seen as a cross-cutting issue in connection with all sector and regional programmes. It is seen as particularly important to have projects for specially disadvantaged areas. The poverty alleviation tasks which MOLISA considers important for the period 1997-2000 appear all to be integrated in the plan (see also chapter 4 of this report).

Community participation is also given some weight in the new draft plan. An example of this is that some rural development projects should be formulated and implemented by communes and villages themselves, based on needs identified by local residents. There is, however, no description or guidelines on the approach to be used in this connection.

6.3 HUMAN SETTLEMENTS DEVELOPMENT PROJECT[7]

6.3.1 Background

As mentioned earlier, the term "rural development" is fairly new in Viet Nam. However, programmes and improvements have been planned and carried out in rural areas before the first draft of the rural development plan was prepared in 1996. This includes improvements to rural infrastructure.

The project "Assistance to Human Settlements Planning and Development in Rural Areas" was designed in the mid 1980s with support from UNDP and UNCHS. The terminal report for this project mentions that until 1987, the planning of infrastructure in rural areas was done in a rather centralised and top down way. The Institute for Urban and Rural Planning of the Ministry of Construction (MOC) prepared physical development plans for each district, which was then responsible for implementing the plan. No detailed feasibility studies were made and local communities did not participate in the planning and implementation process. The efficiency of this planning approach is said to have been very low. There was a lack of co-ordination among sector organisations and very little attention was paid to small scale rural infrastructure development.

The project "Assistance to Human Settlements Planning and Development in Rural Areas" was the first attempt to introduce a new methodology for rural infrastructure planning and implementation with the use of a more participatory approach. In 1990 the Centre for Residential Planning and

[7] The following is based on the Terminal Report from CERPAD in October, 1992.

Development (CERPAD) was established within MOC for this purpose. The project was implemented during the period 1990-1992.

6.3.2 Objectives and Approach

The project had four main objectives:

- to enhance the capacity of MOC to plan and implement plans for improving human settlements in rural areas;
- to provide advisory service on the use of appropriate technology for infrastructure development in rural communes;
- to co-ordinate infrastructure development activities and their funding in pilot communes;
- to increase the knowledge transfer about human settlements development in rural areas to staff of MOC.

The project included construction of infrastructure, with special focus on roads, schools, health stations, water supply and sanitation, and the development of primary and secondary industries. The project was implemented in six pilot communes in different geographical regions and in one province as an integrated planning process for the whole province. The target group for the project was the rural population, especially its poorest segments. The focus on the poor was reflected in the criteria used for selection of pilot communes. The direct beneficiaries of the projects were the residents in the pilot communes and also the professionals at central and local levels who participated in the project and therefore benefited from the training provided.

A participatory planning and implementation approach was applied. Important elements of this were that

- No action is undertaken in a commune if it has not been requested by the commune through the planning process. This assumes that local residents have agreed on their own priorities before requesting assistance.
- No action is undertaken in a commune if the commune's residents have not agreed formally to contribute (labour or/and cash) to the construction of the suggested infrastructure.
- Local authorities (at province and district levels) are consulted closely during the planning process, e.g. in selecting the pilot communes.

According to the terminal report, the above approach had contributed positively to obtain a committed participation of local residents and authorities.

6.3.3 Achievements and Lessons

According to the terminal report, the project had achieved its four objectives. It had succeeded in changing its initial "master plan" approach, so that infrastructure development was based on the needs of the communes. It was the conclusion that:

- the project created a new rural infrastructure planning methodology, incorporating participation by commune members, and oriented towards low cost appropriate technology solutions to rural infrastructure problems;
- there were visible improvements in the pilot communes where infrastructure had been constructed, with 37% of the total costs covered by the budget of local authorities, while local residents had contributed with 35% of the costs; the household contributions in connection with water and sanitation improvements were reported to be around 50% of the costs.

One of the lessons mentioned in the terminal report is that more efforts should be made to involve women by using additional techniques at the planning, feasibility and evaluation stages.. One

suggestion is to form two "focus groups" when starting work in a commune; one group consisting of younger women and the other one of older women. This would be an attempt to ensure that women have the opportunity to express their views. It was also recommended that more female staff be employed by CERPAD.

Based on the success of the project, it was recommended that a Rural Infrastructure Development Fund (RIDEF) should be established with financial contributions from local sources (users, communes, districts, and provinces), central Government and donors.

6.4 RURAL INFRASTRUCTURE DEVELOPMENT FUND[8]

6.4.1 Objectives and Activities

The Rural Infrastructure Development Fund (RIDEF) Project in Quang Nam - Da Nang Province started in 1996. The planned duration is five years, divided into two phases. The Executing Agency is the Provincial People's Committee in Quang Nam - Da Nang. The project is supported by the United Nations Capital Development Fund (UNCDF) and also by sub-contracts with CERPAD and the Swiss-based NGO, Helvetas.

RIDEF is a "special facility" of the Quang Nam - Da Nang provincial administration and has two specific objectives:

- to alleviate rural poverty through investment in small-scale social and economic infrastructure in relatively poor and under-equipped rural areas of the province; and
- to increase the opportunities and responsibilities of lower levels of local Government and community groups (including farmers' associations, youth and women's associations) to plan and manage the development of local infrastructure.

RIDEF provides finance for the renovation and construction of rural infrastructure such as roads, bridges, culverts, schools, health stations and power supply. The project will be implemented in 115 communes in 15 districts of Quang Nam - Da Nang province. Each commune and district will receive support for a 2 year period for the implementation of so-called sub-projects or local projects.

6.4.2 The Approach

The project follows a so-called "participatory rural infrastructure development planning" approach, by using methods of "Rural Rapid Appraisal"(RRA) and "Participatory Rural Appraisal" (PRA). Two basic principles in this connection are to

- decentralise sub-project management to district, commune and community levels;
- mobilise the utmost participation of communities in all steps of the planning and implementation of rural infrastructure sub-projects.

The first step is to collect and process existing data on all the communes to be included in the project. RRA methods are also used in order to get new information on needs and priorities for upgrading of infrastructure and on the capacity of local residents to contribute to the proposed sub-projects. Communes to benefit from the RIDEF project are then selected based on several criteria, including geographical considerations, levels of income and infrastructure development.

[8] The following section is mainly based on the UNCDF & AIT Technical Mission Report from April 1997. Other reports have also been consulted.

The second step is to prepare feasibility studies for RIDEF sub-projects, using PRA methods. Problems and needs are analysed and prioritised at community level. The priority RIDEF sub-projects are identified and analysed by communes and districts themselves. A special form has to be filled and signed by the Chairman of the Co-operative and/or the Chairman of the Commune People's Committee, where they commit themselves to mobilise community participation and contribution in connection with the infrastructure works.

Commune and District Development Boards have been established as the "local planning authorities". Typical members of the Commune Development Boards are from the Commune People's Committee, different mass organisations and directly elected community representatives. The membership of the District Development Boards follow the same pattern, but include more technical staff from different departments at district level.

It has also been discussed to establish ad-hoc Project Management Boards for implementation of individual sub-projects. It is envisaged that these boards should consist of representatives of organisations and groups of beneficiaries who are directly involved in implementing operating and maintaining the infrastructure.

Guidelines have been developed to assist local authorities in implementing the project. These guidelines appear to have many similarities with the manual "Methodology on Rural Development Projects" prepared by MARD in December 1996. Social analyses and community participation are mentioned as important elements in connection with all rural development programmes and activities.

Training is an important part of the RIDEF project. Focus is on the training of district and commune staff in the use of participatory approaches in connection with feasibility studies and the design of sub projects.

6.4.3 Achievements and Lessons

The Technical Backstopping Mission, which visited the project in January-February 1997, expressed concern about the slow progress in the implementation of sub-projects. The planning process to select sub-projects had been done in a number of communes, but only a few feasibility studies had been completed and several of them were found to be in an unsatisfactory form. Implementation of local sub-projects had not started in any of the project communes. This means that there is a long gap between the meetings held in villages and communes to discuss priorities and the time when the villagers are to assist with construction activities.

The Mission also found some deficiencies in the planning process, particularly as far as community participation is concerned. Although some adjustments had already been made, the Mission found that there was still a need to streamline the local planning process. Two important issues were identified in this connection:

- How to ensure that the projects selected genuinely represent the views of the local people without an over-elaborate village consultation exercise? One of the problems mentioned in the mission report is that the RRA exercises have tended to lead to the compilation of a long wish list in each commune rather than pointing more clearly to priority projects in which villagers express their commitment in the form of resources.

- How can feasibility studies be carried out quickly and efficiently without sacrificing participation of the users? The long gap between identification and implementation of sub-projects was regarded as a major problem.

To increase community participation in all stages of the planning and implementation process, the Mission recommended that the Commune Development Board should comprise a majority of village representatives and that, after project selection, a representative of the user group be appointed chairman of the local Sub-Project Management Board.

6.5 COMMENTS AND COMPARISONS

International experience shows that community participation in the whole planning, implementation, maintenance and evaluation process is very important for the establishment of a sense of ownership and for the sustainability of interventions. The draft plan for rural development also emphasises the importance of community participation. It mentions for example that some rural development projects should be formulated and implemented by communes and villages themselves, based on the needs identified by local residents. There are, however, no guidelines on the approach to be used in connection with these small projects or in connection with the so-called sector and regional programmes. Water supply is one of the sector programmes included in the draft plan.

The experiences and lessons learnt in connection with the UNICEF-supported water and sanitation (WATSAN) programme are of particular interest for the NRWSS strategy. As described in the NRWSS evaluation of the programme, information, education and communication (IEC) activities at community level have become an important part of the programme. Most IEC activities are carried out by a network of motivators at village level. Many of them have been trained by UNICEF and the Women's Union, using the well-known PROWWESS training kit which focuses on participatory tools. Despite this focus on IEC activities and the use of participatory tools, there appears to be very little community involvement in the planning of actual improvements. The detailed planning - such as the final choice of technology and the selection of beneficiaries - is normally done by the People's Committee. There is reported sometimes to be discussions at community meetings etc. before decisions are made, but it does not appear to be very common. There is a fairly high level of community participation in the form of contributions in connection with the installation of hand pumps, construction of piped gravity schemes and latrines. However, it is often fairly affluent households who have benefited from the programme, because of the high contribution which has to be paid. There is very little experience with community based maintenance systems for gravity and other piped schemes, including community based payment systems.

The two rural infrastructure projects described in the previous sections of this chapter have both incorporated community participation as very important parts of their planning and implementation approach. The project "Assistance to Human Settlements Planning and Development in Rural Areas" was the first attempt to introduce a more participatory approach for rural infrastructure planning and implementation and included assistance to construction of different types of infrastructure. One of the interesting features of the project is that local residents were to agree on their own priorities, i.e. whether they wanted to have a better road, school, health station or improved water and sanitation facilities. The Rural Infrastructure Development Fund (RIDEF), which can be seen as a kind of continuation or further development of the first-mentioned project, also provides support to different types of infrastructure, with much emphasis on community participation in the whole process. The establishment of a fund for rural infrastructure development is one way of encouraging the setting of priorities at the local level, which might be of relevance in connection with the NRWSS strategy. It appears, however, that the participatory techniques used in connection with the project have not focused enough on priority setting and have been too time-consuming.

The two most important lessons from the two projects seem to be that;

- Mechanisms should be established to ensure that both women and men participate in the planning, implementation and evaluation of water and sanitation improvements. As women have the main responsibility for the collection of water and for the health of the family, it is of particular importance to ensure their participation in the whole process.
- Participatory methods and mechanisms should be kept relatively simple to avoid that the identification and priority-setting process becomes too long and also to avoid a long gap between the identification and implementation of activities. Simple guidelines should be formulated in this connection.

7. KNOWLEDGE, ATTITUDES AND PRACTICES ON WATER SUPPLY

7.1 INTRODUCTION

The following chapter focuses on rural and small town people's knowledge, attitudes and practices in relation to domestic water supply. The use of different water sources for different purposes, the access to water and the perceived water quality are described as is the present payment for water and the interest and demand for improvements. Regional differences and similarities are outlined and analysed and also differences between socio-economic and ethnic groups.

The chapter is mainly based on the NRWSS survey in 9 provinces. Not much information on knowledge, attitudes and practices in relation to water supply has been available from other studies. A limited number of other studies have, however, been identified and used.

Coverage figures on different types of water facilities are contained in volume 4.

7.2 WATER SOURCES AND USE

7.2.1 Several Water Sources

The knowledge, attitudes and practices related to water and hygiene are as diverse as the country itself. It is, however, a common feature in both rural communes and small towns that the same household often has several sources of water used for different domestic purposes. There are also sometimes seasonal variations in the type of water sources used for especially drinking and cooking purposes. When there is a shortage of rain water or sometimes well water during the dry season, some people have no alternative than to use water which is considered to be of inferior quality. Alternatively, they have to buy water or collect it from neighbouring areas.

The following table describes the main water sources used for (1) drinking and cooking and (2) washing and bathing in the communes and small towns visited in the 9 NRWSS survey provinces:

Table 11: Main Water Sources Used in the 9 NRWSS Survey Provinces

Province	For Drinking and Cooking	For Bathing and Washing	Remarks
Lai Chau, North West Mountains	Springs and streams	Streams	In the town dug wells and piped system
Thai Nguyen, North East Mountains	Dug wells and in highland commune also springs	Dug wells, stream and river	
Nam Dinh, Red River Delta	Rain water and village ponds	Dug wells and ponds	
Nghe An, North Central Coast	Dug wells and ponds	Dug wells, ponds and river	Rain water used in coastal commune
Quang Nam, South Central Coast	Dug wells	Dug wells	
Dak Lak, Central Highlands	Dug wells (Kinh) and springs (Ede)	Dug wells	Most dug wells are very deep

Province	For Drinking and Cooking	For Bathing and Washing	Remarks
Dong Nai, South East	Rain water and dug wells	Dug wells	
Dong Thap, Mekong River Delta	River and canal	River and canal	Drinking and cooking water often treated with alum
Soc Trang, Mekong River Delta	Rain water and drilled wells	Dug and drilled wells	Water vending common. In town also piped water

7.2.2 Dug Wells

The most common water source for domestic use in the rural communes and small towns visited in the 9 NRWSS provinces is dug wells. In several of the survey areas most households use dug well water for all domestic purposes, i.e. for drinking, cooking, washing, bathing etc.. This is mainly the case when people consider the quality of the dug well water to be good. In other areas it was found only to be used for washing and bathing. Often well water is used for drinking and cooking without any filtering or any other type of treatment.

Dug well water is better than piped water ....

The following is from the interview with one man in Du Town, Thai Nguyen province:

"Every two years my son and I clean out the mud from the bottom of our family dug well and replace it with gravel. In my experience this keeps the water clean. I like the dug well water, it is sweet, tastes good and is good for making tea.

I'm not interested in piped water. Sometimes when I visit relatives in Hanoi I think how badly off they are. They never seem to have water, they have to get up in the middle of the night and wait for the water to come on. The piped water also smells and here, with my dug well, we can get water whenever we want and are not dependent on anyone else."

In the survey areas in Quang Nam many people considered the quality of the dug well water to be poor because of a high content of iron and a bad smell. Here water is often left in a jar without cover for some hours or over night in order to get rid of the bad (sulphur) smell, before it is used for drinking and cooking purposes. In Quang Nam province it was also found to be common practice to boil water for tea and then mix the tea with fresh water in order to save time, fuel and labour to boil the tea. This type of water was believed to be safer than fresh well water and also to taste better.

Mixing fresh water with tea water is good ....

The following is from a group discussion with women in Ha Lam town in Quang Nam province. One woman said:

"We have no problem when drinking fresh water because we have already been immunised by fresh water. We do not like to drink rain water because this kind of water is contaminated by many things from the air and the roofs of houses, especially as air pollution from factories is increasing. We think that well water is cleaner than rain water, but its taste is not as good as rain water. Most people here like to drink tea water. Therefore we mix well water with tea water before drinking it. By doing this, we can reduce the temperature of tea water, so that we can drink it as soon as we have made the tea. Besides that, the bad taste of well water can be removed in this way. We think that it is very good for people who are thirsty after coming back from the fields during the summer season and who want to have tea water to drink".

Boiling of water for drinking purposes has been promoted for a number of years by the Government. At present most people are reported to boil their water, but many adults and children also drink unboiled water, especially when in the fields and at school.

In some of the densely populated areas, especially in small towns, people expressed concern that their well water might be contaminated by close-by latrines. Several of them, however, still used well water for drinking and cooking purposes. In other survey areas, where the well water is considered to be of poor quality, this was found only or mainly to be used for washing and bathing.

Most households using dug well water have their own dug wells, while those without a well or with insufficient water were found often to collect water from their neighbours without any payment. Most of the dug wells are open with a bucket and rope being used to draw the water from the well. Well water is thus often prone to contamination from leaves and dirt falling into the well and from the bucket and rope used for drawing the water. Often the bucket is left on the ground or the yard around the well. The degree of drainage and cleanliness around the wells was found to differ. There were pools of stagnant water around some of the wells, while other households had constructed concrete platforms and/or made small drainage channels to lead the waste water into the vegetable garden.

In some areas it has been necessary to construct fairly deep wells in order to get sufficient water all year round. This was the situation in Dak Lak. Several women mentioned that it is hard work for them to collect the water by using a bucket, rope and pulley. There appeared to be a trend among relatively rich households, in especially small towns and other densely populated areas, to invest in domestic hand pumps, electric pumps and sometimes internal piped systems.

Several ethnic minority groups do not want to drink water from wells, as groundwater in their view is not sweet and might be contaminated from dead human bodies and other unknown things. Some of them, however, use dug well water for washing and bathing. The Ede people in Cu Pong commune in Dak Lak were for example reported to have learnt to dig wells from Kinh people who migrated to the area and several of them now have their own wells or collect water from their neighbours' wells. However, they only use the well water for washing and bathing, while spring water is preferred for drinking and cooking (this is described in further details below).

7.2.3 Rain Water

In several of the 9 NRWSS survey provinces rain water is the preferred source of water for drinking and cooking purposes, sometimes even when the household is connected to a piped water supply system. Use of rain water is especially common in the survey areas visited in areas with saline intrusion into the groundwater, especially in Soc Trang in the Mekong River Delta and in the

coastal survey commune in Nghe An. Also in Nam Dinh in the Red River Delta and in Dong Nai in the Southeast Region, people prefer to use rain water for drinking and cooking purposes. Many people mentioned that they prefer to use rain water because it is sweet, has a good taste and is good for making tea. Often alternative readily available water sources were also considered to be of inferior quality. Most people appeared to drink unboiled rain water.

Rain water does not need to be boiled ....

The following is from a group discussion among men in Vien Binh commune, Soc Trang province. One man said:

" We drink rain water during the rainy season and "exchange" (buy) water during the dry season. Every one in this village does the same. We like to drink rain water; we do not need to boil it, because it comes from the sky, it is sweet, has a good taste and is clean. We have used the rain water like this for a long time without any problems..."

In the three survey areas in Nam Dinh many households were found to have their own rain water tanks. Some of them have relatively large rain water tanks and therefore have sufficient water for most of the year, while others lack rainwater for most of the dry season (3 months). In the survey areas in Dong Hai, only a few households have rain water tanks; instead they use big jars (often with covers) to store the rain water. In Xuan Tay commune it was found that people do not like to store rain water in tanks because it is believed to change the colour of the water after around one month of storage; rain water tanks were also said to contain many mosquito larvae. During the dry season, most households in the three survey areas in Dong Nai do not have sufficient rain water for drinking and cooking purposes. In both Nam Dinh and Dong Nai it appears to be common to use water from either household dug wells or village ponds/wells as substitute for rain water.

In Soc Trang, more affluent households have constructed rain water tanks, while other households collect and store the water in jars of different sizes. In the two survey communes, households were found to have up to 15 jars for storage of rain water. Most rain water is collected from coconut leaf roofs by using open bamboo pipes to get the rain water into the jar.

Storage of rain water for different purposes ....

The following is from an interview with one woman in Vien Binh commune, Soc Trang province. She described how her household stores water:

" My household consists of 8 people. We have many water clay jars for collection of rain water, like many other households in this area. All of them were bought a long time ago, some of them are also inherited from my parents. We have 4 clay jars inside the house where the roof of the main house and kitchen are connected to each other; a lot of rain water can be collected from this area and it is also easy to take water for cooking.... Two other clay jars are put inside the main house to keep water for drinking (These clay jars were observed to have covers). *We put the jars inside the house, because it is easy to take water for drinking and the water is cool.... Two other jars are put outside the house for washing and cleaning."*

Most households do not have sufficient rain water to last the whole year. In Thanh Quoi commune, water from other sources, mainly drilled wells, is used as a substitute for rain water. In Vien Bien commune most people saw the purchase of water as the only alternative to rain water during the dry season, as groundwater reportedly contains too much salt and iron to be used for drinking and cooking purposes. Most people here were thus reported to buy water for 2-4 months per year. This is brought by boat from the neighbouring district.

In the coastal survey commune in Nghe An (Hung Hoa), most households also lack rain water during at least part of the dry season. Some households then collect water from the village dug wells or ponds. Most households, however, collect water from other communes or from Vinh City. People do not have to pay for this water, but some households have to hire a boat or pay for boat tickets to get across the river. Some women transport the water by bicycle or have to walk around two hours to collect water. This is a very heavy work burden for them, especially during harvest time.

In other areas, people did not consider collection of rain water as an option because they have thatched roofs or they do not want to use rain water because it is believed to be polluted.

7.2.4 Springs, Streams, Rivers and Ponds

Springs and streams are the main water sources in many of the mountainous areas. This is also the case in the two communes visited in Lai Chau, where the majority of the population belong to ethnic minority groups. Here stream water is used for all purposes, while spring water is often reserved for drinking and cooking. In some areas there is shortage of water, especially during the dry season. Women often have to walk long distances to collect water, in some villages visited in Lai Chau up to 5 km. Bamboo containers, buckets and plastic cans are used to collect the water, while big basins are sometimes used to store the water. Villagers in Lai Chau generally considered the water to be of poor quality, with a high content of iron and calcium, and also believed that stream water is contaminated by animal waste etc. from further upstream. Despite this, it does not appear to be common to drink boiled water or to treat drinking water in any other way.

The main and also the preferred water source for drinking and cooking purposes among Ede people in Dak Lak was found to be springs. In the Ede villages visited, these springs are situated fairly close to the houses, often within a distance of 100-500 meters. The spring is a very important part of the daily life of Ede people who arrange a special day around the Tete festival where they pray for good rain, enough water in the spring etc.

Spring water is good water ....

The following is from the interview with one old Ede woman in Cu Pong Commune, Dak Lak province. She described her household's water use:

"Every day I go to the spring water source - ben nuoc - 3 times to collect water, while other members of the household are out in the coffee field. Each time I carry many hollow marrow containers in the basket on my back and one plastic container in each hand. The spring water source is over there. The spring water is very sweet and cool, we use it for drinking. The Kinh people use dug well water, but they have to boil the water; we do not need to do this. Every year, at the end of the year, we have a spraying day for water. We pray for good water and health for all families. It is a big festival day in the commune. The village patriarch - the "Gia Lang" - is responsible for arranging this day, we follow his call. He always calls for contribution for this day from each family. During this day every one go to the spring to clean the area around it and to pray; afterwards there is a party..."

In Dong Thap the majority of households use river and canal water for all domestic purposes. Almost all houses in the province are close to a river or canal; the furthest distance was reported to be 100 meters. Most households in the two survey communes were found to collect river and canal water for drinking and cooking in buckets and store in different clay jars at the house, while washing and bathing often take place directly in the same river or canal. Several households in especially An Long commune have invested in electric pumps to pump river water to their house: these are often shared between 5-7 households. Many people considered river water to be clean after it had been treated with alum. It is common to drink unboiled water after treatment with alum.

In some provinces it is fairly common to collect water from village dug wells and ponds. In the communes visited in Nam Dinh, during the dry season many households collect water for drinking and cooking purposes from village dug wells or ponds. Visits to some of them showed that not all of them are hygienic. Some of them are located very close or even connected to fish ponds.

Water in the public pond is not safe, but we have to use it .....

The following is from an interview with a man in Lien Minh commune in Nam Dinh province. The household consists of wife, husband and 5 children.

"The rain water tank in my house is very small so there is not enough water for all family members to use for drinking and cooking during the dry season. My wife then has to go to the "public pond" to collect water. The water pond is not clean as it is close to the field; it is contaminated by pesticide, animal waste and even human waste. We know the water is not safe, but we have to use it. At present, there are 15 households who use the pond water. We dream of having one drilled well, but we are poor; I wonder where we can get the money from to construct it."

In some of the survey areas, water from streams, rivers and ponds is only used for washing and bathing. In some areas only children and men take a bath directly in the river or stream, while women prefer to take their baths in more privacy at the house.

7.2.5 Drilled Wells

Drilled wells have been made and hand pumps installed in some of the NRWSS survey areas. Some have been constructed by households without any support, while others have received support under the WATSAN and other programmes.

Sometimes, several households collect water from the same hand pump. However, under the WATSAN programme, the community contribution for the installation of the hand pump is normally paid by one household, which is also responsible for operation and maintenance. Often it was not very clear how the beneficiaries had been selected; one of the main criteria appeared, however, to be that the household is able to pay the contribution which ranged from VND 300,000-800,000 in the areas visited. Other households collecting water from the hand pump sometimes pay a small fee; in My Xuyen Town in Soc Trang this fee was around VND 200 for 40 litres (VND 5,000 per m^3). In other cases, relatives and neighbours collect water free of charge.

Happy to have a UNICEF hand pump ....

The following is from an interview with one woman in My Xuyen town, Soc Trang province.

"When we heard that there is a UNICEF well we were very happy because we know that we are using very dirty river water. We were told that the town PC had made a plan and distributed a number of wells to each ward, and that anyone who wanted to have a well and was able to pay VND 800,000 should apply by letter to the PC. My husband and I discussed this and decided to invest in a water tree (this is what we call a well with a hand pump). We applied in early 1996 and were accepted after some months, and we then paid the money.

In September the well brigades group came and made the tree in some hours. All equipment was brought by the group, but we had to pay VND 200,000 more for construction of a water treatment tank because the water was yellow. After two days they had finished; they gave a leaflet to my husband and showed him how to use the tree and make simple repairs.

When installing the water tree the PC asked my family to choose a suitable place near the road so that other families could come and get water. There are normally about 7 families using this well. They pay VND 200 for one bucket as this is a normal price in this area, but our nearest neighbouring households should not pay as they are very close with us and sometimes help us with other work such as clearing grass in the rice field and scooping water in the fish pond....

In the survey areas there appeared to be very little interest in establishing public hand pumps and stand posts, where the construction and maintenance costs would be shared among several households. There were, however, some examples of communal arrangements. In Thang Quoi commune in Soc Trang commune it was found that in some cases 5-10 households had agreed to share one hand pump. They had discussed where to locate the hand pump and how much each household was to contribute and had also selected a household close to the well to be responsible for operation and maintenance. Households which joined the group later did not pay any contribution, but instead they pay VND 3,000- 5,000 per month to be used for maintenance purposes.

7.2.6 Piped Water

Piped water supply is not common in the NRWSS survey areas. However, there are some piped schemes, which can be divided into three "categories": (1) simple gravity schemes in mountainous areas; (2) small simple schemes pumping water to households; (3) larger piped schemes in small towns.

In the mountainous areas some simple piped gravity schemes have been constructed either by local communities themselves or with support from the Government. Here it is common to have one or a few collection points in the village. Local residents have often contributed labour to the construction of the schemes, but generally have not been involved in the planning and design of the schemes. Maintenance appeared most often to be done on an ad-hoc basis, i.e. when the system breaks down. The Irrigation Department was said to be responsible for the schemes, but there did not appear to be any regular maintenance of the schemes.

In the South of Viet Nam, several small piped schemes have been constructed by local contractors. In for example An Long commune in Dong Thap there are several small schemes, which distribute untreated river water to households, often through over-ground plastic hoses. In Phu Tho commune, also in Dong Thap, there is a small piped scheme which was constructed under the UNICEF-supported programme. Several people complained that both the installation fee (around VND 360,000) and the fee for water consumption (VND 2,000 per m^3) are too high. Some of them therefore use the piped water for drinking and cooking purposes only. Two persons have been employed by the PC to operate and maintain the water installations and collect money from households. In the towns visited in Long An province there were reported to be several households without a house connection who buy water from households with a house connection. There are also small piped schemes in a few of the densely populated rural areas visited.

There are larger piped schemes in some of the small survey towns. Sometimes, there are public water taps at the commune health station and the People's Committee building, but otherwise there are no public taps. Instead water is distributed through individual household connections, mainly to households in the centres of the towns. Household visits in areas with piped schemes showed that it is common for people to store the piped water in different size tanks and jars, as water is only provided for a few hours every day or because the supply is irregular. Most of the tanks and jars seen during the NRWSS survey had no cover and the water was therefore open to pollution from storage and handling.

7.3 PRESENT PAYMENT FOR WATER

7.3.1 Variations between Socio-Economic Groups

Some details are given above about the amount of money which people pay for water from different sources. In the following an attempt is made to look at the different levels of payment, according to socio-economic groups, availability of alternative sources of water etc.

The Vietnamese Living Standard Survey (VLSS) carried out in 1992-1993 found that on average 60% of the rural household expenditure was used on food, while around 3% was used on fuel, light and water. For both rural and urban areas the expenditure for food ranged from 70% for the poorest fifth to 48% for the richest fifth of the population. For fuel, light and water the expenditures ranged from close to 3% for the poorest fifth to just over 5% for the richest fifth of the population (GSO 1994b). Assuming that an equal amount of money is spent on the three items and using the official poverty line of VND 55,000, this would mean that a poor household spends on average around VND 500/capita/month or VND 6,000/capita/year on water. This is equivalent to around VND 30,000 per household per year.

The following table shows the most common water sources used by the poorest fifth and the richest fifth of the population when the VLSS was carried out in 1992-1993. The figures are for the country as a whole (rural plus urban areas).

Table 12: Common Water Sources for Poor and Rich Households

Type of Household	Dug Well	River, Springs,	Lakes, Ponds	Inside Water Tap
Poorest fifth	64%	23%		1%*
Richest fifth	31%	16%		24%

Source: GSO, 1994b

* This includes access to a private inside tap or a public water tap.

During the NRWSS survey there was also found to be a clear difference in the amount of money which poor and rich households have invested in water supply facilities. Poor people in Lai Chau and other mountainous areas thus often spend much time collecting water from public wells, rivers or streams.

Too poor to construct a dug well ....

Mr. Anh and his family live in Chien Long Village, outside Tuan Giao Town in Lai Chau province. The family consists of 7 people: Mr. Anh., his parents, his wife, daughter and two sons. They live in a small, low dark house and are very poor, *"it is considered one of the poorest in our village"* said the village head man. Mr. Anh's two sons go to school, but not his daughter, who is illiterate like her mother and grandmother.

When the survey team visited the house the family was eating cassava. *"Cassava is our main food in hungry times and we are short of rice for about 6 months a year. My family has 2,000 m^2 of cultivated land and in a good season we can grow 1,100 kg of paddy, but this is only enough food for 6 months."*

The family use a public dug well which is about 60 metres away, but when it rains surface water flows into the well and makes it muddy. The family uses another well 300 metres away during the wet season and estimate that they use about 40 litres a day. This is only about 6 litres a day for

each person and is used for drinking and cooking. Clothes washing and bathing is done in streams. *"We are very careful not to waste water because it takes such an effort to collect it. Our house is located on high ground so if we wanted to dig our well it would have to be very deep. We haven't got enough food or money to repair the house, so how can we invest money in a well?"*

In areas where there is easier access to water, poor households sometimes collect water free of charge from their neighbours' wells or sometimes even from the neighbours' rainwater tanks. In some survey areas relatively poor households have invested in dug wells. Many of these had, however, been made with assistance from relatives or neighbours so the costs in terms of money had been limited. The maintenance costs for dug wells were also found to be very low. Often neighbours and/or relatives help each other clean the wells, when required.

There appeared to be a trend among the relatively rich households, especially in small towns and other densely populated areas, that they themselves invest in domestic hand pumps, electric pumps and sometimes internal piped systems. In for example Du town in Thai Nguyen, it was mentioned during household interviews that a locally produced hand pump, including installation, costs VND 75,000-100,000 and an electric pump VND 300,000-400,000. Some households in e.g. Soc Trang province were found to have invested around VND 2 million in their own drilled wells with hand pumps. In areas where people prefer to drink rain water, relatively rich households have often invested in big rain water tanks, while other households have invested in jars of different sizes.

7.3.2 Water Vending

In some areas, especially in areas with salinity problems, poor households have no alternatives during part of the dry season than to buy water for drinking and cooking purposes at a considerable expense. In Soc Trang it was found that many households have to buy water for 2-4 months of the year. The cost ranged from VND 20,000-37,500/m^3. The average monthly cost appeared to range from VND 24,000-60,000 per household, giving an annual cost of VND 72,000-180,000 (for three months). The average per capita income reported in the survey communes ranged from VND 1.8 million in one commune to VND 3.3 million in the other survey commune. The last figure is very high and did not seem to correspond to the actual socio-economic situation in the commune. Therefore, if using VND 1.8 million as the average annual income per capita and an average household size of 5.6, the average household uses 1-2% of its annual income on the purchase of water, and 3-7% of its monthly income in the months where it has to buy water. The level of poverty was, however, reported to range from 30-42% in the survey areas, which means that many households pay a much larger proportion of their income for the purchase of water.

No alternative but to buy water ....

The following is from an interview with the Chairman of the People's Committee in Vien Binh Commune, Soc Trang province. He said:

" There are many Kho'Me people in this commune; we are 5 kilometres from the sea and all water is salty. People have to use salty river water for washing. However, for drinking and cooking most people in this commune have to "exchange" (buy) water in the dry season for about 2-3 months. In general, households spend around VND 30,000 to 60,000 per month for "exchange" of water. It is one of the very big problems in our commune, especially for the poor households, but they have to buy sweet water. There is no other way."

In Xuan Hiep commune in Dong Nai province, water vending is also common. Around 50% of all households were reported to have to buy water during part of the dry season at a cost of around VND 12,500 per m^3. It appeared common for one household to spend around VND 1,500 per day for the purchase of water for domestic purposes, which is equivalent to around VND 135,000 per

year, if water has to be purchased for three months. Using the reported average income of VND 1.4 million per capita and an average household size of 5.1, this means that the average household spends around 2% of its annual income on the purchase of water.

of Water vending is also common in other provinces in the South, e.g. in part of Long An province. During a visit to one district here, 60% of all households were reported to have to buy water at least part of the year

7.3.3 Piped Schemes

Generally, people in the South appear to be more used to paying for water than people in the North of Viet Nam and they are also used to paying a higher price. As earlier mentioned in the South of Viet Nam several small piped schemes have been constructed by local contractors, where people pay either according to the metered consumption or a fixed monthly fee. In An Long commune in Dong Thap household interviews showed that the monthly water fee was around VND 20,000 per household, with no connection fee. During a field trip to Long An province, the connection fees to the small private piped water supply schemes visited were found to range from VND 700,000-1 million while the charge per cubic meter of water consumed was around VND 4,000-5,000. In the towns visited in Long An province there are several households without a house connection who buy water from households with a house connection. The price was reported to range from VND 300-500 for 10 litres (VND 7,500-12,500 per m^3). In Dong Hoang commune in Thai Binh, the fee paid for a house connection to a small piped scheme, operated by the local authorities, and also the consumption charge were considerably lower. One poor household visited had thus paid VND 100,000 for the connection, while the last monthly water bill had been VND 3,000 for three persons (with a charge of VND 800 per m^3, this corresponds to a consumption of around 42 l/c/d)

On the larger piped schemes operated by WSCs in some of the small towns visited households pay a connection fee which vary according to the distance from the house to the main water pipe. The average connection fee was reported to range from VND 350,000 in Tuan Giao town in Lai Chau to VND 700 000 in My Xuyen Town in Soc Trang. The cubic meter charge ranged from VND 1 200 - 2000. Several people mentioned that only households close to the road and the rather rich households can afford to pay for a house connection.

7.4 PRIORITY ATTACHED TO IMPROVED WATER SUPPLY

The priority attached to improved water supply varied somewhat in the nine provinces visited. In some areas where people have easy access to water which they consider to be of a reasonable quality there was found generally to be low priority given to improved water supply. This was the case in most of the areas visited in Thai Nguyen and Dak Lak.

In areas with shortage of water or shortage of good quality water, improved water supply was found often to be ranked as a high priority. In the two survey communes in Lai Chau province, where many women have to walk long distances to collect water, improved water supply was regarded as very important. In these two communes, there appeared to be some interest among poor households in communal arrangements like simple gravity piped systems with one or a few collection points in the village.

In all other survey areas suggested improvements were all household-based, whether in the form of drilled or dug wells, rain water tanks or house connections to a piped system. There appeared thus not to be any, or very little interest, in installation of public hand pumps where a number of households could share the construction and operation and maintenance costs.

The ability and willingness to pay the full costs of the suggested improvements varied somehow in the HRWSS survey areas. In very poor areas like in Lai Chau the ability and willingness to pay any money was found to be low. People were prepared to contribute with manual labour, as they have done in connection with different Government-supported programmes, but considered it essential that the Government pay a substantial part of the costs. Most households in other survey areas also found it necessary with some level of Government subsidy or support.

In some of the small towns visited, piped water supply systems were planned. The interest in a connection varied, but generally people were interested in having the water piped directly to their house. In Tram Chim town in Soc Trang the interest was found to be particularly high. 20% of the households were said to be connected to the piped system, while another 25% have applied for a connection. One of the reasons given was the poor quality of the river water, which is presently used for all domestic purposes. Other reasons were that it is more convenient than to have to collect water from the river and that the consumption charge is reasonable, as this is often the same amount as is paid for collection of water from the river.

Willing to pay for piped water ....

The following is from a group discussion among women in Tram Chim town, Dong Thap province. One woman said:

"We live in ward II, not in the centre of the town. People in the centre have piped water, of course it is cleaner than river water because it comes from the underground. Here we are poorer than people in the centre and we live on the other side of the river, not very close to the river. We wish to have piped water like in the centre. If the money needed for installation is 400,000 VND and for monthly fee 10,000 VND, then most households living not very close to the river can pay and want to connect. But we do not know about the households living close to the river, because it is easy for them to get water from the river..."

Here as in other parts of Viet Nam, people are, however, likely to be very cost conscious, as many of the more affluent people have invested in electric pumps and sometimes water filters. Access to alternative water sources is also likely to play an important role in connection with investment in any improvements.

Although many households expressed interest in a house connection to a piped water supply system, many of them also found it difficult to pay the connection fee. One of the suggestions was that it should be possible to pay the connection fee in instalments and that all households should pay the same connection fee regardless of the distance to the main pipeline.

The connection fee should be the same for everyone with payment in instalments ...

The following is from a group discussion (six men) in Ngo Dong town in Nam Dinh province.

"We have contributed too much to many things. We have only five pieces of land (1 piece of land is equal to 36 m^2) *per person and for 6 months of the year we have to buy rice. How can we afford to pay for the installation of piped water!.....We already have rain water tanks; it would be a pity if we cannot use them because we get piped water. But if we get piped water in the town, we will use it although we have to pay for it. However, we are living far from the town centre, so the payment for the installation might be too high - similar to the fee for installation of electricity. It will be better if the installation fee is the same for everybody, whether they live far or close to the main pipelines.... We know that the piped water is good for health, but we already contribute too much for the road system etc.; therefore people might not want to pay for piped water..... There is a saying "cut your coat according to your clothes", meaning that it would be easier for us to invest in a piped water connection if the state allows us to pay in instalment over a longer period of time. For example, if we have to contribute VND 500,000 for installation of water, we will be able to pay about VND 50,000 after each harvest. We should be able to borrow with a low interest rate like that from the Bank for the Poor".*

A similar suggestion was made for improved individual household-based water supply. In some of the survey areas, in especially the South, informants suggested that it should be possible for them to take out loans to construct deep dug wells, drilled wells and rain water tanks. Loans should be provided at a low interest rate and with repayment in instalments over a long period of time.

8 KNOWLEDGE, ATTITUDES AND PRACTICES ON SANITATION

8.1 INTRODUCTION

This chapter focuses on rural and small town people's knowledge, attitudes and practices in relation to sanitation, including the trends in sanitation practices. Regional differences and similarities are described and analysed as are differences between socio-economic and ethnic groups

The chapter is divided into four main sections. The first section is concerned with the reasons for open defecation and the use of and preference for different types of latrines. The second section analyses the use of human excreta for agriculture and aquaculture, whereas the third section looks at the present payment for latrines, including the revolving fund programme on sanitation managed by the Ministry of Health and the Women's Union. The last section is on the priority people attach to improved sanitation

The chapter is mainly based on the NRWSS survey in nine provinces. Not much information on knowledge, attitudes and practices has been available from other studies. A limited number of other studies have, however been identified and used.

Coverage figures on different types of sanitation facilities are contained in volume 4

8.2 USE OF LATRINES

8.2.1 Overall Picture

The practices related to sanitation vary significantly within the country. As described in more detail in volume 4, it is estimated that only approximately half of the population in rural areas and small towns use latrines. Furthermore, many latrines are not used in a hygienic way.

The following table describes the main sanitation practices in the NRWSS survey communes and towns visited in the 9 NRWSS survey provinces:

Table 13: Sanitation Practices in the 9 NRWSS Survey Provinces

Provinces	In communes	In small towns	Remarks
Lai Chau North West Mountains	• Open defecation in the field, forest, or stream • A few hhs have dug latrines	• Single vault latrines • Trend to build flush latrines in rich hhs	Open defecation is also common in rural wards of the town. Ethnic groups mostly practice open defecation.
Thai Nguyen North East Mountains	• Dug latrines • Semi-septic or septic tank latrines under different projects	• Single vault, DVC • Sulab and septic tanks in rather rich hhs in centre	Very common to use human excreta for agriculture
Nam Dinh Red River Delta	• Open single vault latrines	• Single vault and DVC latrines • Septic tank latrines constructed recently	Most people use human excreta for agriculture

Provinces	In communes	In small towns	Remarks
		by rather rich hhs	
Nghe An North Central Coast	• DVC latrines • Single vault latrines • Some sulab latrines	• DVC latrines • Sulab and septic tank	Human excreta is commonly used for agriculture
Quang Nam South Central Coast	• Open defecation • Some have DVC and single vault latrines	In centre: • Sulab and septic tank latrines • Some DVC latrines Far from centre: • Open defecation	Most people do not like to use human excreta, but some do use human excreta for agriculture
Dak Lak Central Highlands	• Open defecation most common • Some have dug latrines	In centre: • Sulab and septic tank latrines • Deep pit latrines Far from centre: • Simple dug latrines • Open defecation	Most people do not use human excreta for agriculture
Dong Nai South East	• Simple dug latrines • Some fish pond latrines • Open defecation	• Deep pit latrines • Sulab and septic tank latrines common among more affluent hhs	Some use human excreta for aquaculture. Afraid of using human excreta for agriculture
Dong Thap Mekong River Delta	• Fish pond latrines • Other over-water latrines	• Fish pond latrines • Other over-water latrines	Human excreta used for aquaculture
Soc Trang Mekong River Delta	• Open defecation very common • Dug latrines • Simple "flush" latrine	In centre: • Sulab and septic tank latrines • Flush public latrines Far from centre: • Open defecation • Dug latrines	Decision 200 TTg very strongly implemented. Before most hhs used fish pond latrines.

As can be seen from the above table, there are often different types of sanitation practices/latrines used within the same province. It is, however, clearly more common for households in small towns than in rural communes to use latrines. The higher population density in the small towns is an important factor in this connection as is the fact that the living standards and housing conditions generally are better in many small towns than in rural areas. There are thus often more affluent households in the small towns than in the rural areas.

Some of the households who do not have their own latrine use their neighbour's latrine. A study conducted in 10 provinces in 1997 shows that as many as 41% of the households do this, 13% use the pig sty, while the rest use the beach, hills, river banks and fields (Thai Binh Medical College, 1997).

In the NRWSS survey areas, there were some differences in what people considered to be a hygienic latrine, but generally it was a clean and closed latrine with no smell and no flies. The types of latrine regarded as hygienic differed, however, considerably as described in the following

8.2.2 Open Defecation

Open defecation is the most common practice in many areas, especially in rural areas with a low population density. It is also the most common practice among ethnic minority people. Open defecation is for example very common in Lai Chau province. One of the key informants made the

following generalisation about the sanitation practices in the province: Thai people often live along streams, so they use streams and sometimes DVC latrines, the H'mong live in the high mountainous areas and use the forest and the areas under their houses, the Dao use the gardens and areas around their houses, while the Kinh mostly live in low land areas and towns and use drop latrines and DVC latrines. Interviews and group discussions in the three survey areas showed that there is some truth in this general statement. Open defecation was also found to be very common in Dak Lak, especially in the two survey communes. Here people use the surrounding coffee fields. Some Kinh households have constructed simple dry latrines at very low costs. Open defecation was found to be specially common among the Ede people, but also among most Kinh people.

Human excreta is dirty ....

The following is from a group discussion with women in Doan Ket Commune, Dak Lak province. One woman explained:

"You ask where we go for defecation; here we often go to the coffee garden, it is cool, and no one can see us and the pigs and dogs they follow us.... Some households they dig a simple hole latrine. When it is almost full they cover it by soil and dig another hole; some households do not remember how many holes they have dug. Here we do not like to use human excreta, it is very dirty. However we saw some people use human excreta for long-life tree, these people came from the north..."

People gave many different reasons for practising open defecation. The reasons varied somehow from area to area. In many areas it was, however, a common explanation that *"Thu nhat quan coc thu nhi la dong"* (the most pleasant is to defecate in the hills; the second best is to use the rice fields). Many people in mountainous areas mentioned that they have much land and therefore do not feel it is necessary to have a latrine. They said that open defecation is nature that the god will take all waste away and that there is no bad smell like with some latrines. Some people said that dogs and pigs will eat or remove the excreta. Lack of money to construct a latrine was also sometimes mentioned as one of the reasons for open defecation.

"God takes it away ...."

The following is from a group discussion among women and men in Toa Tinh commune, Lai Chau province. Some of the participants said:

"Latrines? We do not have latrines. The adults go to forest and children go around somewhere. In the forest we can use leaves or a bamboo stick to clean ourselves after defecation"...the whole group laughs...*"then later when it rains, because the hills are very steep, all the waste is washed away, the God takes it away. We prefer to go where nobody can see us defecating..."*

Open defecation was also found to be very common in the survey town and communes in Quang Nam province. Many people were reported to have constructed DVC latrines when there was a campaign in the 1970s. When they were ruined, people had not reconstructed them because they found that DVC latrines smelled, were dirty and they did not want to use human excreta for agriculture. Instead people now use the rice fields, the sand areas or their gardens. Some of the same reasons were given here as in the less densely populated areas, i.e. that it is nature, that it is pleasant to defecate in the open air and that it is too expensive to construct latrines.

Open defecation is better than DVC latrines ....

The following is from an interview with a household in Binh Nguyen commune, Quang Nam province. One of the household members told the following story:

" In our commune, there was a big campaign to construct DVC latrines in the 1970s, so many households in this village did this, but used different types of materials. Some were very simple DVC latrines, but they were DVC. In our family, we constructed one in 1979. Later it collapsed and in 1986 we tried to reconstruct a very simple DVC latrine. However in our village many people do not want to reconstruct their DVC latrines because they considered them to be unhygienic; it smells and some households are afraid of using human excreta, because they think it causes itching. When we use human excreta for the rice fields, many people complain. So now most people do not have latrines as we have in my house; they go to the rice fields or the sand areas. Recently I saw some rich households had constructed flush latrines, often located near the house. I do not want to do this because it is too close to the house."

In the two survey communes in Soc Trang, and also in the wards located far from the centre of the survey town, open defecation is common. Fish pond latrines had been used by most households in the area before the campaign to destroy them and were still the preferred type of latrine (more details under fish pond latrines).

In many of the NRWSS survey areas, both in areas with and without many latrines it is normal for small children to defecate around the house and in the garden or sometimes in the chamber pot. The general belief is that small children's faeces is less "dangerous" than that of adults. Dogs and pigs were often said to eat or remove children's excreta (the same was also said about adults' excreta).

8.2.3 Dug, Single Vault and DVC Latrines

Dug pit latrines and one vault latrines are the most common types of latrines in Viet Nam. Furthermore, old DVC latrines are fairly common in some provinces. This was also found to be the case in Nam Dinh province. Here as in other provinces in the North, many households constructed DVC latrines after a campaign in the 1960s and 1970s. Many of the DVC latrines have been ruined since then and not reconstructed. Instead people have built one-vault or dug latrines because they are cheap and it is easy to get human excreta out of them to use for agricultural purposes. The dug latrines were found often to be open, or partly open, pits with a few bamboo poles or a concrete platform over them. Some of the latrines had a very basic superstructure, while others had a more permanent structure made of concrete or bricks. Many of the dug latrines appeared very unhygienic.

A dug latrine is better than a DVC latrine ....

The following is from a household interview in Kim Thai commune in Nam Dinh province. The head of household said:

"Our family invested in a DVC latrine during the campaign for DVC latrines in 1960's. At that time, we considered DVC latrines to be good since human excreta does not smell after composting and we can use it for agriculture. However, there were a lot of difficulties and complications to use a DVC latrine in the correct way. We have to cover the latrine tank completely when it is full. You see, because the latrine is covered, there is a very strong smell from the latrine hole which makes it uncomfortable to be inside the latrine building. Besides that, the doors for getting human excreta out after composting were often open at the back of the latrines. These doors are easily broken when we have taken human excreta out of the latrines several times; chicken, dogs, pigs and flies can then enter the latrine tanks and make it very dirty.

When we made the DVC latrine there was not enough cement; it was expensive and therefore we used only a little. As a result, the DVC latrine was broken after it had been used for several years. We were afraid to repair the DVC latrine, because it was too dirty and we therefore invested in a dug latrine instead. We think that the dug latrine is good, because it is not covered with concrete and we use ash to mix with excreta, so the smell inside the latrine building is much less than with the DVC latrine. Besides that, we can get the excreta any time we need it for agriculture; we do not have to wait for composting".

Dug latrines and single-vault latrines were also very common latrines in the survey communes in Thai Nguyen, Dong Nai and in part of Nghe An. Fairly deep pit latrines were used in other areas especially in the survey towns in Dak Lak and Dong Nai. Some of them had concrete covers while others were covered by bamboo or wood and soil. When the pit is full or sometimes after being used for 1-2 years only, it is covered by soil and another hole is made. Generally, people considered the deep pit latrines to be safe and hygienic. In the town in Dong Nai people mentioned that they prefer deep pit latrines because there is no smell and they do not want to use the human excreta for agriculture or aquaculture.

The dug and single vault latrines were observed often to be constructed at the back and far from the house. If people have sufficiently large land, this is also the case with DVC latrines.

A number of households in the provinces in the North and Central parts of Viet Nam were found to have DVC latrines, especially in Nghe An and to a smaller extent in Thai Nguyen. As reasons for preferring DVC latrines people mentioned that it is hygienic (especially if sufficient ash is used) clean and human excreta can be used for agriculture. Some people in Nghe An said that they prefer DVC latrines to flush latrines because they are afraid that a flush latrine might affect their well water. Other people considered the DVC latrine too expensive. Many of the DVC latrines were found to be rather unhygienic, with insufficient time being allowed for the composting of human excreta before it is used in the rice fields or for the vegetable garden. In some cases it was also clear that people use both drop-holes at the same time. The NRWSS survey indicated that many of the DVC latrines are quite old, which was also the case in a study carried out in 1994 by Hanoi Medical College in one commune in Ha Tay province and one commune in Ha Bac. The latter survey showed that most of the DVC latrines were more than 10 years old, while very few households had constructed DVC latrines within the last five years (Hanoi Medical School, 1994). Both surveys showed that many DVC latrines had not been maintained properly, some of them being partly broken. Furthermore, ash was not always added after each use or not sufficient ash was used. The 1994 study showed that more than 90% of the informants using DVC latrines did not feel comfortable when using it because it smells, is dirty and full of flies.

8.2.4 Fish Pond Latrines

In the survey areas in Dong Thap and to a smaller extent in Dong Nai, fish pond latrines were found to be common. It had also been the most common latrine in Soc Trang, before the issue of Decision 200/TTg in 1994 and the subsequent Government campaign to destroy fish pond and other types of over-water latrines. Many households in all three provinces prefer fish pond latrines to other latrines. As the only latrine type in Viet Nam, the fish pond latrine is often shared by several households. Furthermore, several latrines have often been built over the same fish pond. One of the main reasons given for using fish pond latrines in Dong Thap was that it is the only appropriate latrine because of flooding in the area. Other reasons mentioned were that it is cool and pleasant, has no smell and is cheap to build, as readily available materials can be used. The possibility of making a profit on the fish raised in the ponds was another important factor.

Fishpond latrines are most appropriate ....

The following is from an interview with one man in An Long commune in Dong Thap province.

"We use a fishpond latrine at a neighbour's pond, about 50 meters from our house. The neighbour has made several latrines on his pond and people can use the latrines free of charge. Nobody wants to build their own (non fishpond) latrine - how can we build the latrine if we don't have enough money to survive? It would be ridiculous to spend money on a septic tank latrine when our houses are only thatched huts. You see, this is a high population density area, how can we use land for a latrine when there isn't enough land for the house. During the rainy season dug hole latrines will be very dirty and during the dry season they smell. We think that because of flooding, fishpond latrines are most appropriate in this area."

In the survey areas in Dong Thap several of the over-water latrines were built over canals connected to the river. Some people considered it very dirty to have latrines over the canals, while they found it good to have latrines over fish ponds.

In Dong Thap, Soc Trang and Dong Nai, there were reported to have been campaigns to destroy fish pond latrines. The campaign did not appear to have been very rigorous in the survey areas in Dong Nai and Dong Thap. As the reason for this, the local authorities in Dong Thap mentioned that it had been difficult to suggest any alternative types of latrines especially for flooded areas and for poor people. After some time, those people who had destroyed their fish pond latrines had constructed new ones. In contrast to this, the campaign had been very effective in the three survey areas in Soc Trang, with the consequence that open defecation is now very common in the two survey communes and also on the outskirts of the survey town. According to a survey conducted in 1997, open defecation is now also common practice in five survey communes in Can Tho province after the fish pond latrines had been destroyed (Thai Binh Medical College, 1997).

Some people in the survey areas in Soc Trang have made dug latrines, but generally people considered them to be dirty and to smell; they prefer to defecate in the rice fields, now that they are not allowed to use fish pond latrines. There appeared, however, to be a new trend of building cheap flush/sulab latrines (an unlined pit latrine with a sanitation platform), especially in the two survey communes.

The simple "flush" latrines is cleaner than the fishpond latrine ....

The following is from an interview with a 48 year old woman from the Kho'Me group in Vinh Binh commune, Soc Trang province. The household consists of one couple and their 7 children. She said:

"My house had a fishpond latrine in the past, but I thought that it was unsanitary. After the campaign, my husband and I destroyed this latrine and made a simple "flush" latrine as suggested by the Women's Union in the commune. I had borrowed money for the Women's Union to buy one platform latrine; it cost VND 47,000. We paid back the money in instalments during 1 year. My family made a latrine by digging a 2 metre deep hole, covering it with branches of tree and putting the platform on top of the hole. The superstructure was very simple, made of bamboo and with thatched roof. Now my house has a latrine; we have only had to do labour and pay the fee for the platform. The latrine is much cleaner than the fishpond latrine...."

8.2.5 Sulab and Septic Tank Latrines

It is reported that 126,000 demonstration latrines were constructed from 1988 to 1996 under the WATSAN sanitation programme. Around 80% of these are sulab latrines. However, the replication in rural areas has been very low. As reasons for this, a number of people in the NRWSS survey areas mentioned that the sulab latrines are too expensive. Some people in more densely populated areas also expressed concern about the possible pollution of their well water.

In both small towns and communes included in the NRWSS survey, many people mentioned that they would like to have a septic tank latrine because it is hygienic, clean and has no smell. In Quang Nam and Soc Trang, the sulab latrine was mentioned as the preferred latrine model. As a reflection of these preferences, there appeared to be a trend among fairly affluent households, mainly in small towns and other densely populated areas to construct septic tank latrines. Some had also invested in sulab latrines. These latrines were found often to be made in connection with the construction or improvement of more permanent houses. The same finding was made in connection with a recent survey carried out in 10 provinces (Thai Binh Medical College, 1997). However, many people interviewed in connection with both surveys considered septic tank and sulab latrines to be too expensive.

It was found during the NRWSS survey that people's knowledge about septic tank and the sulab latrines is often very low, both as far as technology and cost are concerned. The same conclusion was reached in connection with a survey carried out in 1994 by Hanoi Medical School. Here people often asked for more information.

Flush latrines are good, but expensive ....

The following is from an interview with a women in Ha Lam town, Quang Nam province.

"A lot of people here know that flush latrines are the best latrines, since they are clean, have no smell and can be constructed inside the house, but they are too expensive compared with our income. On the other hand, we could not construct a permanent latrine while our house is still simple and temporary. My brother had to spend 5 million VND for a flush latrine with bathroom and a water tank on top of the bathroom. I have had the chance to use it. It is fantastic, but we do not know when we can have a latrine like this."

Construction of public flush latrines did not appear to be an option, as many people considered flush latrines in public places like the commune health station to be unhygienic, to smell and unpleasant to be inside the building.

8.3 USE OF HUMAN EXCRETA

8.3.1 Human Excreta Used for Agriculture

In many areas in the North and in some of the Central parts of Viet Nam it is very common to use human excreta as fertiliser for agricultural purposes. However, this appears only, or mainly, to be among Kinh people and not among ethnic minority groups.

Most households in the HRWSS survey areas in Thai Nguyen, Nam Dinh and Nghe An were found to use human excreta for agriculture. As described above, the type of latrines used vary somewhat. It was, however, a common criterion that it should be easy to get human excreta out of the latrines. Human excreta is used for both rice fields and vegetable gardens and is often considered better than animal waste.

Human excreta is very valuable ....

The following is from discussions with a group of men in Dong Dat commune in Thai Nguyen. Some of them said:

"People in our region have always considered human excreta to be a very good fertiliser for agriculture, especially for vegetables. It is very valuable and you can compare it with glutamate which people often use for making meals taste better. Therefore, we have to select carefully what kind of vegetables should be fertilised with human excreta. Because of this, most of the households here do not like to have flush latrines. Also, they do not like DVC latrines since it needs time for composting and is very costly. People often build a simple latrine just for keeping the excreta and to protect it from chicken, dogs and pigs. Ash is often used to cover human excreta after defecation, therefore, smell is not a big problem".

It was also said that some households, which do not have enough land for growing vegetables, sell the excreta from their latrines to other households with more land. The price for selling this kind of fertiliser is about 100 kg rice per year (approximately 150,000 VND).

It appeared to be fairly common for households to leave the excreta for 1-3 months before using it, but often no actual composting takes place. 1-3 months is also considerably less than the recommended composting time of 6-12 months.

In most areas women were found to have the main responsibility for getting the human excreta out of the latrine and spread it on the rice fields or in the vegetable gardens. There is no special protection for the women when they handle the excreta. Often a small shovel and/or a hoe ("xeng or quoc") are used, but sometimes the faeces is spread by hand.

There did not seem to be much difference between poor and more affluent households in the use of human excreta. There is however some difference between the rural communes and small towns. As some of the households in the small towns have no agricultural land, they cannot use the human excreta on their own fields. Often they let farmers from surrounding areas empty their latrines.

In other provinces people were found to be afraid of using human excreta for agriculture. This was for example the case in Quang Nam, where using human excreta is believed to cause itching, to be dirty and to smell. Here people also prefer to construct latrines far from the house. Other people mentioned that chemical fertiliser is better, especially if they have much land.

8.3.2 Human Excreta Used for Aquaculture

In many areas in the South of Viet Nam there is a long tradition of using human excreta for aquaculture. This was also found to be the case in the NRWSS survey areas in Dong Thap and to a smaller extent in Dong Nai. A few households in Nam Dinh and Nghe An also use human excreta to raise fish too. One of the reasons for using fish pond latrines is that it is possible to make a profit from selling the fish.

Fishpond latrines are a big benefit ....

The following is from a group discussion among men in Tram Chim town, Dong Thap province. One man said:

"Fishpond latrines are a big benefit to households, they can earn from 5 to 10 million VND a [illegible] do not eat fish from their ponds but sell it in markets far away from the house. We are afraid of eating this kind of fish, but for poor families it is cheap and they think that if the fish is cleaned and well cooked it will be safe to eat."

In one survey commune, human excreta from flush latrines and animal waste is sometimes discharged directly into fish ponds in order to get rid of the excreta and waste and also to get economic benefits from it.

Human excreta is good for raising fish ....

The following is from observations and discussions in Xuan Tay commune in Dong Nai province:

One rich household had constructed a small pond (around 10 m^2) which was built by bricks from the bottom. It costs about VND 2 million. The pond is connected with a pig pen and a flush latrine by a piped system. Animal waste and human excreta are led directly into the pond for fish raising. The head of the household said *"By making it like this, my family can solve the problems with human excreta and animal waste and can also get big benefits from raising fish. ... We are afraid of eating these fish ourselves, even when well cooked. We often sell the fish at the local market at the same price as other fish. Many people buy them, perhaps because the fish from this pond are fatter than in other ponds".*

Another household, which has a big fish pond, had constructed a flush latrine for its own use and had also built two latrines over the fish pond for the neighbours to use. The head of the household said: *The fish pond latrines are closed when the fish in the pond are still small and when we want to catch the fish to sell. We do not eat the fish from the pond ourselves, but other people like them."*

The attitude towards eating fish from ponds where human excreta has been used appeared rather ambiguous. Several people said that they are afraid of eating the fish from these ponds. However, they do not hesitate to sell the fish at the market nor to buy the same type of fish. Some people in Dong Thap eat raw fish, which was also the case in Nam Dinh and Lai Chau. However, only big fish caught in the rivers were said to be eaten raw.

8.4 PRESENT PAYMENT FOR LATRINES

8.4.1 Variation between Socio-Economic Groups

The Vietnamese Living Standards Survey carried out in 1992-1993 showed a clear difference in the investments made by poor and more affluent households in sanitation facilities. The probability of having no latrine was thus found to be double as high for the poorest fifth of the population than for richest fifth (GSO, 1994b). The difference is, however, even more pronounced when comparing the types of latrines used. Only around 1% of the poorest fifth had access to a flush latrine, while the corresponding figure for the richest fifth was 39% (World Bank, 1995).

During the NRWSS survey there was also found to be a clear difference in the level of investment made by poor and more affluent households. Normally, poor household either practise open defecation or they have made dug latrines, pit latrines or sometimes fish pond latrines. These are all types of latrines where locally available materials can be used; the only investment required is often in the form of labour. Some poor households were found to use their neighbours' latrines. In the survey town in Soc Trang the People's Committee constructed some public latrines after the campaign to destroy fish pond latrines. People have to pay VND 200-500 each time they use these latrines, which several people considered too expensive.

As mentioned earlier, there appeared to be a trend among fairly affluent households, mainly in small towns and other densely populated areas, to construct sulab and sometimes septic tank latrines. Some of these latrines had been constructed with material support or loans provided under different programmes, especially the WATSAN programme. In other cases people had paid the full cost themselves. These latrines are often made in connection with the construction or improvement of more permanent houses and many people therefore found it difficult to say how much they had invested.

8.4.2 Revolving Funds for Latrines

In 1994 it was decided to establish revolving funds under the WATSAN programme to promote more widespread replication of the demonstration latrines built since 1994. Each pilot commune under the WATSAN programme received VND 11 million. Each household can receive a loan ranging from VND 200 000 to 500,000, depending on the type of latrine constructed. Normally, loans have to be repaid within a period of around 6 months. In some of the NRWSS survey areas an interest rate around 1-1.5% per month was charged; in other areas there was no interest. MOH reports that after two years with revolving funds, around 25,000 latrines were built in 700 pilot communes. In 12 provinces, MOH has delegated the management of the revolving funds to the Women's Union. In addition to this, the Women's Union is providing loans for water and sanitation in six provinces, using other sources of funds. MOH has encountered many difficulties with the revolving funds and it was therefore decided to stop any further revolving funds in 1997.

Revolving funds for latrines have been established in some of the NRWSS survey areas, most of them managed by the Commune or Town People's Committee. In most places the interest in taking out loans for latrines appeared to have been very limited, especially among poor households. Many people said that they do not want to borrow money to construct latrines, as it cannot give them any income. Instead many of them would like to borrow money for development of their household economy. Other people mentioned that the loans are too small, the repayment period too short and the interest rate too high.

Dangerous to borrow money for a latrine ....

The following is from an interview with the man from a poor household in Kim Lien commune, Nghe An Province.

"Our house is very poor, we have no dug well and no latrine. We go to our relatives, my young brother's house is next to my house. In this area only my brother has this kind of latrine, where water is used to flush the waste out: he uses this for growing lemons in the garden. I heard from him that he borrowed money from Commune People's Committee to make it. I cannot do that. We do not have enough money to buy food, so we do not want to borrow money to spend on a latrine. We will not be able to pay it back, it would be dangerous."

In the nine NRWSS survey provinces, most of the households who had benefited from loans were fairly affluent households.

The Women's Union has had some success with revolving funds for construction of latrines. Soc Trang is a good example of this. Loans are extended for three different "types" of sulab latrines, with loans ranging from VND 180,000-500,000, depending on the type of material used. Households have to construct their own superstructures. Loans are provided at an interest rate of 1.5% per month and the repayment period is 3-6 months, with repayment being made in monthly instalments. According to the Provincial Women's Union report for 1996, a total of 9,580 latrines were constructed in connection with Women's Union activities in the whole province. However, no specific figure was given for latrines constructed in connection with the loan programme. Field visits showed that there is some flexibility in the loan programme. One example is that small loans of around VND 50,000 are sometimes extended for purchase of sanitation platforms for simple "flush" latrines, with repayment in instalments over one year.

During interviews with key informants in the nine provinces, especially with the Women's Union, it was often recommended that revolving funds for latrines should be integrated with activities to improve the household income. Other common recommendations were that the loans should have a low interest and a long repayment period.

8.5 PRIORITY ATTACHED TO IMPROVED SANITATION

In the nine NRWSS survey provinces, generally very low priority was given to the construction of (improved) latrines. This was especially the case in poor rural areas with a low population density. In some areas, primarily in small towns, some priority was given to improved sanitation facilities, with the septic tank latrine being the preferred latrine type.

Most people showing any interest in sanitation improvements indicated that Government subsidies will be required. A number of people mentioned that they would be able - and willing - to pay approximately half of the cost, while the Government will have to pay the remaining cost. In the poorer areas people suggested their contribution to be in the form of labour. Another suggestion was easy access to loans at a low interest rate and with repayment in instalments over a long period of time.

9. HEALTH AND HYGIENE

9.1 INTRODUCTION

The following chapter is aimed at providing an overview of the health sector and of the health and hygiene situation in Vietnam. The general health status in relation to water and sanitation will be described followed by a brief presentation of the historic development in the public health sector, of the present health policy and strategy and an assessment of the health information system will. Trends in infant an child mortality will be discussed and finally attention will be given to people's knowledge attitudes and practices in relation to hygiene, with special focus on handwashing and child defecation practices.

The chapter is based on a number sources, mainly World Bank reports, MOH Health Statistics Yearbooks, reports from the VNICDS -1994, and UNICEF reports on health and sanitation behaviour, supplemented by a few other Vietnamese and international studies, including the HRWSS survey in 9 provinces.

9.2 GENERAL HEALTH STATUS

Over the last three decades, Vietnam has achieved remarkably low levels of mortality for its income and level of socio-economic development. Nevertheless, its main problems remain those common to most developing countries with infectious and parasitic diseases, particularly TB, malaria, acute respiratory infections (ARI) and diarrhoea, still posing a substantial threat to the population at large. Among children, the communicable diseases of childhood have declined rapidly in incidence and severity following the success of the Expanded Program for Immunization (EPI), but ARI and diarrhoeal diseases are still major killers of children and constitute their most important health problems. Nearly 60 percent of infant deaths are due to these two groups of disease. Severe and acute child malnutrition is now uncommon, but chronic under-nutrition, manifested as stunting, is still the fate of almost half of the children. Among infants, prematurity, low birthweight and problems during delivery still constitute important health risks and the maternal mortality rate is estimated to be 120 per 100.000 live births in 1993 (MOH 1995). Other major health problems for women include a very high prevalence of anaemia and widespread gynaecological infections (World Bank 1995b).

The morbidity and mortality profile in Vietnam is characterised heavily by diseases that are linked to water and sanitation. Excreta-related and water-borne diseases, such as gastro-enteritis, dysentery, typhoid, cholera and hepatitis, are all important causes of morbidity, especially among children. The World Bank, in its sector review in 1992 (World Bank 1992) thus concluded that any attempts to improve the health conditions in Vietnam, especially among the children, should necessarily include forceful interventions in the supply of safe water and sanitation.

The impact of deteriorating environmental conditions on health is becoming increasingly evident. Crowding, pollution, stress and occupational hazards are beginning to affect the environment and the quality of life in Vietnam. Hazardous solid wastes from industry and agriculture are usually collected jointly with other common wastes, and the most common methods for waste disposal are open dumping and open burning, both of which produce health hazards, air pollution and sanitary risks. Pesticides are becoming increasingly common in agriculture, resulting in contamination of rain, surface and underground water and contamination of the food chain. In addition, increasing population pressure is resulting in overcrowding and unsanitary living conditions. The addition of another 30 million or so people to the Vietnamese population over the next 2-3 decades may put a severe strain on the environmental health (World Bank 1992).

9.3 THE HEALTH SECTOR

9.3.1 Background

As already mentioned, Vietnam's health situation is relatively favourable for a developing country. Infant and child mortality rates have been lowered considerably in the last few decades due to emphasis on education and basic health care for all. Furthermore, the Ministry of Health (MOH) has developed a basic health care system covering the whole country and Vietnam now has a widespread infrastructure of medical services, with commune health stations (CHS) and health workers available in almost all communes. It has been one of the highest priorities of the Vietnamese Government to provide basic health care to all citizens and although before 1986 the economy of Vietnam was highly centralised, the provision of basic health services has always been decentralised, with health activities managed, implemented and financed at the grass-roots level.

However, the disappearance in the late 1980s of the agricultural co-operative system which largely financed and supported CHS staff combined with pressures on public expenditure has resulted in a marked deterioration of the public health services at all levels, and coverage in terms of existing facilities can no longer be equated to coverage of services. Inputs to the health sector - drugs, equipment medical supplies, maintenance - began declining by the end of the 1960s and the quality of care offered by the primary health care facilities slipped, as did utilisation rates. Thus a well-functioning health care system began breaking down and the gains in health achieved over the previous decades are being threatened (World Bank 1992).

While observers agree that the quality of health care services is still poor in Vietnam, considerable debate focuses on how it has changed during recent years. On the one hand the public health system has been left with less resources for delivering commune services, while on the other hand, liberalisation has resulted in higher household income and wider availability of private supplies and services (pharmacies, private clinics etc.) for the majority of families. While deregulation has made more basic curative services available, access to services for the poor may have declined.

According to the World Bank, however, there is some recent evidence that the decline in quality of primary health care services is now being reversed. Although utilisation rates dropped sharply between 1990-1992, they seem to have been increasing since 1993 and for the middle-class and well-off families, the range of health services and medicines is greater. Treatment at CHS is free, [illegible] the poor have greater access to some basic treatments and drugs, but for serious illness the situation is different. District Hospital services are no longer free and high costs exclude the poor from sophisticated medicine and treatment (World Bank 1996). Private expenditure for health now accounts for about two thirds of the total health expenditure.

9.3.2 Ministry of Health Policy and Strategy

The MOH in 1995 prepared a policy and strategy statement for the 8th Party Congress which was held in June 1996. The strategy covers the period 1996-2000, but also makes projections up to the year 2010 (MOH 1995a). The strategy aims at;

improving the health of the people by reducing considerably the morbidity and mortality from infections and preventable diseases. First of all by

- *preventing malnutrition and communicable diseases*
- *reducing the population growth rate*
- *limiting occupational and environmental hazards*
- *reducing congenital malformations*
- *and improving the physical health status of the population, especially mothers, children and elderly people*

in order to help the people reach the health standards of neighbouring countries and help improve the life of new generations.

The strategy stresses the importance of equality in health care by narrowing the difference in health status between regions by favouring poor people and poor locations and by implementing policies of equal access to preventive health services for all citizens in the country.

The policy sets out a number of goals and targets for the year 2000 (and 2010), among which:

- reduce infant mortality rate from 45 to 30 ‰ (and 20 ‰ for the year 2010)
- reduce under-five malnutrition rate from 45 to 30 % (10 %)
- 80% of the population will have access to clean drinking water (100 %)
- 60% of the households will have standardised sanitary latrine (100 %)
- increase the coverage of CHS from 90 to 100% of all communes
- increase the number of CHS having a medical doctor from 20 to 40 % (100 %)

The strategy actions for reaching the above targets for water and sanitation consist of the following main elements:

- request the State to clarify the distribution of roles and responsibilities among the different ministries and branches involved in the sector.
- consolidate and disseminate the Health Protection Law
- request the State to launch hygiene and environmental protection movements in all provinces

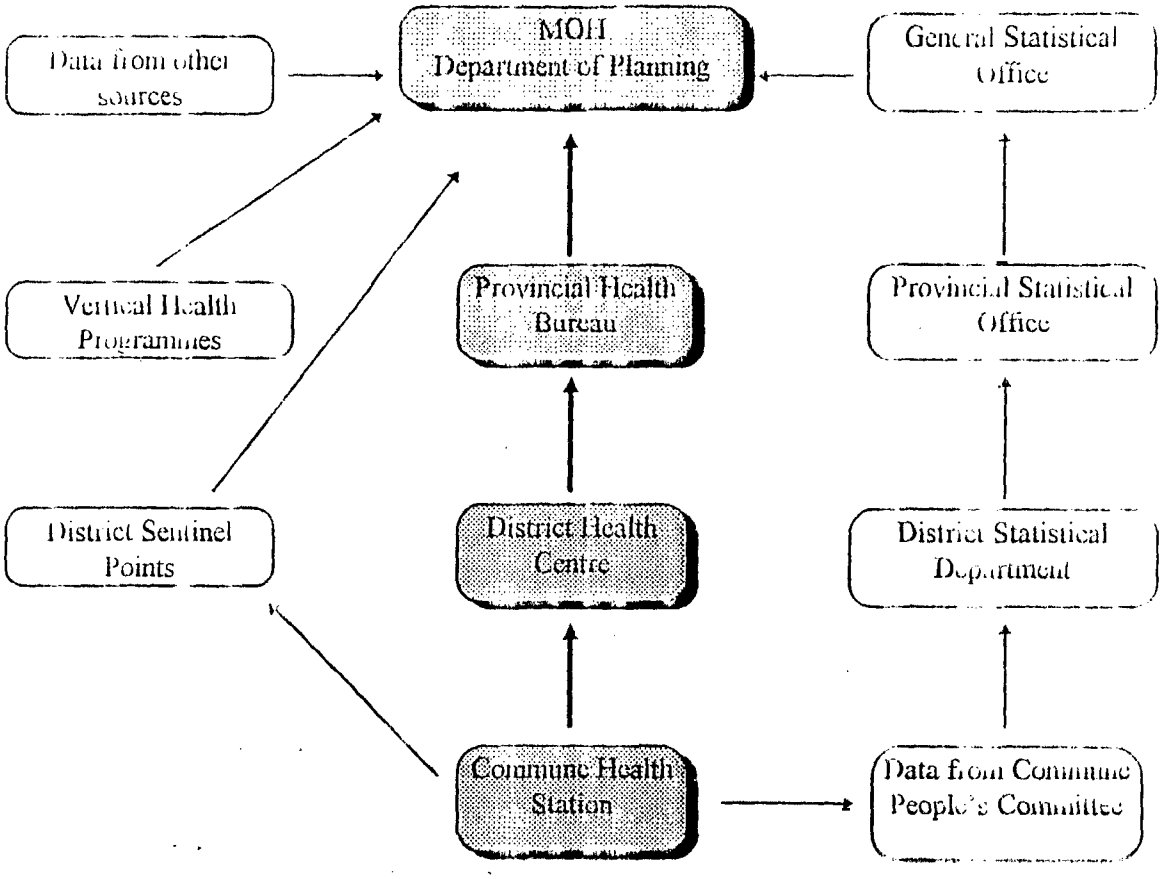
The health sector is to act as an advisor in research and to propose appropriate technical measures for different areas.

9.3.3 Health Data and Reporting Systems

Health data are collected at all levels of the health care system, with the Health Statistics and Information Centre, within the Department of Planning, MOH, being responsible for processing and analysing the collected data. The health data originate from five different main sources:

- Official regular data collected by the CHS and sent through the district to the province, from where they are finally sent to the Department of Planning
- Data from district sentinel points (61 UNICEF focus districts)
- Data from different vertical health programmes
- Data from General Statistical Office
- Data from other ministries and from research institutions.

Figure 1: The Health Information System



Source: Health Statistics, existing situation and solutions

In a paper prepared by key staff from the Department of Planning, MOH, (N.D. An), the authors find that the existing health information system (HIS) has serious limitations. The four main problems are listed as:

- The existing HIS exerts a heavy work load on health personnel at all levels
- Poor co-ordination results in duplication of information required by the MOH and vertical programmes, which all have separate reporting systems
- The validity of data is low
- Collected information is not used (at any level)

The reporting of communicable diseases is organised similarly to the above with information being sent from CHSs to higher levels, however, this system uses different reporting forms and different people are responsible for handling the data at all levels. The responsibility for this part of the HIS system lies with the Preventive Medicine Centre, including the hygiene and epidemiological teams at district and provincial levels. The data are sent directly to the Institute of Hygiene and Epidemiology, which is officially responsible for surveillance and monitoring of communicable diseases. The same data are also sent to the MOH, Dept. of Planning, directly from the provinces. Consolidated reports are prepared by the Institute of Hygiene and Epidemiology.

The assessment of infant and child mortality in Vietnam derives from two main sources supplemented by a limited number of studies. Firstly, data is collected through the MOH Health Information System and processed for the annual report at the Health Statistics and Information Centre. The second source is the demographic assessment by the latest Census (1989), updated in

the Intercensal Demographic Survey 1994 (VNICDS). A comprehensive health information system would be expected to record every incidence of death in infancy or childhood and therefore these data should be more reliable than information from demographic surveys. However, as already mentioned, there are gaps in the data collected by the health staff and doubts about the reliability of the reporting system. For example, it is generally observed that in Vietnam mothers avoid reporting about dead children due to superstitions or for other personal reasons. Therefore direct estimates based on the reported deaths of children may be under-estimated (GSO 1995e).

Demographic surveys have their own methodological limitations: infant and child death rates are calculated from the obstetric history taken from the interviewed women. While the 1989 Census interviewed women of all ages, the VNICDS only included women of reproductive age. Moreover, retrospective reporting of infant and child deaths by mothers is based on the assumption that mothers have fully recovered from the emotional trauma and can and will report these events objectively. Surveys of this kind have no access to data on maternal deaths during and after delivery, which are known to be followed by the death of the infant in the majority of cases. This part of infant mortality therefore is not included in the estimated rates.

Thus, for both methods, a considerable degree of under-reporting must be acknowledged.

In line with the above, a reproductive health survey (NCPFP 1995) covering 5 provinces (Ninh Binh, Nghe An, Ha Tinh, Quang Binh and Binh Dinh) found that

> *....a reporting system for health data has not yet been fully established. The data collection at grass root level remains unreliable and mortality of children is said to be grossly underreported. At present, the lack of reliable data does not allow a proper assessment of the health situation in the area....*

The above quotation pretty well summarises the findings of the NRWSS study, both with regard to data at provincial level, including districts and communes, and with regard to the centrally available data and official health statistics.

9.4 INFANT AND CHILD MORTALITY

9.4.1 Background

Infant and child mortality are often considered good indicators of a nation's socio-economic well-being and the way its distribution of resources functions. The decline of infant and child mortality has been a major component of the demographic transition in both developed and developing countries. In developed countries, infant and child mortality have steadily declined since the turn of the century and are now at very low levels. Although infant and child mortality rates in developing countries are much higher than those of developed countries, and in some cases are at levels similar to those of pre-industrial Europe, a substantial decline in infant and child mortality rates has been observed (GSO 1996b).

The living environment and the quality of life of children, reflected by a household's socio-economic characteristics, have been found to be strong predictors of child survival in other developing settings. The fact that Vietnam has managed to bring down infant mortality in the face of low levels of economic development is believed to be due to large investments in the public health sector, which may have reduced the negative effects of poor and unsanitary living conditions. The National Programme for Control of Diarrhoeal Diseases and the promotion of the use of Oral Rehydration Salt certainly has contributed to reducing the mortality due to diarrhoea. Another important factor may be the widespread practice of breastfeeding, which is known to contribute to diminish the influence of poor environmental conditions on children's health. There are

other possible changes that may have contributed to declining levels of infant and child mortality. Fertility has been declining and socio-economic conditions improving. However, the influence of the different factors is hard to measure as studies of infant and child mortality in Vietnam are very few in number, and have mostly been carried out with small unrepresentative samples (GSO 1996b).

In Vietnam, most deaths during the first month of life are attributable to prematurity, congenital malformations or to complications stemming from the pregnancy or delivery (including low birthweight and neonatal tetanus), whereas major causes of late infant and child mortality include malaria, ARI, diarrhoeal disease, neonatal tetanus and measles. It is estimated that ARI (33%) and diarrhoea (25%) account for over half of all infant deaths (World Bank 1995a).

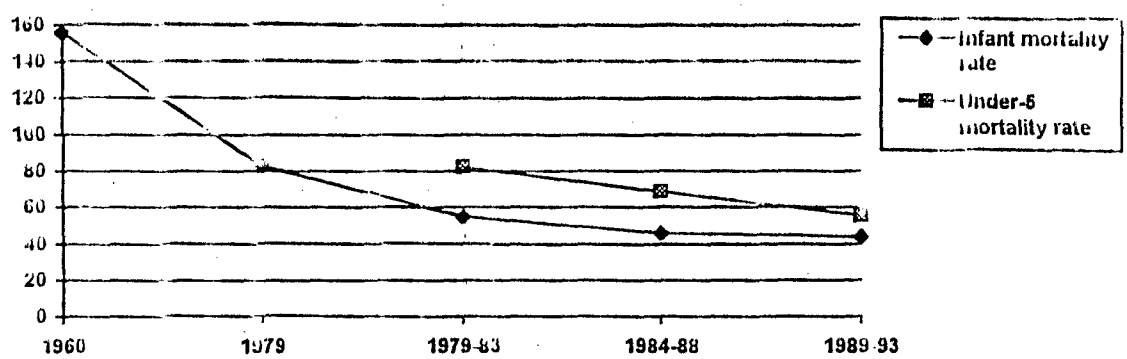
Infant, child and under-five mortality rates are measures of the risk of dying for infants and young children, and they are defined as follows:

- The infant mortality rate represents the probability of dying before the first birthday. It is defined as the number of deaths of children under 1 year of age per 1,000 live born children per year.
- The child mortality rate shows the probability of dying between the first and fifth birthday. It is calculated as the number of deaths of children aged 1-4 years per 1,000 children who survived beyond their first birthday per year.
- The under-five mortality rate refers to the probability of dying before the fifth birthday. It is computed as the number of deaths of children under age 5 per 1,000 live births per year.

9.4.2 Trend of Infant and Under-Five Mortality Rates

As mentioned above, the infant and child mortality rates in Vietnam have declined dramatically since the 1960s (GSO 1995d) and are now at levels which are considered quite low compared to the country's level of economic development.

Graph 9: Trend in infant and under-5 mortality 1960-93



Sources: GSO-1995d, Major findings and World Bank Health Sector Review 1992

The infant and child mortality, however, is not equally distributed throughout the country. The region of residence of a woman has a pronounced effect on the survival outcome of her children. Two of the former seven regions, the Northern Highlands and the Central Highlands, have levels of survival that are much lower than those observed in the other five regions. Almost 7% of infants in the Northern and Central Highlands had died before they were 1 year old, compared to around 4% of infants in the other five regions. Both the Northern and Central Highlands are mountainous, resulting in lower levels of access to health services and a lower level of socio-economic development. Women in these two regions also have lower levels of education, higher fertility, and

shorter intervals between pregnancies. All these factors operate to increase levels of infant and child mortality (GSO-1995d).

Whether a woman lives in a rural or urban area also affects the survival outcome of her children. For a child born in a rural area the probability of dying within the first five years of life is approximately double that of a child living in an urban area.

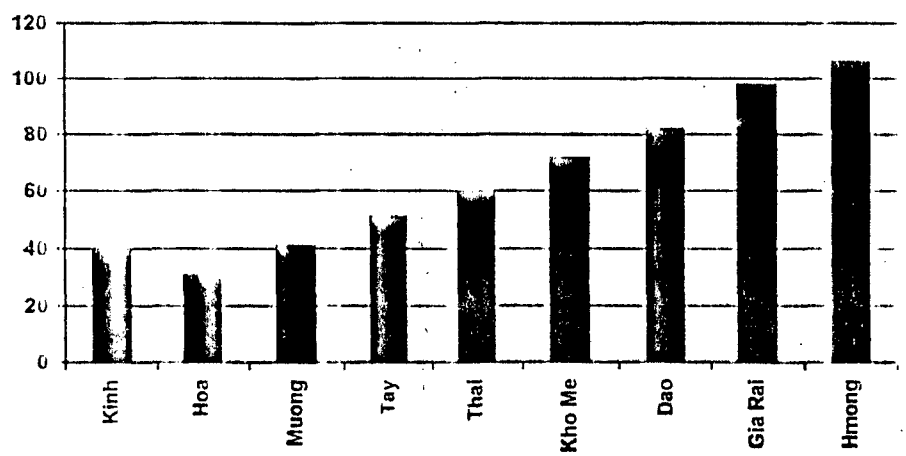
Table 14: Geographic differences in infant and child mortality rates (1984-1993)

Characteristics	Infant mortality	Child mortality	Under-five mortality
Residence			
Urban	27,0	9,1	35,9
Rural	48,2	18,8	66,1
Region			
Northern Highlands	62,2	21,2	82,1
Red River Delta	35,3	9,5	43,7
North Central	37,7	13,7	50,8
Central Coast	37,2	8,6	46,0
Central Highlands	71,6	44,9	108,1
Southeast	31,2	17,0	47,7
Mekong River Delta	48,2	22,1	68,9
Total	45,1	17,48	61,6

Source: GSO 1995d, Major Findings

Within the regions or provinces there are also great variations in mortality rates. Many ethnic minorities, for example, have infant mortality rates which are significantly above the national average.

Graph 10: Infant mortality rates for ethnic groups



Source: Jamieson 1996, Ethnic minorities in Vietnam

9.4.3 International References

According to UNDP (UNDP 1997), in some developing countries up to 30% of the children die before they reach the age of five compared with as little as 2% or less of the children in most developed countries. These differences are, in part, determined by socio-economic characteristics of the society in which a child is born and lives. While the presence of diseases and poor nutritional status acting together explain child deaths, either or both of these determinants are affected by bio-demographic risk factors such as birth weight, birth spacing and order as well as food intake (including breast feeding), and child care practices. These are in turn affected by socio-economic characteristics such as family economic status, place of residence, parental education and parental occupation.

Table 15: International infant and under-5 mortality rates

	Infant Mortality	Under-5 Mortality	GNP per capita (US$ 1994)
Singapore	5	6	22,500
Thailand	29	32	2,410
Indonesia	53	75	880
Laos	93	134	320
Viet Nam	45*	62*	200

Source: UNDP Human Development Report 1997
** GSO 1995d, Major Findings*

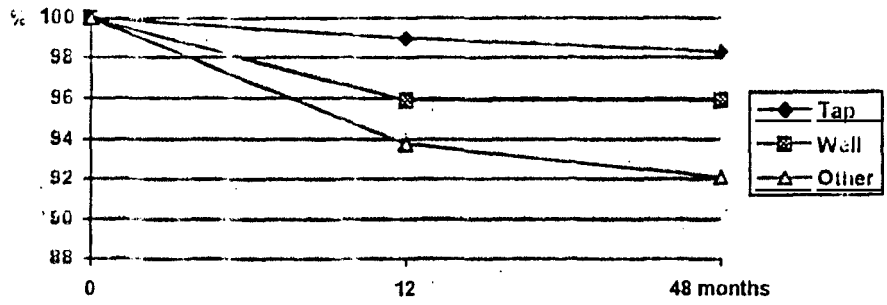
9.4.4 Impact of Water Supply and Sanitation Improvements

Numerous studies have been made on the impact of improved water supply and sanitation on child mortality and a recent review of a number of these found a median reduction of 55% in overall child mortality from improved water and sanitation. This suggests the important role that water and sanitation play in enhancing child survival (Esrey 1991). A 55% reduction in child mortality in Vietnam, would mean the prevention of approximately 17,500 child deaths every year.

Data from the VNICDS-1994 have been used to determine if any correlation between under-five mortality and environmental conditions could be found in Vietnam (GSO 1996b).

In the following graphs the proportion of first born children surviving at the completion of 12 and 48 months is shown by categories measuring the environmental and housing conditions in which the child lives. The source of drinking water is divided into three categories: water from a tap (either piped or from a public tap), water from a well (private or public) and other sources (primarily streams).

Graph 11: Child survival rates by drinking water sources

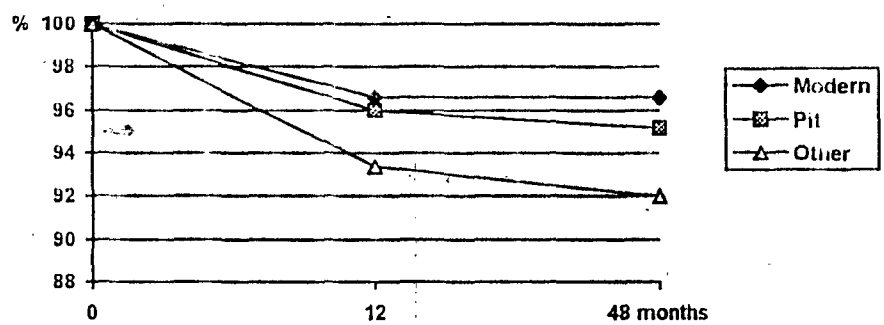


Source:GSO 1996b, Birth Spacing and Child Mortality in Viet Nam

As expected those children born into households that obtained their water supplies from taps had a much higher probability of survival compared to children from households that obtained their water from other sources. Before completing five years approximately 8% of the children born into households where drinking water was obtained from other sources had died, compared to 4% or less for children born into households where water was obtained from a tap or well.

A similar difference in survival probabilities can be seen when comparing the survival curves by type of toilet facilities. Around 4% of children born into households with a flush toilet or a modern ventilated pit toilet had died before their 5th birthday, compared to almost 8% of those in households with other toilet facilities.

Graph 12: Child survival rates by latrine



Source: GSO 1996b, Birth Spacing and Child Mortality in Viet Nam

Although the difference in survival curves over time for different kinds of latrines and drinking water sources seems to indicate that the environmental factors play a large role in child survival, the findings in the above study are not statistically significant. Furthermore, the data does not allow us to attribute the differences in survival rates specifically to water and sanitation conditions, as it is possible that the differences in survival outcome reflect differences in economic status of households, rather than, or in addition to, access to clean water and sanitation.

9.5 HYGIENE KNOWLEDGE AND PRACTICES

9.5.1 Background

The NRWSS survey in 9 provinces found that, in general, people had little knowledge about the causes of water and sanitation related diseases, and that the level of knowledge was associated with the economic situation and level of education of the household. Whatever the level of knowledge,

however actual hygiene practices were found to be almost invariably bad. Handwashing after defecation, for example, is not commonly practised, open defecation is wide-spread and children are normally allowed to defecate indiscriminately around the house.

Internationally, it is increasingly being realised that a few simple practices such as the safe disposal of child stools and handwashing, could play a major role in breaking the faecal-oral cycle of infections (Curtis 1997). It therefore seems relevant to analyse the current practices in Vietnam in relation to handwashing and child defecation.

9.5.2 Handwashing Practices

The fact that hand washing practices, throughout the country, are extremely poor has been confirmed by several studies on knowledge, attitudes and practices. A lot of people will say that hands should be washed when they are dirty, but dirt is generally perceived as something visible. Thus, many people interviewed during the NRWSS survey, didn't know whether hands are dirty after defecating. The consequence of this is that, although most people will state dirty food and water as sources of disease, they do not know that the same food and water may easily become "dirty", when they touch and handle it with unwashed hands.

To illustrate the difference between "dirty" and "unwashed", a child health behaviour study found that 20% of the children believed that eating with dirty hands might cause intestinal worms, but only 2% believed that not washing hands before eating could be equally problematic (L.T.K. Thoa 1996).

A study from Thai Binh Province (Humphries 1996) identified three main activities after which most people would wash their hands:

- handling of fish and sea-food
- preparing and distributing human faeces for fertiliser
- preparing meals for pigs

Washing hands after defecating and before eating was given much less attention

> ....Individuals did not generally wash their hands after defecating in the field but usually wash their hands with water after defecating at home. Other times individuals reported washing their hands with water included when waking up, before eating, before sleeping, after returning from work and after cleaning children. Most people did not wash their hands with soap on a regular basis. Reported reasons for washing with soap included fishing, catching shrimps, preparing fish, shrimp, meat or other smelly food, fertilising with faeces and preparing meals for pigs....
>
> ....Several individuals acknowledged that it would be better to wash their hands with soap, but said they didn't have the time to spend washing their hands carefully on a regular basis, because then they would just do more dirty work and their hands get dirty again. Others reported that they could not afford to buy soap....
>
> *Source: Hygiene Practices and Intestinal Helminth Infections in Rural Thai Binh*

One study, involving Ha Nam and Vinh Phu provinces, which looked at 186 schoolchildren's knowledge and practices in relation to personal hygiene, found that less than 15% of the children knew that washing their hands could prevent diseases (L.T.K. Thoa 1996)

Table 16: Children's knowledge about benefits from handwashing

Reasons for washing hands	Percentage of children
To clean the hands	95%
To prevent diseases	12%
To eliminate germs	11%
Do not know	6%

Source: L.T.K. Thoa. Health behaviour for children

When asked about actual handwashing practices, only 30% said that they wash hands after defecating. While looking at the figures it is important to remember that during the NRWSS survey most of the people interviewed would report that they wash their hands much more often than what was actually found to be the case from direct observations. Thus the real practices of these children are probably much worse, that reported.

Table 17: Children's hand washing practices in 2 provinces

Washing hands	Percentage of children
Before eating	71 %
When hands are dirty	45 %
After defecating	30 %
After touching refuse or excrement	6 %
Not washing	3 %

Source: L.T.K. Thoa. Health behaviour for children

It is interesting to note that, in contrast to the lack of knowledge about hand washing as a means of preventing diseases, 89% of the children stated that they brush their teeth in order to prevent decay.

9.5.3 Child Defecation Practices

The purpose of an excreta disposal facility is to isolate human wastes from the human environment so that pathogens in those wastes are not passed on to other individuals. A child whose family uses a toilet or latrine is less likely to come in contact with faecal material than a child whose family defecates indiscriminately in areas near the house. However, a child's exposure to pathogens is affected not only by the way in which the family disposes of its excreta; children from households that use toilets may still face considerable exposure if their neighbours do not use such facilities. Thus, a child's exposure is affected not only by his or her family's excreta disposal practices, but also by the practices of the community as a whole (J. VanDerslice 1995). In a community where children are allowed to defecate all over the place, even the introduction of latrines - which are only used by adults and older children - may not have much impact on health, unless the children's faeces are also disposed of properly.

The NRWSS survey found that in Vietnam the practice of letting young children defecate indiscriminately around the house is widespread throughout the country. Several studies have confirmed this practice.

One study from Thai Binh Province (Humphries 1996) found that among children under 6 years of age, only one child used the latrine, approximately 1/3 defecated in a pot, while the remaining 2/3 defecated in the garden or on the ground near the house. Sometimes the mother would cover the faeces or throw it in the latrine, other time they reported just leaving the faeces. All of the children were still considered too young to clean themselves after defecating, so the parents or older siblings washed them with water or a cloth. After washing the child, the parents or siblings reported cleaning their hands, but did not report cleaning the child's hands (Humphries 1996).

The sanitation behaviour study from Ha Bac and Ninh Binh Provinces, similarly found that young children under 6 years of age did not use the latrines for defecation and that not much attention was paid to the disposal of children's faeces. Children were allowed to defecate freely anywhere as one mother said, *"small children are afraid to defecate in the latrine, they feel uncomfortable because the latrines are dirty, smelt and have a lot of flies"*. Children's faeces were considered harmless, often the faeces would just be left to dry where ever it was deposited and only after a long time would the parents take it to the pond or to the garden. Sometimes the faeces would be eaten by dogs (L T.K Thoa 1994).

10. WATER AND SANITATION RELATED DISEASES

10.1 INTRODUCTION

Water and sanitation related diseases are often classified in four groups (Huttly 1990).

1) Faecal-oral (water-borne or water-washed), for example diarrhoea, cholera, intestinal worms
2) water-washed only, for example scabies, trachoma
3) water based for example guinea-worm, clonorchiasis (liver fluke)
4) water-related insect-vector transmitted, for example malaria, dengue

This chapter will only look at some of the faecal-oral and waster-washed diseases, which constitute the main problems in Vietnam. These include diarrhoea, cholera, typhoid, amoebiasis, dysentery, intestinal worms and trachoma. Insect-vector transmitted diseases are considered to be only of marginal relevance to the sector (although these diseases will have to be taken into account in the design of water facilities) and unfortunately it has not been possible to find any information on liver fluke disease in Vietnam. In addition to the above, gynaecological diseases have been included, as these constitute a major problem for Vietnamese women and because there is some evidence that these diseases are closely linked to personal hygiene practices.

The chapter is based on data on communicable diseases, provided by the Institute of Hygiene and Epidemiology, MOH health statistics yearbooks, a number of Vietnamese research reports (published as well as unpublished), including the NRWSS survey in 9 provinces and on information received during the workshop on water and sanitation related diseases, held in October 1997. International studies have been used for reference where relevant. The main indicators used in this chapter are:

- Incidence rate, which expresses the frequency with which a disease occurs in a given population. It is calculated as the number of new cases per 100,000 people per year. This indicator is normally used for acute diseases of short duration.

- Prevalence rate, which gives a picture of how widespread a disease is in a given population. It is calculated as the number of cases found at any point in time per 100,000 people. This indicator is mostly used for chronic or long-lasting diseases.

10.2 DIARRHOEA

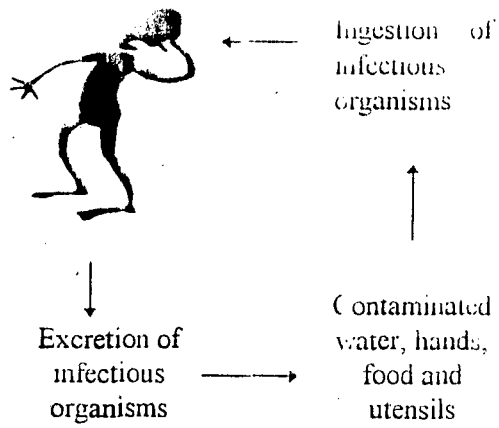
10.2.1 Background

Diarrhoea is a clinical syndrome associated with loose or watery stools and often vomiting and fever. It is a symptom of bacterial, viral and parasitic infections such as cholera, salmonellosis, giardiasis and gastro-enteritis. It can be caused by several strains of the bacteria Escherichia Coli (E. Coli) by infectious diseases such as malaria and measles and by intestinal helminths (worms) as well as by chemical agents.

From a practical clinical standpoint, most of these illnesses may be thought of as a single entity since the basic therapy required to prevent a fatal outcome, fluid and electrolyte replacement is similar for all.

In view of preventive measures it is important that the mode of transmission is similar for most of these illnesses namely by faecal contamination of food, water and utensils. Use of unprotected water sources, inadequate personal hygiene and poor environmental sanitation all contribute to spread of infections. Thus the incidence of diarrhoea is an excellent indicator of the water, sanitation and hygiene conditions in a given area.

Figure 2: Faecal Oral transmission

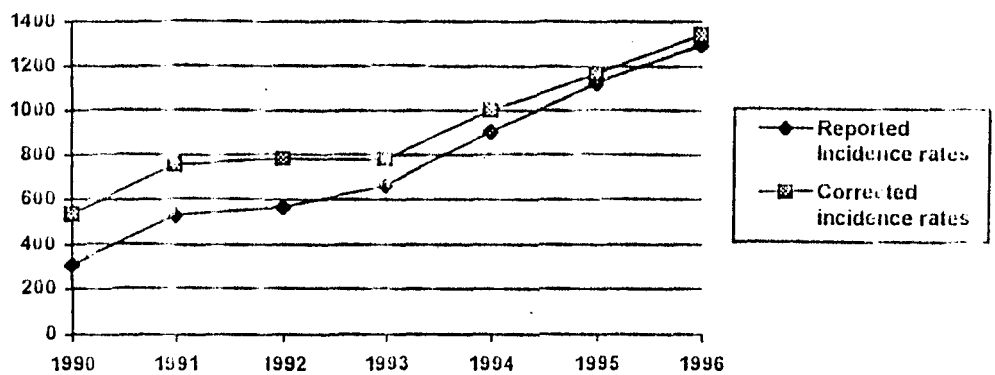


10.2.2 Incidence Rates and Trends

Diarrhoea is a major cause of infant and childhood morbidity and mortality in Vietnam. It currently ranks third as cause of death among children under five years of age (MOSTE 1994). An estimated 30,000 Vietnamese infants and children die of diarrhoea every year.

According to the statistics on communicable diseases provided by the Institute of Hygiene and Epidemiology, the incidence of diarrhoea has increased significantly since the beginning of the 1990s; from 308 per 100,000 inhabitants per year in 1990 to 1,298 in 1996.

Graph 13: Trend in diarrhoea 1990-1996



Source: Statistics on Communicable Diseases, Institute of Hygiene and Epidemiology

The corrected incidence rates are calculated on the basis of the proportion of months with a reported number of cases higher than 0, assuming that when a province reports zero cases of diarrhoea, this is an indication of lack of registration rather than of absence of diarrhoea. The figures show that the health information system has improved substantially since 1990, with the gap between the two curves narrowing down towards 1996. They also show, however, that although the increase may be somewhat less than that indicated by the reported number of cases, it is still significant.

The trend of increasing diarrhoea incidence was discussed extensively in a recent workshop on water & sanitation related diseases. It was generally agreed, that the health information system has

improved over recent years, and that this contributes to the increasing trend, but that at the same time diarrhoea is increasing and that this increase is caused by multiple underlying factors.

Unregulated and unsustainable economic growth was seen as one of the most important factors. Increasing population density is causing increasing environmental problems, resulting in deteriorating water quality; more fresh human faeces is used for the vegetable gardens; the number of latrines is declining; people's eating habits are changing, with fast food and quick snacks at the roadside gaining hold; etc. Although these problems can be found all over the country, the south and central parts of Vietnam are believed to be the areas most affected.

Unsustainable economic development

"Diarrhoea is increasing among school children because of poor hygiene and especially because pupils drink fresh water; if all children were to drink boiled water, diarrhoea would decrease. Also a lot of fresh human faeces is used for fertilising the vegetable gardens in order to improve the family economy. Parents are now too busy making money to take proper care of the children and the children are left alone to eat anything they may find. One example of unsustainable development, was that in one school the director asked for a computer. However, the school didn't have any water and sanitation facilities, so he obviously got his priorities wrong".

Ms. Dung, Dept. of Physical Education, MOE

The health statistics confirm that the increase has been highest in the Central Coastal, Central Highlands and Mekong River Delta regions (300-400%) and lowest in the South East (170%). Diarrhoea, thus, is not equally distributed throughout the country. While the incidence rate in the South-East region in 1996 was a little over 500/100,000 inhabitants/year, in the North-East Mountains region it was close to 2,500. In addition to the North-East Mountains, diarrhoea is a major problem in the two delta regions (Annex 6).

Considering that most cases of diarrhoea do not require hospitalisation it is alarming that diarrhoea and gastro-enteritis are still among the main reasons for seeking hospital treatment. In 1995 diarrhoea was the number one cause of hospitalisation.

Table 18: Leading causes of morbidity in hospitals in 1995

	Diseases	Cases	Incidence
1	Diarrhoea and gastro-enteritis	230,835	370
2	Malaria	226,401	363
3	Pneumonia	147,680	236
4	Acute bronchitis	98,697	158
5	Accidents and injuries	70,765	113

Source: MOH Health Statistics Yearbook 1995

In 1996, however, diarrhoea was overtaken by accidents and injuries, which now heads the list of hospital based morbidity.

Table 19: Leading causes of hospital based morbidity in 1996

	Diseases	Cases	Incidence
1	Accidents and injuries	318,111	501
2	Diarrhoea and gastro-enteritis	266,787	420
3	Pneumonia	173,199	273
4	Acute Bronchitis	159,055	250
5	Malaria	155,260	244

Source: MOH Health Statistics Yearbook 1996

10.2.3 International References

Recent estimates based on surveys from 70 countries have yielded a global median diarrhoea incidence rate of 3.4 episodes per child per year. Furthermore, diarrhoea has been estimated to account for approximately 36 % of all deaths in children under-five (for the period 1981-1986). Based on these figures, in 1989, it was estimated that young children in developing countries (excluding China) suffered around 1,500 million episodes of diarrhoea per year and 4 million diarrhoea-associated deaths (12.0 per 1,000 population under-five).

Table 20: Diarrhoea frequency in the developing world

	Africa	Americas	South-East Asia	Global	Vietnam *
Number of diarrhoea episodes per child per year	4.4	4.6	2.9	3.4	2.2
Percentage deaths associated with diarrhoea	38	35	28	36	25
Diarrhoea death rate per 1,000	17.4	6.0	9.5	12.0	11.0

Source: S.R.A. Huttly 1990
** MOH Vietnam*

According to the above table, Vietnam appears to compare relatively favourable in relation to diarrhoea, with morbidity and mortality rates somewhat below the South-East Asian average. There is reason to believe, though, that the number of episodes of diarrhoea in Vietnam is somewhat underestimated. One study conducted in three communes in Ha Tay Province, for example, found that the number of diarrhoea episodes per child per year was 3.6 (N.V. Binh).

10.2.4 Knowledge, Attitudes and Practices

Several studies have been made on Knowledge, Attitudes and Practices in relation to diarrhoeal diseases in Vietnam, and most find that, although food and water are often stated as possible sources of transmission of diarrhoea, few people know how the food and water actually become contaminated. One study among 1147 households in Nam Ha Province found that 69% of the mothers with children under five years believed contaminated food and un-boiled drinking water to be main causes of diarrhoea. None of them, however, saw any association with the mother not washing hands before feeding the child, and only 1 mentioned flies as a possible source of transmission. Around 60% didn't know how to properly manage cases of diarrhoea (N.V. Truong 1997). Studies from several different provinces have found that, in general, the first action in case of diarrhoea is self-medication with herbal medicine, followed by antibiotics and opium, before eventually consulting the health services (L.T.K. Thoa 1994).

During a sanitation behaviour study in 1994, all participants said that diarrhoea (Tieu chay) only occurs in older children and adults. In infants, diarrhoea is called Tout (which means over ripened fruit) and this is not considered a disease. The main causes of diarrhoea were believed to be eating

unhygienic food, flies, drinking unboiled water and animal dung. Only a few mentioned unhygienic latrines as a possible cause, and nobody talked about hand washing. "Tout" is believed to be caused by breast milk (the milk is too warm or the mother has eaten certain foods). The same study found that although most of the families believed that diarrhoea can be prevented, less than half were serious about doing so, they said they were "*too busy with work*" (L.T.K. Thoa 1994).

The knowledge of causes and prevention of diarrhoea has been found to be specially low among children. One study among 186 children interviewed in Nam Ha and Vinh Phu Provinces showed that over half of the children did not know how diarrhoea is transmitted.

Table 21: Causes of diarrhoea according to children in 2 provinces

Causes of diarrhoea	%
Using unhygienic latrine	24
Drinking unboiled water	20
Eating raw, unclean vegetables	13
Not washing hands before eating	5
Open air defecation	3
Not washing hands after defecation	2
Do not know	55

Source: L.T.K. Thoa, Health behaviour for children

The lack of knowledge about how food and water are contaminated and how diarrhoea is transmitted, may be an important underlying factor in explaining the poor hygiene practices found by most studies, including the NRWSS study in 9 provinces.

10.2.5 Impact of Water-Supply and Sanitation Improvements

Reviews of international studies on effects of improved water supply and sanitation on health, have found that such improvements can substantially reduce the rates of morbidity and severity of several diseases, including diarrhoea. On average, water, sanitation and hygiene education interventions seem to be able to reduce the incidence of diarrhoea with approximately 30%. Furthermore the severity of diarrhoea is often reduced more than that of the incidence, as evidenced by a median reduction in diarrhoea-specific mortality of 65%. The consequence of such a reduction in Vietnam would be the annual prevention of 20,000 deaths among children under 5 years of age. When comparing the relative importance of water and sanitation, most studies have found that sanitation has a greater impact on child health, based on mortality, growth and morbidity indicators. Improved water supply (quantity and quality) alone may reduce the incidence of diarrhoea with around 15%, but in areas where environmental faecal contamination is high, little or no health impact from water improvement can be expected (Esrey 1991).

....Results published since 1986 on diarrhoeal diseases concur with previous findings, and the studies conducted in the last few years show a greater reduction in diseases: while this may reflect better studies, it may also indicate better-conceived interventions. Interventions to improve excreta disposal and water quantity, which are both associated with better hygiene practices, produce greater impacts than improvements in water quality. This is particularly so in highly contaminated environments where diarrhoea rates are high. Because the use of more water does not automatically follow the installation of water supplies, hygiene education is a necessary part of the intervention. The following recommendations can therefore be made:

- to achieve a broad health impact, greater attention should be given to safe excreta disposal and proper use of water for personal and domestic hygiene, rather than to drinking-water quality.
- sanitation facilities should be installed at the same time as water facilities when faecal-related diseases are prevalent.

- access to the water supply should be as close to home as possible, in order to foster the use of larger amounts of water for hygiene practices.
- water supply and health programmes should emphasise hygiene education to encourage the use of more water for personal and domestic hygiene.

Source: Esrey 1991

In Vietnam, several studies have been conducted in order to examine the relationship between water, sanitation and diarrhoea, and these often confirm the international findings. One such study in Thai Nguyen province, for example, found a clear association between incidence of diarrhoea and water supply source, with households using stream water having significantly higher diarrhoea incidence rates than families using what was believed to be safe wells. A similar association was found between diarrhoea and the lack of latrines (H.K. Lap 1997).

10.3 COMMUNICABLE DISEASES

10.3.1 Background

Water and sanitation related communicable diseases still constitute a serious public health risk in Vietnam. These diseases are endemic in many parts of the country, which means that they are permanently present and may cause sporadic cases in the population. However, they also appear in epidemic outbreaks giving rise to elevated numbers of cases in affected areas. Four of the main water and sanitation related communicable diseases in Vietnam have been included in this chapter.

- Cholera is an acute bacterial intestinal infection, which is primarily transmitted through ingestion of water contaminated with faeces or vomitus of patients, or ingestion of food which has been contaminated by dirty water, faeces, soiled hands or flies. The cholera bacteria can persist in water for long periods and raw or undercooked seafood from polluted waters may cause outbreaks or epidemics (Benenson 1985).

- Typhoid is a generalised bacterial disease, which is transmitted through food or water contaminated by faeces or urine of a patient or an asymptomatic carrier. Shellfish taken from sewage-contaminated ponds and raw fruits and vegetables contaminated by hands of carriers are important vehicles in some parts of the world. Flies can infect foods in which the organisms may multiply to achieve an infective dose (Benenson 1985).

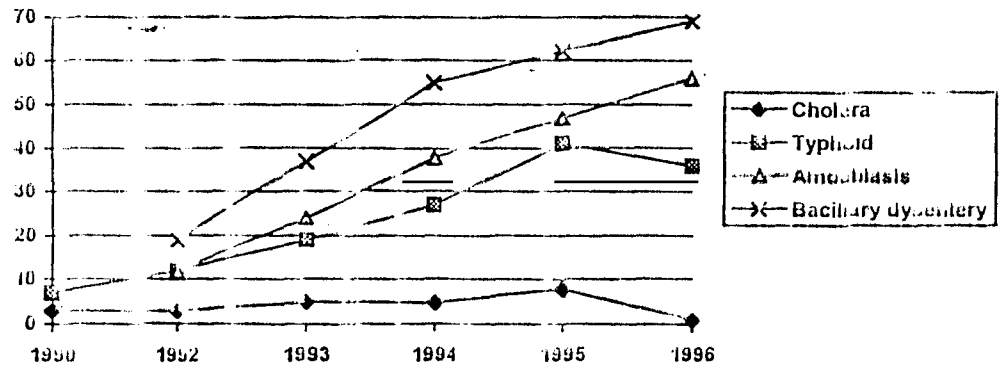
- Amoebiasis is caused by a parasite which produces intestinal disease and in some cases may disseminate via the bloodstream, producing abscess of the liver or, less commonly, of the lung or brain. The disease is normally spread by hand-to-mouth transfer of faeces, by contaminated raw vegetables, by flies and possibly by soiled hands of food handlers. Epidemic outbreaks result mainly from ingestion of faecally contaminated water containing amoebic cysts (Benenson 1985).

- Bacillary dysentery is an acute bacterial disease involving the large and small intestine. The disease is found world-wide and two-thirds of the cases occur in children under 10 years. The disease is spread by direct or indirect faecal-oral transmission from a patient or a carrier and infection may occur after ingestion of very few (10-100) organisms. Individuals primarily responsible for transmission are those who fail to clean hands thoroughly after defecation. They may spread infection to others by direct physical contact or indirectly by contaminating food. Major outbreaks commonly occur under conditions of crowding and poor sanitation (Benenson 1985).

10.3.2 Incidence Rates and Trends

An increasing trend, similar to the one for diarrhoea, can be seen for several of the water and sanitation related communicable diseases, particularly typhoid, amoebiasis and dysentery, while cholera has remained stable since the late 1970s.

Graph 14: Trend in communicable diseases 1990 1996



Source: Statistics on Communicable Diseases, Institute of Hygiene and Epidemiology

As mentioned above, in Vietnam cholera has remained quite stable, with sporadic outbreaks and small epidemics, especially in the southern and central regions, giving an average of approximately 5 cases per 100,000 inhabitants per year since 1979. Since the early 1980s the North Central, Central Coastal and Central Highlands have been the regions most affected by the disease (Annex 6).

Typhoid on the other hand has been increasing steadily over recent years, although there is a small decline in incidence in 1996. The incidence rate appears to have been quite stable, with around 5 cases/100,000/year during the 1980s, although increasing slightly towards the end of the decade. Since 1990, however, the increase has been speeding up, first of all in the Mekong River Delta, which is the main area of the disease, but also in the other regions (Annex 6). The recent decline in incidence is believed to be due to the introduction of more efficient medicines, which reduce both the length of time a patient is infectious and reduce the number of chronic disease carriers, both of which contribute to limiting the transmission of the disease (N.N An 1997).

Amoebiasis used to be a disease mainly of south Vietnam, but over the last five years it has increased especially in the rest of the country and now the highest incidence rates are found in the central regions, especially in the Central Highlands (Annex 6).

Similarly to the other communicable diseases, bacillary dysentery has been spreading throughout the country over the last 5 years and now is quite uniformly distributed, except for the Central Highlands and the Central Coastal regions which have very high incidence rates, when compared with the rest of the country (Annex 6).

Thus it appears that several of the communicable diseases, which were previously found mainly in the south, have increased, and spread throughout the country, during recent years. Presently the Central Highlands and the Central Coastal Region top the list for both cholera, amoebiasis and dysentery, whereas typhoid remains a problem mainly in the Mekong Delta.

Cholera remains intermittently epidemic, especially in the central parts of the country. However, the sanitation, food hygiene and water quality situation in Vietnam is such that outbreaks could occur anywhere, at any time. The risks of this will increase with a more mobile population, both

nationally and internationally, and with air travel. This risk will persist so long as the country is receptive to cholera (because of defective sanitation, water quality, and food hygiene) in both urban and rural areas.

10.3.3 Knowledge, Attitudes and Practices

Knowledge about the relationship between water and sanitation and communicable diseases has been found to be considerably lower than for diarrhoea. In a study conducted in Ha Nam Province 49% of the people interviewed associated diarrhoea with using contaminated water for cooking while as few as 5-10% knew that communicable diseases, such as dysentery, cholera and typhoid fever, are related to water and sanitation (T.V. Dung 1997).

Another study among 428 families in Thai Nguyen Province found that although 95% were able to correctly identify a clean water source, only 40% could identify causes for contamination of water and less than 10% knew about waterborne diseases (H.K. Lap 1997).

That this lack of knowledge may lead to unsafe practices was illustrated in a case-control study looking at the underlying causes of a cholera epidemic in Hai Phong, which found the following three main factors to be associated with cholera (N.V.Hieu)

- Poor hand washing practices
- Practice of not eating the food immediately after cooking
- Low economic conditions

10.4 INTESTINAL WORMS AND PARASITES

10.4.1 Background

Intestinal helminth infections constitute some of the most common diseases in human beings throughout the world the most prevalent being the soil-transmitted nematode infections (intestinal worms). These worms are classified as soil-transmitted, because the worm eggs or larvae must spend an obligatory period outside the body, further developing in the soil surface, to become infective. Direct person-to-person transmission cannot occur. Inadequate sanitation facilities and poor hygiene practices provide for easy transmission. The most widespread soil-transmitted nematodes are Ascaris lumbricoides (roundworm) and Trichuris trichuria (whipworm), which are both transmitted through the faecal-oral route, and Ancylostoma duodenale (hookworm), which is transmitted when the eggs hatch in suitable soil and the juvenile worm penetrates the skin of a new host.

Intestinal worms cause chronic debility in children. Roundworm may cause acute respiratory problems at the beginning of the infection; it contributes to malnutrition and sometimes causes intestinal obstruction. Roundworm is nearly always associated with whipworm which can also contribute to malnutrition and may cause persistent bloody diarrhoea. Heavy hookworm infestation contributes to iron deficiency anaemia. The global number of people afflicted with these three infections has been estimated around 1 billion and although case-fatality rates are low, the sheer magnitude of the prevalence rates and world-wide distribution have led to estimates of roundworm contributing to 100,000 deaths per year (Huttly 1990).

10.4.2 Prevalence Rates

In Vietnam soil-transmitted worm infections are very common, but as in most developing countries - because they are rarely fatal - they are often regarded as part of the "normal scenery" in childhood, like colds and transient diarrhoea (MOSTE 1994). Worms are not considered to be dangerous. "*worms and our body can live together, nothing happens*" (L.T.K. Tuan 1994)

The prevalence of intestinal worms in Vietnam is very high especially in areas where human faeces is used as fertiliser. Several studies from Ha Nam province in the Red River Delta show prevalence rates of around 80% for roundworm and whipworm and 10% for hookworm. Totally, among the people examined, 95% were found to be affected by some kind of worm. (N G. Khanh 1997 and H T. Dan 1997).

Although no significant difference in prevalence rates for men and women was found, egg-counts (number of intestinal worm eggs per 1 g of faeces) showed that women have much more serious infections than men especially with regards to hookworm. This may be explained by the fact women are commonly the ones in charge of spreading the human faeces, when it is used as fertiliser.

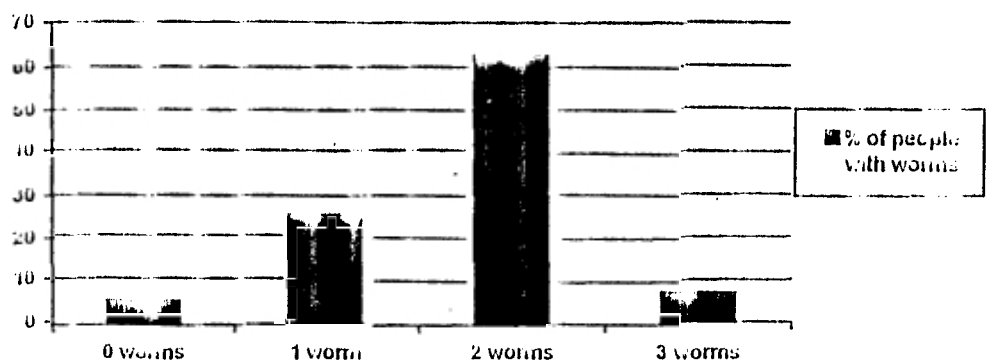
Table 22: Differences in worm load between men and women in a Red River Delta area

	Worm eggs/1 g of faeces		
	Roundworm	Whipworm	Hookworm
Males	11,774	584	69
Females	13,266	637	347

Source: Intestinal worm infection in Kim Bang district, Ha Nam Province

The majority of the people are hosts to at least two different kinds of intestinal worms at the same time.

Graph 15: Worm load among residents in a Red River Delta area



Source: Intestinal worm infection in Kim Bang district, Ha Nam Province

The prevalence of intestinal worms is lower in the central and southern parts of the country. Data from a deworming campaign in Dak Lak Province estimate the intestinal worm infection rate to be 63% (72% among women), with 16% of the population hosting 2 worms. Similarly, investigations in the Mekong Delta have found worm infestation rates of 65%, with approximately 17% hosting two species (L.T.Thu 1995). However, although there seem to be a consistent declining trend, from the north to the south, with regards to total infection rates. The prevalence of hookworm found in different studies show great variations, which are difficult to explain.

Table 23: Prevalence rates of intestinal worms in Vietnam

Province	Region	Any worm (%)	Roundworm (%)	Hookworm (%)
Ha Nam	North	95	86	9
Ha Tinh	North	92-100	94	69
TT-Hue	Central	83-92	86	36

Dak Lak	Central	65	42	40
Long An	South	31-41	30	6
Mekong delta	South	65	46	25

10.4.3 International References

Few data are available on prevalence rates of intestinal worms, but one study summarised the following results from epidemiological surveys of intestinal parasitic infections in poor peri-urban and urban communities in developing countries (Crompton 1993).

Table 24: Prevalence of intestinal worms in urban areas in developing countries

		Prevalence (%)	
City	Country	Roundworm	Whip worm
Braganca Paulista	Brazil	30	39
Nairobi	Kenya	82	60
Kuala Lumpur	Malaysia	64	84
Lagos	Nigeria	68	72
Manila	Philipines	80	92

Source: Intestinal parasitic infections and urbanization

The prevalence of intestinal worms is often highest where people live under crowded and unsanitary conditions and, thus, poor urban areas are often those most affected. However, in most of rural Vietnam, the prevalence of intestinal worms is higher than the ones found in and around a number of cities in developing countries.

10.4.4 Knowledge, Attitudes and Practices

Several studies conducted during recent years, in Vietnam, have demonstrated that although "worms" as a disease is well known most people have very little knowledge about how worms are transmitted and therefore also about how transmission can be prevented. One study, for example, found that the majority of the people interviewed believed that getting worms cannot be prevented *"we do not allow the children to eat raw vegetables and we take good care of them, but still they get worms"*. In line with this reasoning, most people believed worms to be transmitted through eating vegetables which had been washed in dirty water, eating unhygienic foods or drinking unboiled water, while very few related worm infections to having direct contact with human faeces for example by using unhygienic latrines, through the use of fresh excreta or by not washing hands after defecating and before eating (L.T.K. Thoa 1994).

In line with the above, the NRWSS survey found that the knowledge about intestinal worms varies considerably, although in most areas it is quite low. In Dak Lak, for example, when asked about the causes of hookworm, some people mentioned the fact that they often have to walk barefoot in the coffee fields, which are also used for defecation (because of the soil conditions it is not possible to use shoes during much of the 6-month rainy season), while others did not see any links between open defecation and transmission of intestinal worms.

The poor hygiene practices found in most of the country, especially the use of fresh human faeces as fertiliser, the practice of not washing hands after defecation and the fact that children are allowed to defecate around the house, all aid the spread of these diseases. Another example from Dak Lak is one poor man who mentioned that he knew that hand washing after defecation was important in order to avoid diarrhoea and worm infections but that, despite of this, his family often did not wash their hands after defecating in the coffee fields, particularly not the children.

....Infections in young children are most likely due to contamination of soil around the house where young children play. In Vietnam such contamination usually occurs when some family members defecate in the yard or when faeces are mixed with ash on the ground near the latrine before it is used for fertiliser. Most of the adults use a latrine for defecation, but young children often are taught either to defecate in the garden or to use a plastic pot. After defecating children are usually taught to call an adult to clean up the faeces and wash the child, but many mothers acknowledged that the children don't always call and that sometimes an adult can't come and help immediately. Defecation in the yard or in a pot when the faeces aren't immediately buried or put in the latrine can contaminate the soil and can lead to direct transmission since one child in this study was seen playing with a plastic pot that still had visible faeces inside....

....Infections in older children and adults can come from contamination around the house, at school or in the fields. Many of the adults surveyed reported that when they are working in the field they will defecate nearby on the banks of the canals or in a hidden place. This leads to contamination of the soil and of the plants with helminth eggs. So vegetables grown in soil fertilised with human faeces may carry helminth eggs that have been carried from the ground on to the plant. It is also likely that preparing and applying the faeces puts the individual at risk of infection, though every adult reported washing their hands with soap after fertilising with faeces....

Source: Hygiene practices and intestinal helminth infections in rural Thai Binh

One study on child health behaviour in Nam Ha and Vinh Phu Provinces found that the children considered intestinal worms as being their number one health problem, but that neither children nor adults knew why they got worms. The children listed the following as being the causes and means of prevention of worm infections:

Table 25: Children's knowledge of causes for getting intestinal worms

Causes	% of children stating each cause
Drinking unboiled water	60
Eating fruit without washing	45
Eating dirty food	44
Eating with dirty hands*	20
Open air defecation	9
Not using hygienic latrine	6
Not washing hands before eating*	2

Source: Health Behaviour Study for Children

** Hands are only considered dirty, when the dirt can bee seen*

Table 26: Children's practices for preventing intestinal worms

Preventive action	% of children practising prevention of worms
Use anthelminthic regularly	56
Do not know	26
Not eat unhygienic food	22
Wash hands before eating	18
Only drink boiled water	15
Use hygienic latrine	2

Source: Health Behaviour Study for Children

The above tables show that the reported practices are only partly linked to the knowledge about how worms are transmitted. On the one hand, 20% of the children believe worms to be caused by eating with dirty hands and consequently 18% wash their hands before eating. On the other hand 60% believe unboiled water to be an important factor, but still only 15% report that the only drink boiled water. These apparent inconsistencies are most likely explained by the fact that many of these factors are not under the control of the children.

10.4.5 Impact of Water-Supply and Sanitation Improvements

A recent review of international research found a median reduction of approximately 30% in the prevalence of roundworm from improved water and sanitation, while the disease severity, as measured in egg counts (worm load) was reduced with 60%. In some studies where deworming was conducted in conjunction with water and sanitation improvements, the prevalence was found to be reduced by up to 80% (Esrey 1991). Deworming alone can produce similar reductions, but re-infection is then likely to occur within a brief period of time.

Thus, although temporary relief can be obtained by the use of anthelmintic drugs, permanent protection from the extensive and chronic diseases caused by intestinal parasitic infections will not be ensured until clean environments are available. Theoretically, there should be no difficulty in controlling intestinal worms in the community. There are excellent drugs for treating individual patients and for mass chemotherapy and, if they are combined with health education and improved sanitation, infection rates can be greatly reduced.

10.5 TRACHOMA

10.5.1 Background

Trachoma is an eye infection, which if left untreated, may lead to progressive visual disability and blindness. The disease is found world-wide, especially among population groups with poor hygiene, poverty and crowded living conditions, particularly in dry, dusty regions. The disease is transmitted through direct contact with eye and nose discharges from infected persons and possibly by flies. The severity of disease is related to living conditions, particularly poor hygiene. Exposure to dry winds, dust and fine sand may contribute to the severity of the disease.

10.5.2 Prevalence Rates

Trachoma is one of the most common diseases in Vietnam. In 1990, a study on trachoma prevalence in 8 provinces found that 17.5 % of the population - approximately 13 million people - suffered from the disease (N.T. Nhan 1990). Trachoma is the second most frequent cause of blindness in Vietnam.

Trachoma starts in childhood. An extensive survey conducted in 1993, involving 10 provinces and over 50 000 children, found that the prevalence of trachoma among children under 15 was approximately 12%. The prevalence rate increases gradually during the first years of life and reach a stable level around age 6-7 years (N.C. Dung 1993).

Trachoma is widespread in developing countries, with an estimated 500 million cases per year (not including China), leading to 8 million people being disabled by blindness every year. In Vietnam it is estimated that approximately 1 million people are blind (Vietnam News 4/11-97). As for most of the diseases reviewed, there are regional differences in the prevalence of trachoma, with the highest

prevalence rates found in the North, especially in mountainous areas, and the lowest in the coastal areas of the central provinces.

10.5.3 Knowledge Attitudes and Practices

The above mentioned study in 10 provinces in 1993 examined the relationship between children's hygiene practices, environmental hygiene and trachoma infection. The most important factors for acquiring the disease were found to be the use of dirty water for washing the face as well as the frequency of face washing.

Table 27: Hygiene practices related to trachoma

Children's hygiene habits	Risk of getting trachoma (odds ratio*)
Using dirty water for face washing (pond, river, lake, stream)	2.14
Washing the face less than once a day	1.90
Not having sanitary latrine	1.64
Not having personal towel	1.50

Source: N.C. Luong 1993

** The odds ratio expresses the increased (or decreased) risk for acquiring a disease when a certain condition is present, as compared to when this condition is not present.*

The NRWSS study found that trachoma is a well known (and widespread) disease, and that it is widely known that the disease is related to poor environmental hygiene. There is, however, a tendency to believe that transmission of trachoma is directly related to contaminated water and unhygienic latrines, rather than to hygiene practices of each individual.

Thus, a lot of people believe that using dirty water and unhygienic latrines can cause trachoma especially the practice of bathing in the ponds, lakes or rivers. However, when most people in a village suffer from trachoma, there is an old popular saying which relates to the also popular belief that if there is disease in a household this may be because the entry door of the house points in the wrong direction.

> *" Toet mat la tai huong dinh*
> *Ca lang cung toet chu minh gi em "*
>
> *" Rheumatism of the eye is caused by the direction of the communal temple, almost all of the people in the village suffer, not only me"*

10.5.4 Impact of Water-Supply and Sanitation Improvements

In a review of 16 international studies on the role of water, sanitation and/or hygiene in the reduction of trachoma, the median reduction in trachoma was found to be 30-50%. The reduction was first and foremost related to hygiene practices, especially the frequency of face-washing, but also the distance to water sources was important. Thus, in Vietnam, improved hygiene practices could lead to the prevention of 4-7 million cases of trachoma per year and 50,000-75,000 cases of blindness.

[redacted]

10.6.1 Background

Gynaecological diseases are very important to women as they create serious health problems and consequently influence women's ability to work and their quality of life. Untreated gynaecological diseases may lead to cervical cancer, infertility, chronic pain and emotional distress.

These diseases are not normally included among the water and sanitation related diseases, however, the very high prevalence rates found during the NRWSS study and the poor female hygiene practices mentioned by both men and women in many provinces, have justified the inclusion of gynaecological diseases in this report.

10.6.2 Prevalence Rates

Gynaecological diseases constitute one of the major health concerns for women and in Vietnam the prevalence of gynaecological diseases is very high, especially among women in the reproductive age. During the NRWSS survey in 9 provinces, gynaecological diseases were almost invariably mentioned as one of the main health problems, with estimates of up to 90% of the women suffering from gynaecological diseases.

In accordance with the findings from the NRWSS survey, recent studies have found prevalence rates ranging from 34-46% in Ha Nam Province (N.G. Khanh 1996), to 58% in Thai Binh Province (T.H. Minh 1997), and 69% in Ha Bac Province (D.N.T. Hoai 1995).

The study in Thai Binh found that the main causing agents were fungus (28.5 %), bacteria (44%) and a combination of both fungus and bacteria (27.5 %). In almost 30% of the cases involving bacteria, these turned out to be of faecal origin.

10.6.3 Knowledge, Attitudes and Practices

The above findings, from the study in Thai Binh, gave rise to the question of why such a high percentage of women have gynaecological infections caused by faecal bacteria and led to further investigations into women's personal hygiene practices.

It turned out that women generally consider dug well water as clean and therefore commonly use untreated well water for washing their intimate parts. They often wash once or twice a day, using water only. Most women do not use soap for washing their intimate parts.

Furthermore, most women, when they suffer from discharge, itch or other gynaecological discomfort, usually wash deep inside the vagina, using hands and a little water. This practice may be important in introducing infectious organisms into the vagina, especially since most rural

women do not wash their hands very often and since the water is often contaminated with faecal matter

Several similar examples of high prevalence of gynaecological diseases and poor female hygiene were found during the NRWSS survey. In Thai Nguyen, for example, where 90 % of the women were estimated to suffer from gynaecological diseases, several men complained about women's lack of personal hygiene although they recognised that the women work too hard and therefore are too tired to take proper care of their personal hygiene. It should be kept in mind however that men's personal hygiene is also important in transmission of gynaecological diseases.

In one of the communes visited in Lai Chau it was found that because of water shortage, the personal hygiene is insufficient in some of the villages. In one H'Mong village, for example, many people only bath approximately once a month and clothes are not washed regularly. The personal hygiene in connection with women's menstruation is also insufficient as most women do not use any special napkin or cloth while menstruating. Instead it is common for women to use two pairs of trousers per day which are then washed in the evening.

Not having a bathroom, or otherwise not being able to ensure sufficient privacy for bathing, may also influence women's personal hygiene. One Commune Health Centre staff in Quang Nam, for example reported that gynaecological diseases are very common, and that he believed this to be related to the fact that many households do not have bathrooms. Because of lack of privacy, many women might not be as thorough with bathing and personal hygiene as they ought to be.

11. INFORMATION, EDUCATION AND COMMUNICATION

11.1 INTRODUCTION

The following chapter analyses the present information, education and communication (IEC) activities in relation to water and sanitation. The first section looks at the history of health education in schools, the present curriculum and the water and sanitation facilities in schools. The second section focuses on information at community level, including the sources and types of information provided as well as an assessment of the effect of this information. The following four sections outline the recent IEC activities and campaigns in relation to water and sanitation. This includes a description of the motivator network and activities of the Women's Union, the Youth Union, the Pioneer Association and the Ministry of Health.

The chapter is mainly based on information received during meetings with different ministries and organisations and during the workshop on IEC and community participation, held in October 1997. A review has also been made of different reports and training and information materials. In addition to this, data collected in connection with the NRWSS survey in nine provinces have been used.

11.2 HEALTH EDUCATION IN SCHOOLS

11.2.1 History of Health Education in Schools

According to MOET, there was some health education in schools in Viet Nam before 1986, but it was limited. With the issue of Resolution No. 305/QD in 1986, the Government paid more attention to health education in primary schools. From 1987-1990, with the support of UNICEF, a curriculum for health education was developed, teaching materials prepared and health education introduced as a pilot programme in some primary schools. From 1991 the curriculum has been further developed and revised. This had included the development and revision of text books for use in primary schools and manuals and instructions for teachers' training colleges. Teaching tools have also been provided to schools and support given to the development of VAC (vegetable gardens, fish ponds and animal pens) in a few pilot schools and teachers' households.

With Circular No. 5324 in 1994, health education was made one of the five compulsory subjects to be taught in primary schools with 1 hour per week (UNICEF, 1994).[9] However, in many primary schools no, or very little, health education took place until 1996. Different text books and instruction manuals for teachers for grades 1-5 and one manual for teachers in pedagogical schools were developed. Besides that, more than 40 sets of pictures and teaching materials were prepared to be used in connection with the introduction of active teaching methods. Health education was the first subject where such methods were introduced. According to MOET, children and teachers appreciate the new teaching methods, which include role plays, group discussions etc.

Since 1996 there has been more focus on health education for school children and teachers in ethnic minority groups. This has included the development of special textbooks and handbooks (with questions and answers) in both Kinh and some ethnic minority group languages. Pictures targeted specifically at ethnic minority group children have also been designed. Retraining courses have been carried out in selected mountainous districts for primary school teachers for ethnic minority children and also two training courses for parents and community leaders.

[9] The other four subjects are literature, mathematics, history and geography.

All schools included in the WATSAN programme are reported to have a one week campaign on health and sanitation each year. Normally, this is done in collaboration with health workers, the Women's Union, Youth Union and other mass organisations. The campaigns are carried out around school opening and in connection with the annual teachers' day in November. Normally the campaigns focus on topics like washing hands with soap, treatment of worm diseases, personal hygiene and keeping the environment clean. The campaigns are carried out both in the schools, among parents and in the village in general. Competitions, or festivals, are also organised to select the teachers and pupils with the best knowledge and the schools with the best water and sanitation facilities. The campaigns are supported by UNICEF.

According to MOET, some of the text books still need to be revised and translated into additional ethnic languages. Furthermore, the distribution of teaching materials is still not on time, especially not in mountainous and remote areas.

Health education has not been introduced as a separate topic in secondary and high schools, but is provided as an integrated part of other lessons.

11.2.2 Current Curriculum

A review has been made of the text books used in connection with health education in grades 1-5 of the primary schools. Each book has six chapters, two of which are of particular relevance in connection with the NRWSS Strategy Study. These are personal hygiene and environmental sanitation and health. A table showing the detailed contents of the books is included in Annex 8.

In general, the curriculum and contents of the health education in primary schools appear to be comprehensive and appropriate, with suitable topics for different age groups. Clean water, sanitation and environmental topics are included in the text books, especially in the higher grades.

11.2.3 Water and Sanitation Facilities in Schools

Since 1991, UNICEF has provided support to MOET to construct water and sanitation facilities in primary schools. Mainly tube wells with hand pumps (with or without filter tanks), sulab latrines and urinals have been constructed. In some areas where these facilities are not appropriate, dug wells, rain water tanks and DVC latrines have been built. The activities are implemented by MOET in collaboration with MOH and CERWASS.

The cost of constructing both water and sanitation facilities in a primary school varies according to the size of the school, the technology used and the geographical area. According to MOET, the normal cost is from VND 12-16 million. UNICEF supports each school with a fixed amount. In the beginning it was US$ 1,000, later it was reduced first to US$ 500, then US$ 300 and now it is US$ 400. MOET supports with about US$ 100-200, while the rest comes from local authorities and communities. According to MOET, it is fairly common for communities to contribute to improved school facilities, including water and sanitation facilities. In poor areas the contribution is in kind only, mainly labour, while in other areas parents also contribute with money.

Until now, water and sanitation facilities have been constructed in 3,000 primary schools within the 89 WATSAN area focus approach districts (with at least one district in each province). In addition to this, local authorities are reported to have built water and sanitation facilities in approximately 2,000 primary schools without any support from central level. This means that water and sanitation facilities have been made in approximately 5000 primary schools out of around 13,000 primary schools in the whole country. It is UNICEF's target to have proper water and sanitation facilities in 7,000 primary schools by the year 2000, while the goal of the Government is to have good facilities in all 13,000 primary schools by the year 2000. However,

with the present budget it is only possible to construct new sanitation facilities at 300-400 primary schools per year.

MOET sees the following as constraints for improving the water and sanitation facilities in schools:

- Because of lack of Government and UNICEF funds, local communities often contribute about 3/5 of the cost. It is very difficult for poor communities to make such a big contribution.
- Construction materials are supplied from central level, which makes transportation and storage costly and complicated.
- Investment in water supply and sanitation facilities is not synchronous. Some schools have latrines but no water source, and vice versa.
- There is no regular and proper maintenance of water and sanitation facilities in schools.

During the NRWSS survey in 9 provinces it was found that most schools in the survey areas, especially in remote areas, either have no or very poor water and sanitation facilities. In some of the schools, where water and sanitation facilities have been installed they have not been maintained properly. Consequently, they were only used for a short period after they had been constructed. Furthermore, latrines which are not properly cleaned and maintained may pose a health risk, rather than being an improvement. This means that the health and hygiene education in primary schools cannot be put into practice. Furthermore, the demonstration and promotion effect which good water and sanitation facilities in schools and other public places is likely to have for the wider community, is also lost

11.2.4 Organisation and Monitoring

Steering committees for the UNICEF-supported School Programme are reported to have been established from central to local levels, with the participation of MOET, MOH and MARD. At provincial level, the vice-chairman of the People's Committee is often the head of the steering committee. At commune level, parents' associations are often members of the steering committee, together with members of the People's Committee, Women's Union etc. MOET sees the target population of the programme to be not only school children, but also teachers, community leaders, mass organisation, and parents of the school children.

As to monitoring of the programme, MOET reports that teaching materials are continuously being reviewed. After developing the curriculum and the first textbooks on health education in 1989, they were used on a pilot basis in some primary schools and then revised before being used more widely. The materials used for grades 1-3 have been revised recently, while it is planned to revise the materials for grades 4-5 in the near future. As mentioned earlier, some of the text books are being translated into some of the ethnic minority languages. However, no adjustments appear to be made to incorporate cultural differences.

Several knowledge, attitudes and practices studies are reported to have been carried out to monitor the impact of the health education programme in schools. One survey was carried out in 1993 in 70 schools where water and sanitation facilities have been constructed. A total of 50 school children, 5 teachers and 10 parents were interviewed in Hanoi, Haiphong and Thai Binh. This showed that all three groups found it important to have water and sanitation facilities at the schools. 48% of the teachers had contributed with labour for the construction of the facilities, while 19% of the parents had contributed with labour, materials or money. 86% of the parents would like to have similar latrines constructed in their homes.

11.3 INFORMATION AT COMMUNITY LEVEL

11.3.1 Sources of Information

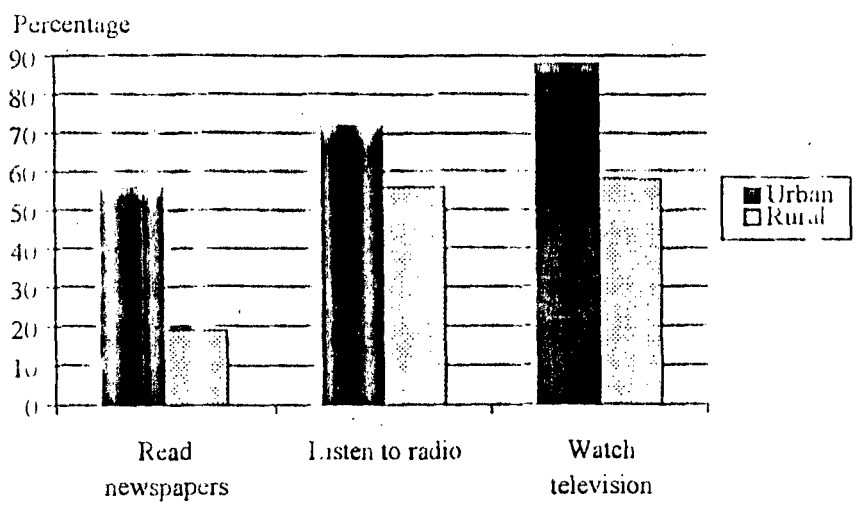
In the NRWSS survey areas, the Women's Union, the village headman and often also the local priests or monks were said to be the main information providers, while only occasionally the Commune Health Station was mentioned as a source of information. The Youth Union was also sometimes mentioned, but not very often. Information in communes as well as towns is often provided through the loudspeaker system or through community meetings organised by mass organisations such as the Women's Union or by the local authorities. In several areas, however, especially the women said that they did not have time to attend such meetings.

In some of the survey areas, television and radio were considered as important sources of information. However, most of the programmes are in the Kinh language which is not understood by many ethnic minority groups. In some of the provinces there are some radio and a few television programmes in the main ethnic minority languages, but mainly in relation to the general economic and political situation. Furthermore, many ethnic minority people in remote areas have no radio or television. This was for example the case in Cu Pong commune in Dak Lak province where only 2.2% of the households were reported to have radios and 5% to have television sets. The far majority of the population in this commune belong to the Ede group. To add to their isolation there is no loudspeaker system in any of the villages. In this commune, as in other remote communes, community meetings were found to be the most important means of communication.

In most of the nine survey provinces, official data on the percentage of households with radios and televisions were obtained at both provincial, town and commune levels. This showed substantial variations among the provinces and also within each province. For radios the percentage for the provinces as a whole ranged from 33% in Nghe An to 60% in Dong Nai province, while for televisions it ranged from 31% in Nghe An to 48% in Dong Nai and Nam Dinh provinces. The percentages tended to be lower in the more remote communes than in other survey areas. In some provinces the variations were so great that the reliability of the data must be questioned.

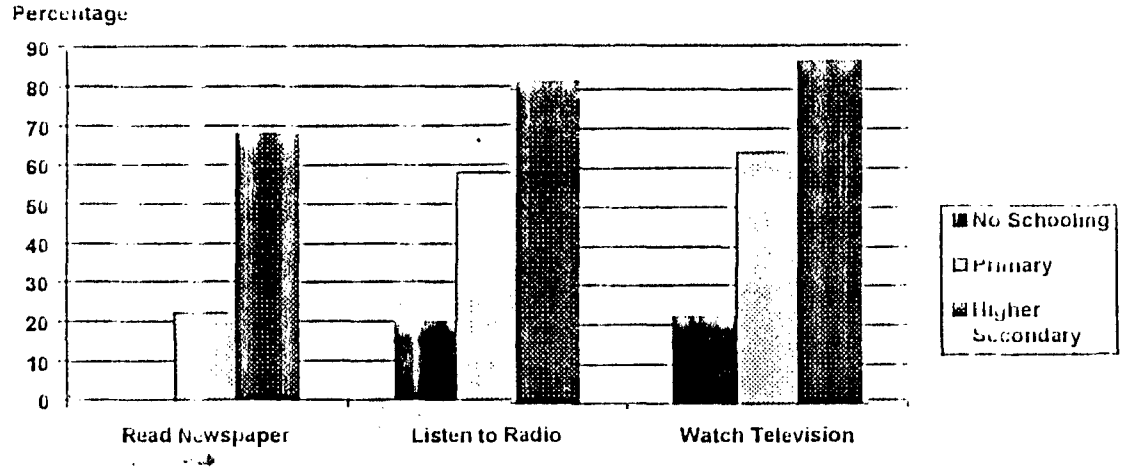
The Inter-Censal Demographic Survey (VNICDS) in 1994 among 10,490 women showed that the proportion of women getting information from different types of mass media differ substantially according to place of residence and educational level.

Graph 16: Women's Exposure to Mass Media according to Place of Residence



Source: GSO, 1995d

Graph 17: Women's Exposure to Mass Media according to Educational Level

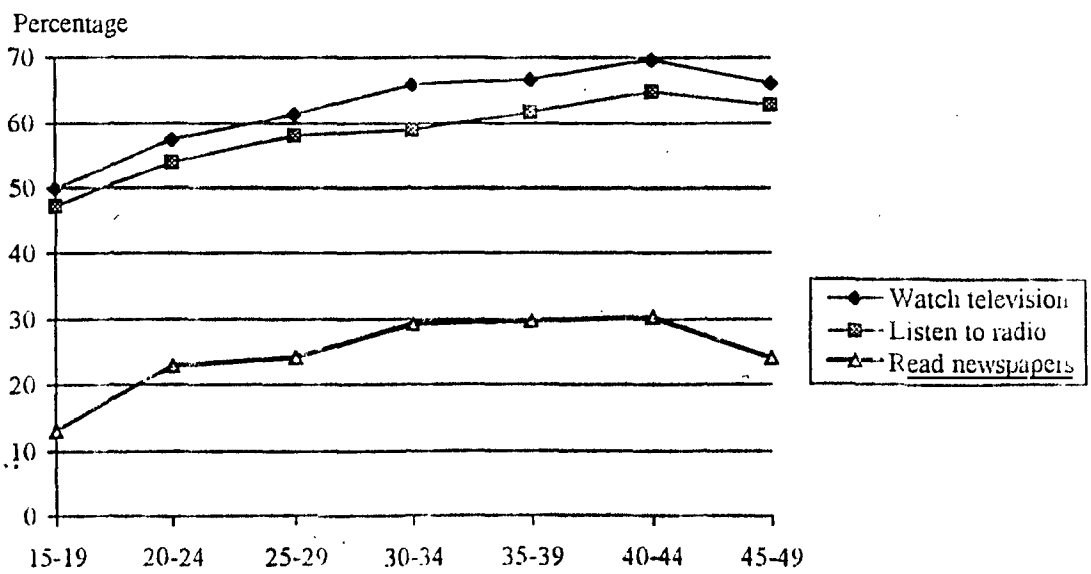


Source: GSO, 1995d

As displayed in the above graphs, radio and television were equally popular sources of information or entertainment in rural areas, being used regularly by nearly 60% of the women, whereas less than 20% read newspapers regularly. In urban areas television was found to be the most popular mass media, being watched regularly by 88% of the women. Not surprisingly, there was found to be a close correlation between the level of education and the exposure to different types of mass media. Women with the no schooling were, thus, least likely to get any information from either newspapers, radio and television.

As shown in the graph below, the exposure to both newspapers, radio and television was found to increase with age until women reached 45 years. It also shows that all age groups are much more likely to listen to the radio or watch the television than to read a newspaper.

Graph 18: Women's Exposure to Mass Media according to Age



Source: GSO, 1995d

The VNCDS also showed that women in the South East Region and the Red River Delta were the most regular users of all three mass media whereas women in the Central Highlands and Northern Uplands were least likely to get information from these sources.

A health behaviour study carried out in 1996 among children in four communes in Nam Ha and Vinh Phu provinces showed that the main source of information on health was school teachers, followed by health staff and the mass media. 80% of the children said that they receive health information from school teachers, which might be an indication of the effectiveness of the health education in schools, while 49% of them receive information from health staff. Around 30% receive health information from radio and television (UNICEF, Hanoi Medical School & Young Pioneers, 1996).

11.3.2 Type of Information

The following is mainly based on the NRWSS survey in 9 provinces. With a few exceptions, there appears to be very little information on water and sanitation in the 9 provinces visited. Most of the information provided was said to focus on family planning, mother and child health care, state policies and economic activities.

Information about water and sanitation was reported sometimes to be provided as an integrated part of other programmes, especially mother and child health care programmes. In some provinces like Thai Nguyen and Soc Trang, the Women's Union uses the booklet "Fact for Life" to provide information to women at community level; this includes some information about water and sanitation; in Thai Nguyen this booklet has been translated into both Kinh and Thai/Nung languages. Some information about water and sanitation is provided in connection with the environmental campaign "Clean, Green and Beautiful" and there are also activities in connection with the "Water and Sanitation Week".

In Soc Trang, the Preventive Medical Centre had provided video tapes on water and sanitation to the heads of the Kho'Me pagodas, who showed these at the pagodas. Other information materials sometimes used by the Women's Union in the nine survey provinces are sets of pictures and posters from MOH, describing different types of water and sanitation facilities and good and bad hygiene habits. A leaflet produced by the Women's Union and the World Bank/PROWWESS training kit were also used for training of women at commune level (the training kit is described later in this chapter).

The most common information relating to water and sanitation appeared to be on boiling drinking water, cleaning the house and in some areas the use of mosquito nets. In the southern provinces, especially in Soc Trang, there had been an intensive campaign to destroy fish pond latrines. In Dong Thap province, the WU mentioned that the image of the "new cultural family" is being promoted. Part of this image is to have good sanitary habits, such as burning domestic waste in a hole in the garden and not bathing in rivers and canals.

In 1996, a weekly television programme "*The quality of life*" started broadcasting about the existing water and environmental situation in different parts of Viet Nam and the risks and lessons in this connection. The programme was started as a collaboration between the Vietnamese television company and the National Steering Committee for Water Supply and Environmental Sanitation. The programme is reported to be very popular both among the audience and the different organisations and persons who contributed to the programme. The program has also been much prized by different level authorities, especially the former Prime Minister Vo Van Kiet.

Most provincial television companies are reported to have programmes on health and environmental sanitation, normally produced by the Bureau of Health Education. One of the programmes is a kind of "family doctor" programme where people can write and ask questions.

There is also one weekly national radio programme on health and sanitation. According to the National Steering Committee for Water Supply and Environmental Sanitation, there are plans to start a special programme on Clean Water and Sanitation in 1997.

In May 1996, MOET started publishing a monthly journal on health education and sanitation. The first two publications were supported by UNICEF, but now it is reported to be self-financed through sales in book stores. The National Steering Committee has also been involved in the publication of two books (NCWSES, 1997).

11.3.3 Effect of Information

It is difficult to say whether the (limited) information provided on water and sanitation has had much effect. As described earlier in the chapter, some of the people interviewed during the NRWSS survey had some knowledge about water, sanitation, hygiene and related diseases. However, this knowledge was rarely reflected in their behaviour and practices. One of the most common "messages" about water is to boil it before drinking. Many people were, however, found not to drink boiled water, especially not when in the field or at school.

Boiled water is not sweet ....

The following is from a household interview in An Long commune, Dong Thap province.

The household consist of 5 people, one couple and their three daughters. The house is located along the main river and river water is pumped to the house every day. They have put one jar with drinking water inside the house. alum is added to the water before drinking it. One of the daughters said: *"I learnt in the school that we should drink boiled water and wanted to do this at home. I boiled the water and put it into a bottle. After I had boiled water for one week for the whole family, I stopped doing that; other members of my family complained about the boiled water, because it is not sweet as fresh water is. Also it took a lot of time to boil the water and no one wanted to help."*

Another example is that people who appeared to know that they ought to wash their hands after defecation, often did not have hand washing facilities close to the latrines. In Soc Trang the campaign to destroy fish pond latrines appeared to have been very effective in all three survey areas. It had, however, had the result that most people in especially the two survey communes do not have any latrines. The promotion of good sanitary habits in Dong Thap did not seem to have had much effect in the three survey areas, where river and canal water is the most common water source for all domestic purposes.

In some of the survey areas, like in Quang Nam province, several people also admitted that they do not pay much attention to the limited information they receive on water, sanitation and hygiene, they are more interested in information about other issues such as the economic situation, state policies, sports, movies etc.

11.4 IEC ACTIVITIES OF THE WOMEN'S UNION

11.4.1 Motivator Network

The Women's Union has been involved in the UNICEF-supported WATSAN programme since 1991. One of their important responsibilities is to establish a network of motivators in communes in the so-called area focus approach districts. Normally, there are 15-20 motivators in each commune, mainly women. The role of the motivators is to promote the use of appropriate water and sanitation facilities, inform people about different technology options and promote good

hygiene practices. The motivators are all volunteers and receive no salary or other incentives from the programme. However, many of them also participate in other programmes such as the family planning, nutrition and health collaborators programmes, from where they receive some incentives. The Women's Union considers it a problem that it is not able to provide some kind of incentives to the motivators, as village women have many other activities to attend to. It has therefore had a "pilot scheme" in 20 communes where initially the motivators were paid VND 15,000-20,000 per month. This payment was later substituted with bicycles, bags and other items to facilitate their work.

A training-of-trainers approach is used for training of the motivators. Training thus takes place at three levels:

- Master training in Hanoi: These are training-of-trainers courses with facilitators from the Women's Union and also external facilitators, including some foreign experts.
- Training at district level: Five motivators in each selected commune are invited for the courses. Three of them come from the Women's Union, one from the People's Committee and one from another mass organisation. Courses often last three days.
- Training of other motivators at commune level: After attending courses at district level, the five trained motivators train other women in their commune.

Training is mainly based on the well-known World Bank/PROWWESS training kit, which focuses on participatory tools to inform people about water, sanitation and hygiene practices. Active training methods are used during the courses such as role plays and group discussions. A new training manual was also produced in 1997. Some of the main topics in the two sets of training materials are:

- Different types of water sources, sources of pollution, hygienic aspects etc.
- Different types of latrines, hygienic aspects etc.
- The relationship between water, sanitation, environment and health
- Personal hygiene and how to keep the environment clean
- Communication skills: use of mass media, group discussions, group meetings, household visits, individual counselling, role plays, etc.
- Objectives of information on water and sanitation and formulation of action plans in this connection
- Tasks of committees for water and sanitation information at different levels
- Quarterly reports to be made by the motivators.

The training kit includes a manual and a lot of pictures, role plays and exercises which can be used both during the training sessions and during discussions at community level. The pictures have been adopted to the situation of Viet Nam and include information and promotion of hygienic water and sanitation facilities and practices. Information on O & M of hand pumps and small piped schemes is also included in the training kit. The Women's Union considers it a very good training kit. It requires, however, much training for motivators to use the kit directly at community level. Furthermore, as the kits are fairly expensive (US $20) it has not been possible to provide each motivator with a kit. Instead they are provided with photocopies of part of the kits, mainly the pictures. There is, however, a big demand for the kits from different organisations at province and district level. The Women's Union is therefore now considering to ask for payment for the training kits.

There is no follow-up training after the initial training of the motivators.

11.4.2 Activities at Community Level

The information material used by the motivators at community level is:

- Photocopies of photos from the World Bank/PROWWESS training kit
- Video-tapes
- Posters from the Women's Union and MOH

Information about water, sanitation and hygiene is provided during the monthly meetings held by the Women's Union in the villages. According to the Women's Union in Hanoi, water and sanitation is a fairly new topic for many local branches, so they have been encouraged to have water and sanitation as one of the topics during at least one meeting each quarter. Information is also provided during household visits Collaboration is often established with the heads of village, religious leaders and the mass media (especially the loud speaker announcement system). Besides that the Women's Union has organised a substantial number of mobilisation days and meetings in connection with water and sanitation campaigns and orientation workshops among community leaders and other sector leaders. One of the ideas for future IEC activities is to make more use of the mass media, especially the special women's newspapers and the women's radio programmes which are broadcast twice per day.

The Women's Union finds it a problem that at present there is no link between information and motivation activities and the provision of funds for implementation. It is also considered as important that information be linked to the building of demonstration models (both water facilities and latrines) and to the extension of loans through revolving funds and/or provision of subsidies to poor households. Because of the long time often required to get support under the WATSAN programme and the unclear criteria used by many People's Committees for allocation of materials and funds, the Women's Union normally encourages households to invest in their own water and sanitation facilities. It is the experience that generally people are willing to contribute to construction of improved facilities after they have received sufficient information.

According to the Women's Union the overall problem is lack of knowledge. If people get proper information, they will change their practices to improve their own situation. Some of the practices which the Women's Union promotes is the washing of hands before eating and after defecation, drinking of boiled water, use of latrines and use of mosquito nets. These four practices are also used to monitor change in people's knowledge, attitudes and practices. Reports from the provincial Women's Unions show that behavioural changes do take place following information activities, but that it is a process which requires time.

A kind of base line surveys of women's knowledge, attitudes and practices are carried out before any interventions start. It has, however, not been able to get a copy of any of these. The motivators submit quarterly progress reports to the Women's Union, i.a. on the four practices mentioned above. The basis for monitoring of progress appears mainly to be observations of the motivators and the feed-back and answers received from participants in group discussions and role plays. No follow-up surveys on knowledge, attitudes and practices appear to have been made.

11.5 IEC ACTIVITIES OF THE YOUTH UNION[10]

The Youth Union has been involved in water supply and sanitation since 1994, after the issue of Directive TTG 200. The first activities started in the Mekong River Delta and have later been extended to cover the whole country. Youth groups, youth clubs and groups of school children have been established in many parts of the country. Information activities related to water and sanitation have, however, also been aimed at the larger public. The Youth Union is often considered as a vanguard in connection with campaigns and as more mobile than members of the Women's Union.

[10] *The following is mainly based on the Youth Union's report at the National Conference on Water and Sanitation in March 1997.*

The following are the main water and sanitation related activities, which the Youth Union has been involved in:

- Information campaigns in schools and during household visits, sometimes combined with technical support to promote the construction of wells and latrines.
- Competitions on design of appropriate latrine models for the Mekong River Delta areas. Festivals have been arranged in this connection to market new models. There are also plans of having a competition on the design of appropriate latrines for the Red River Delta areas.
- Competitions on writing newspaper articles relating to water and sanitation. This has resulted in more than 200,000 articles since 1995.
- Competitions on writing songs, poems, dramas and novels relating to water and sanitation
- Training courses on water and sanitation topics at central, provincial and district levels and in some selected communes.
- Production of training and information materials, including pictures, posters, calendars, leaflets, t-shirts and video and cassette tapes.

11.6 IEC ACTIVITIES OF THE PIONEER ASSOCIATION

The Pioneer Association has been involved in setting up propaganda groups of youngsters since 1990. There are reported now to be more than 1,600 groups which are active. Members from the Pioneer Association are selected for these groups because of their aptitudes to talk, sing etc. and because they have a high prestige among other members. They are then trained in how to collect information, write short articles, communicate with people and arrange information activities at schools and at village level.

There is reported to have been several campaigns related to water and sanitation among pioneer members such as "beautiful schools and classes"; "I love my school and class"; "for a clean, green and beautiful countryside". A festival was also arranged in 1997, i.e. "drawing on water and environmental sanitation around you" which involved nearly 30,000 children.

11.7 IEC ACTIVITIES OF THE MINISTRY OF HEALTH

MOH integrates its IEC activities on water and sanitation with other health activities and also co-operates with the Women's Union, the Youth Union, MOET and other sector organisations. MOH has developed a number of pictures and posters on water and sanitation, which are distributed to commune health stations, the Women's Union etc. These include information on:

- Different types of latrines and their advantages (latrines and platforms for latrines, distance between wells and latrines, hand pumps, drainage and soakage pits, rain water tanks and jars, etc.).
- Hygiene information, including boiling of water, hand washing, disposal of animal waste in pits etc.
- Diseases related to water and sanitation and how to avoid them. This includes protection against mosquitoes.

Furthermore, MOH uses the mass media to inform about water and sanitation, including radio and TV programmes, video tapes and loudspeakers.

Before 1996, MOH did not receive much support under the WATSAN programme for IEC activities. However, from 1997 it was decided to change the strategy as far as sanitation is concerned, with no more funds being allocated to revolving funds. Instead, it was decided to

concentrate on IEC activities. In 1997, each district under the sanitation programme receives VND 5 million for IEC activities. This is used for conducting a three day training course at district level. There are three participants from the district and three from each of the five communes within the district which receive UNICEF support. The Centre for Health Education under MOH is responsible for arranging the training.

According to the Centre for Health Education in Hanoi, at present there are very few training activities related to water and sanitation at commune level: each year only around 30 - 40 training courses for health workers are conducted. This might be one of the explanations why the Commune Health Stations in the NRWSS survey areas appeared to provide very little information to people about water and sanitation practices (see also section 10.3.1).

Monitoring the impact of the IEC activities is reported to be carried out by MOH staff who regularly travel to different provinces. The three regional epidemiological centres in the country are also involved in the monitoring. Besides that, commune health staff often attend monthly or quarterly meetings at provincial level where activities are reviewed and experiences and new issues discussed. As is the case for the Women's Union, there are, however, no regular in-depth surveys on people's knowledge, attitudes and practices, which makes it is very difficult to monitor the impact of the IEC activities.

ANNEXES

METHODOLOGY FOR IN-DEPTH STUDIES IN NINE PROVINCES

1 OVERALL APPROACH

The data collection strategy promoted a multidisciplinary approach, which meant that the work of the technical, institutional, and social Working Groups were co-ordinated, where possible. Separate data collection teams were formed by the three Working Groups as they concentrated on different types of information and different institutional levels. The three Working Groups arrived in the selected provinces and districts at the same time.

2 TYPE OF DATA COLLECTED

The main purpose of the social and hygiene component of the in-depth study in the nine provinces was to collect information in relation to:

- demographic and socio-economic situation
- knowledge, attitudes and practices in relation to water use, sanitation and hygiene
- present payment for water and sanitation
- community organisations, networks and other structures
- water and sanitation related diseases
- information, education and communication activities

Furthermore, informants were asked to identify and rank the main problems and suggest improvements. This included a discussion of their ability and willingness to pay for the suggested improvements and how to organise them.

3 METHODS USED

Lists of the socio-economic and health data required were used to collect mainly quantitative data from the provincial and commune/town authorities.

The main emphasis was, however, on the collection of qualitative information during in-depth studies at community level. The following methods were used in this connection:

- Interviews with key informants;
- Focus group discussions;
- Household case studies;
- Participant observation and photos (including short household visits);
- Mapping;
- Ranking

Information and views were collected from both women and men. However, as generally women are responsible for the collection and use of water for domestic purposes and also responsible for the health of the family, it was of particular importance to have interviews and discussions with women.

A flexible approach was used as to the exact number of interviews and focus group discussions carried out in each province/district and commune/town. The following were the guidelines used in this connection.

At provincial level:

- Interviews with 3 key informants, i.e. provincial VWU, provincial Health Bureau (Preventive Medicine Centre - the person responsible for the water and sanitation program), and the Centre for Rural Water Supply and Sanitation. The three interviews are in addition to the general information received at the first meeting with the Provincial People's Committee.

At district level:

- Mainly information from the first meeting with the district People's Committee, the district VWU and district Health Centre. More in-depth interviews were made in some of the districts visited.

At commune and town level:

- Interviews with 3-4 key informants, including a member of the commune/town People's Committee, a member of the commune/town VWU and the head of the commune Health Station.

- 3-5 case studies of households which were representative of the variations within the village/commune/town.

- 2 focus group discussions with (1) women of different age groups in one village/ward; (2) men in another village/ward. In the first couple of provinces visited, 3 focus group discussions were arranged.

- A number of short household visits to make observations, take photos and have brief discussions.

Summaries were be made before proceeding to the next province.

4 CHECKLISTS AND RECORDING FORMATS

Checklists and summary forms were made for the following:

- Interviews of key informants
- Household case studies
- Focus group discussions
- Existing data to be collected at provincial and commune/town levels

5 FIELD TEST OF APPROACH AND CHECKLISTS

Members of the social Working Group tested the approach and checklists primo April 1997. The field test took place in a village close to Hanoi. The field testing included training of group members. Meetings were held afterwards to discuss the results of the field test and to make the required adjustments.

6 ORGANISATION AND STAFFING

The collection of existing data and the in-depth studies on socio-economic and health issues were carried out by four Vietnamese consultants: 2 sociologists and 2 health and hygiene specialists. Local data collectors were employed, when required.

The international rural development specialist participated in a large part of the field work. The international health and hygiene specialist and a Vietnamese senior sociologist assisted with the field testing and adjustment of the approach and checklists.

Workshop on Water and Sanitation Related Diseases

Venue: Department of Hygiene and Epidemiology. Hanoi Medical School
Organiser: Prof. Phong, Head of Dept. of Hygiene and Epidemiology & NRWSS
Date: 12 September 1997
Time: 8:30-17:00

Objective: To collect and exchange existing data and information on water and sanitation related diseases in rural areas in Vietnam. Papers were submitted for all presentations

Main areas of interest:

- Prevalence and incidence of water and sanitation related diseases such as diarrhoea, intestinal worms and parasites, trachoma, gynaecological diseases etc..
- The relationship between poor water and sanitation and health, both with regards to diseases directly related to water and sanitation and to more general health problems such as malnutrition, gynaecological diseases, goitre etc.
- The expected impact of improved water supply and sanitation on specific diseases and on health in general.
- People's knowledge, attitudes and practices in relation to water, sanitation and health.

List of Presentations:

1) The relationship between some environmental factors (economic, cultural and hygiene) and acute diarrhoea in children under five in the northern mountainous area and the Red river delta.
Chu Van Thang, MD, Ph.D. *Dept. of Hygiene, Environment and Epidemiology, Hanoi Medical School*

2) Results of a social survey about community acceptance of sanitation facilities in schools in 1991.
Nguyen Vo Ky Anh, Ph.D. *Head of the Health and Physical Education Dept., MoET*

3) A basic survey on Ecology, Environment and Health and disease pattern of ethnic groups in the northern mountainous areas from 1994-1996.
Prof. Hoang Khai Lap, Ph.D. *Dean of Bac Thai Medical School*

4) A study on some potential risk factors of acute diarrhoea in Hai Phong province
Nguyen Van Hieu, Ph.D. *Head of HaiPhong Preventive Medicine Centre*

5) A study on some risk factors from environment in relation to typhoid is some areas of Dong Thap province and the reaction of the community health system to this disease
Nguyen Ngoc An, MD, *Dong Thap Preventive Medicine Centre*

6) Water, sanitation and related diseases in Kien Giang province
Tran chi Liem, MD, *Kien Giang Preventive Medicine Centre*

7) Family environment and some related diseases among K'hmer school children in Kien Giang province
Hong Xuan truong, MD, *Kien Giang Preventive Medicine Centre*

8) Some remarks on the primary health care situation in some communes belonging to Sontay town, Phuctho district, Hatay province
Nguyen Phuc Dinh, Ph.D. *Ha Tay Preventive Medicine Centre*

9) The effects of environmental pollution on the health and disease pattern of people in Nhat Tan and Hoang Tay communes, Kim Bang district, Ha Nam province.
Prof. Nguyen Gia Khanh, MD. Ph.D. *Vice head of Child Health Pro*

10) A study on cleaning waste water by using biological stabilisation ponds in some primary schools in
Thai Binh province
Khong Thi Hon, MD. Ph.D. *dept. of Hygiene and Epidemiology, Thai Binh Medical School*

11) Malnutrition among rural children in Thai Binh and the effectiveness of community interventions
Pham Ngoc Khai, MD. Ph.D. *Dept of Hygiene and Epidemiology, Thai Binh Medical School*

12) Family environment (social and natural) among children in primary schools in 4 northern mountainous provinces
Le Thi Kim Dung, MD, *Dept. of Health and Physical Education, MoE*

13) Epidemiology of trachoma among children under 15 in some areas of Vietnam
Nguyen Chi Dung, Ph.D., *Institute of Eye diseases*

14) Some public health aspects of sewage utilisation for fish farming and irrigation in Hanoi
Le Tran Ngoan, MD. Ms.Med., *Dept of postgraduate training in Hanoi Medical School*

15) Remarks on some gynaecological diseases among married women in Nhat Tan and Hoang Tay communes, Kim Bang district, Ha Nam province
Vuong Tien Hoa, MD, *Dept. of Gynaecology and obstetrics, Hanoi Medical School*

16) Some common gynaecological diseases due to bacteria and parasites among women who visited Nhat Tan and Hoang Tay commune health stations, Kim Bang district and Ha Nam province
Prof. Le Thi Oanh, MD, Ph.D., *Microbiology dept. Hanoi Medical School*

17) Intestinal worm infection in relation to the living environment among people in Nhat Tan and Hoang Tay communes, Kim Bang district, Ha Man province
Prof. Hoang Tan Dan, MD, Ph.D. *Parasitology dept. Hanoi Medical School*

18) The relationship between water supply and some diseases such as diarrhoea and intestinal worms in three communes in Ha Tay province
Nguyen Van Binh, Ph.D. *Ha Tay Preventive Medicine Centre*

Other participants:

Prof. Tang Chi Thiet, Institute of Hygiene and Epidemiology
Prof Le Ngoc Bao, Institute of Hygiene and Epidemiology
Dr. Le Van Diet, Health Education Centre, MoH
Prof. Pham Thi Minh Duc, Hanoi Medical School
Dr. Phung Van Hoan, Hanoi Medical School
Dr. Nguyen Thi Thu, Hanoi Medical School
Dr. Tran Van Dan, Hanoi Medical School

Dr. Nguyen Bich Lien, Hanoi Medical School
Dr. Tran Nhu Nguyen, Hanoi Medical School
Dr. Vu Dien, Hanoi Medical School
Dr. Tran Thi Kim Thoa, Hanoi Medical School
Dr. Le Thi Tai, Hanoi Medical School
Dr. Nguyen Van Quyen, Army Medical Institute, Hai Duong Province
Dr. Luu Ngot Hoat, NRWSS
Dr. Hoang Thi Hoa, NRWSS
Dr. Grete Budsted, NRWSS
Ms. Helle T. Stoltz, NRWSS

Workshop on Information, Education, Communication and Community Participation in Connection with Rural Water Supply and Sanitation

Venue: Vietnam Women's Union, Hanoi
Organiser: Vietnam Women's Union & NRWSS
Date: 10 October 1997
Time: 8:30-17:00

I/ *Objectives of the workshop:*

1. To collect more information on IEC campaigns, community participation and revolving fund activities related to water and sanitation in rural areas, including schools and small towns.
2. To learn lessons and exchange experience with different organisations on the above-mentioned subjects.
3. To get the contribution from different partners on how IEC, community participation and revolving funds should be carried out in the future in order to improve water supply and sanitation in rural areas, schools and small towns.

II/ *Presentations from the workshop:*

Name of the presentation	*Reporter*
1. Lessons and experience on management (including organisation, monitoring and evaluation) of IEC activities and community participation in water supply and sanitation in rural areas.	***Vietnam Women's Union***
2. The results and experiences of Vietnam Youth Union on IEC and community participation related to water and sanitation improvements in rural areas of Vietnam.	***Centre for Population Health - Environment, Vietnam Youth Union***
3. Activities of Vietnam Pioneer Association on water and sanitation promotion in rural areas - results and experiences.	***Vietnam Pioneer Association***
4. Lessons and experience of implementing IEC activities, involvement of communities, parents of schoolchildren in rural water supply and sanitation.	***Dept. of Physical and Health Education, MOET***
5. Training on health education for health workers in different levels and the experience of health workers in doing IEC activities at community level.	***Health Education and Propaganda Centre, MOH***
6. Experience of community participation in activities related to water and sanitation in rural areas.	***CERWASS (MARD)***
7. Experience of integration of revolving funds, IEC activities on water and sanitation and other activities of Ha Tinh Women's Union.	***Ha Tinh Women's Union***
8. Lessons and experience on IEC and community participation in implementation of water supply and sanitation activities in rural areas.	***Dept. of Preventive Medicine, MOH***
9. The experience of organising activities on IEC and community participation in carrying out urban water supply projects.	***Pham Thi Giang - Urban Water Supply Project***

III/ *Participants:*

1 Nguyen The Tien Vietnam Pioneer Association

2	Nguyen Vo Ky Anh	Dept. of Physical and Health Education, MOET
3	Nguyen Thi Minh Phuong	Vietnam Women Union
4	Nguyen Thi Bich Duong	Vietnam Women Union
5	Tai The Su	Center for Population-Health-Environment, Vietnam Youth Union
6	Pham Si Nghien	Health Education and Propaganda Center, MOH
7	Nguyen Huy Nga	Dept. of Preventive Medicine, MOH
8	Nguyen Thi Dieu	CERWASS (MARD)
9	Ho Thi Xuan	Ha Tinh Women Union
10	Pham Thi Giang	Urban Water Supply Project
11	Hoang Thuy Lan	UNICEF Hanoi
12	Nguyen The Thach	Health Program, CIDSE office in Vietnam
13	Pham Thanh Huong	NIAPP
14	Dao Thanh Tam	Vietnam Red Cross Association
15	Nguyen Mai Oanh	Urban Water Supply Project
16	Do Thu Hoang	Christian Outreach
17	Dao Anh Xuan	Vietnam Pioneer Association
18	Phung To Hanh	NRWSS
19	Luu Ngoc Hoat	NRWSS
20	Hoang Thi Hoa	NRWSS
21	Le Thi Thuy	Project of Propaganda on the "Fact for Life" Book, Vietnam Women Union
22	Nguyen Thuy Nha	NRWSS
23	Phung Thanh Van	MOSTE
24	Trinh Duy Van	MOSTE
25	Nguyen Thi Thu Hien	Ministry of Fishery
26	Genevieve Chicoine	Ministry of Fishery
27	Phan Xuan Dung	Program for Quality of Life, Vietnam Television
28	Hoang Luong	Vietnam Television
29	The Vinh	Vietnam Television
30	Nguyen Hong Nga	Vietnam Women Newspaper
31	Tran Thi Hong	Vietnam Women Union
32	Pham Quc Anh	Vietnam Women Union
33	Tran Thi Thuy	Vietnam Women Union
34	Pham Hanh Sam	Women Information (Newsletter)
35	Le Hong Cu	Vietnam Television, (VTV3)
36	Pham Van Le	MOH
37	Le Thi Thu	Vice-Chairwoman, Vietnam Women Union
38	Helle Stoltz	NRWSS

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DEFINITIONS

NRWSS Term	Other Common Terms	Description
Water Supply		
Tubewell	Borehole; Drilled Well	A narrow diameter well (usually less than 600 mm in diameter) constructed by machine, the machine may be hand operated (a hand drilled tubewell) or mechanised. The construction method and not the diameter of the well is what defines a tubewell.
Shallow Tubewell	Hand drilled well	A tubewell less than 15 metres deep which taps the water immediately below the ground surface and is vulnerable to surface pollution. It is often drilled by hand, but this is not what defines a shallow well.
Dug Well	Well	A large diameter well (usually more than 600 mm in diameter) constructed by digging, possibly with assistance of explosives to excavate rock. The well may be covered or open. The construction method and not the diameter is what defines a dug well.
Point Supply		Water supply system which provides water at one particular point (eg. wells, springs etc)
Simple Piped Systems	Gravity schemes, mini piped systems	Low technology piped water supplies using either gravity flow of surface water or pumping from a small single borehole which can be operated by unskilled staff. These schemes are unlikely to serve more than 5000 people, but population is not the main criteria. The use of water treatment (except simple screening), consumer meters or in-line valves indicates a "full" piped scheme.
Full Piped Systems	Piped Schemes	Medium or high technology systems, which require trained operators.
Safe Water Supplies	Protected water supplies, improved supplies	Water supply systems that meet the water quality standards. The term can only be applied to individual systems and not to types of technology (such as tubewells) since the water quality depends on individual water sources and the water treatment and handling systems in a particular system.
Sanitation		
Pit latrine	Underground latrine; dug latrine; dry latrine	A pit which is deeper than it is wide, with some sort of cover over the pit with a hole for defecation. The pit is not usually lined and liquid seeps into the ground.
Dug latrine	Bridge latrine; pit latrine; simple latrine	A hole which is wider than it is deep, with a branch or plank spanning the hole as access

NRWSS Term	Other Common Terms	Description
VIP Latrine	Ventilated latrine	A Ventilated Improved Pit latrine - any pit latrine with a vent pipe.
Fishpond latrine		An over water latrine located on a fishpond
Over water latrine	Overhang; hangover latrine	A platform over water (fishpond, canal, river etc) with a hole in it for defecation
Septic Tank	2 or 3 compartment septic tank; semi-septic tank; sealed latrine	A sealed tank into which faeces, urine and flushing water are led. The (partially treated) liquid waste overflows the tank and is discharged into a soakaway or to surface drains. The tank may have 1,2 or 3 compartments. The expression semi-septic tank is apparently an old term used for urban septic tanks which left out the filter that was supposed to be used between the tank and the surface water drain that the effluent was discharged to.
Sulab Latrine	Seepage Latrine,	Same as a septic tank, except the tank is porous and liquid waste seeps into the ground. This means that we use the term Sulab to cover all forms of seepage septic tank, not just the propriety design called Sulab.
DVC (Double Vault Composting) Latrine	Composting Latrine	Two sealed vaults, only one of which is in use at any time. Faeces and ash enter the operating vault (urine is excluded in the Vietnamese design). The vault is left to compost after it is full, preferably for at least 6 to 12 months, before being used as fertiliser.
SV (Single Vault) Latrine		Same as DVC Latrine but as there is only 1 vault the waste does not properly compost within the vault.
Bucket Latrine	Open vault latrine	Open container such as a bucket or tank which is emptied regularly.
Pour Flush Toilet		A siphon toilet bowl which is flushed by pouring water into the bowl after defecation. This may be fitted to any of the (wet) latrines.
Hygienic Latrines	Safe latrines.	Latrines that protect both users and other members of the public from infection from the faeces in the latrine. The degree of protection provided is a combination of the basic type of latrine, its cleanliness and how the waste is reused. The term can only be applied to individual systems and not to types of technology (such as DVC Latrine) since the hygiene of a particular latrine depends on the use/operation as much as on the technology.

General

NRWSS Term	*Other Common Terms*	*Description*
Small Town	Category V town	An area designated as a town by the Provincial PC, usually in line with government guidelines, the most important being that the population is between 4000 and 30,000
Rural	Rural	Non urban areas, ie. an area that is not classifies as a Category I to V Town
Rural & Small Towns	Rural (in our TOR)	The areas covered by out Terms of Reference, comprising rural areas and small towns (ie. all areas up to 30,000 population towns).
Poverty	Very poor is also referred to as food poor or hungry	Very Poor - Less than 13 kg of rice a month per head Poor - 15 kg/month in rural mountainous/island areas 20 kg/month in other rural areas 25 kg/month in urban areas
Users	Recipients; consumers	All potential users of water supply and sanitation facilities, and in particular users on non piped systems.
Consumers	Customers	People connected to a piped water supply system by a house connection.
Water & Sanitation Related Diseases	Waterborne diseases; water washed diseases; water and sanitation related diseases	All diseases which are affected significantly by water supply and sanitation systems This includes water borne diseases (where the infectious agent is transmitted through drinking water) such as diarrhoea and cholera; water washed diseases (where scarcity of water leads to poor personal hygiene) such as trachoma and skin infections; sanitation diseases (transmitted through direct contact with human faeces) such as worm infections. It does not include important vector borne diseases such as malaria and dengue fever for which water bodies provide breeding grounds for the disease vector, even although this aspect may have to be taken into account in design of systems.
O&M (operation and maintenance)	Operation, running	All routine work needed to keep a water or sanitation system running during its lifetime. It does not include major extensions, not major rehabilitation of systems that have fallen into disrepair.
Full Cost		The full cost of a water or sanitation system includes the capital cost of construction (including financing charges), O&M costs and depreciation.
Demand Based Approach	Demand Driven Approach	An approach to providing water supply and sanitation systems which is based on providing what users want. Provision can be by either government, users themselves or the private sector.
Supply Based Approach	Traditional approach, service approach	An approach based on deciding what people need or what government can afford and planning and implementing systems based on the supply of finance or materials.

NRWSS Term	*Other Common Terms*	*Description*
Commercial Approach	Privatisation; private sector approach; consumer based approach	An extreme version of the demand based approach where the private sector is left free to meet users demands on a fully commercial basis (usually with some sort of regulation).
Stakeholders		People and organisations who have a stake or interest in the rural water and sanitation sector in Viet Nam
Ownership		The sense that individuals or organisations feel that they own a set of ideas (such as a strategy or report). The opposite of this (non ownership) is represented by the expression Not Invented Here, and can lead to lack of commitment or lack of interest in implementing the ideas..
Strategy	Plan, Policy	A set of general principles that outline the way forward. This can include very general, idealised statements as well as putting the ideas into a more specific framework.
Policy	Strategy, Plan	This word has, as far a possible, been avoided and is taken to be identical to strategy.
GDP (Gross Domestic Product)	Income	The total monetary value of Added Value of Production within a given time and geographic area..... Pierre??

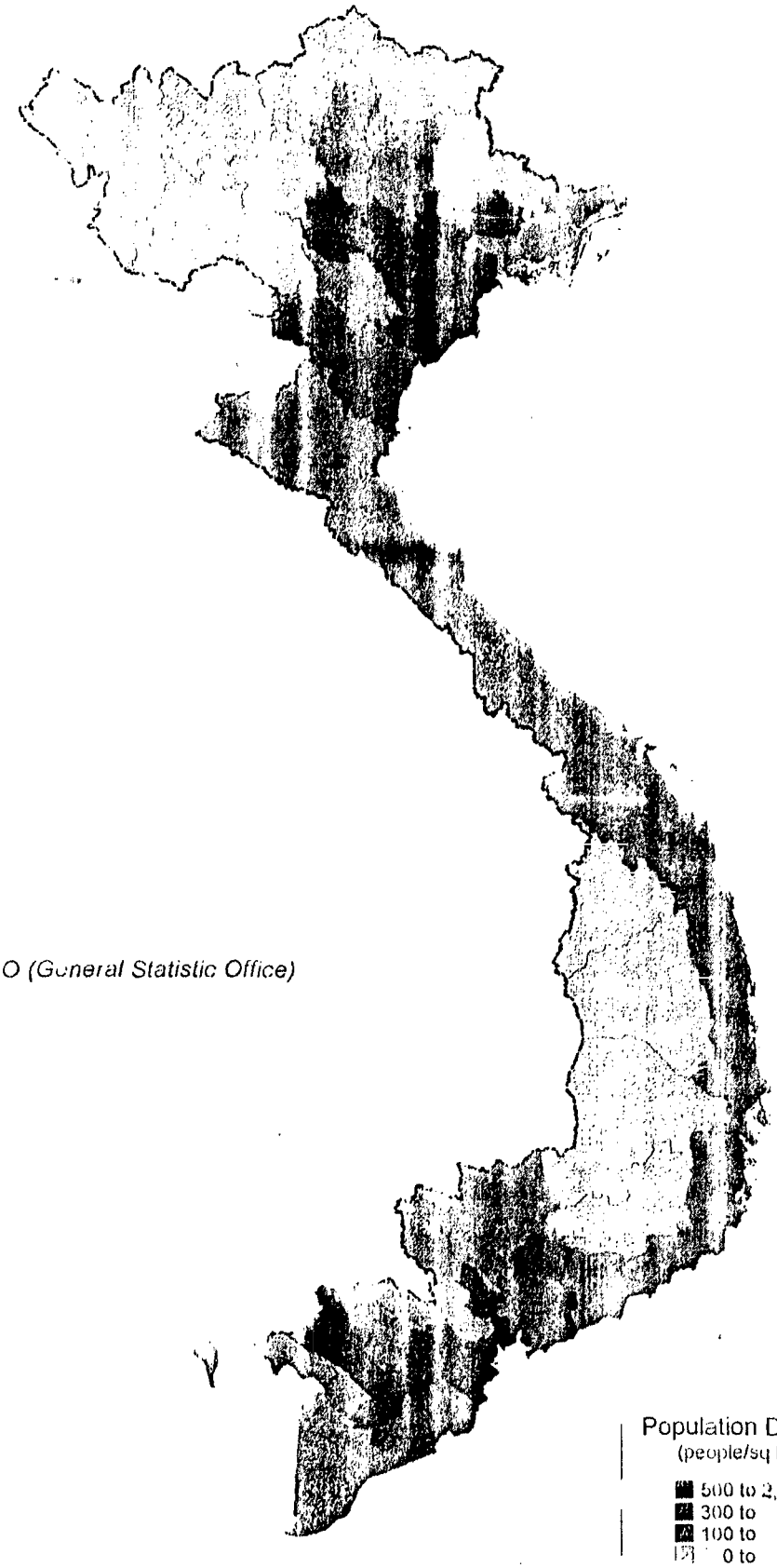
POPULATION BY SEX, BY SECTOR AND BY PROVINCE

1996 (000 person)

	Total	Male	Female	Urban	Rural	Urban/Total Rate	Rural Rate
Whole country	75355.2	36773.3	38581.9	15231.6	59078.9	20.2%	78.4%
Northern Uplands	12811.6	6329	6482.6	1732.4	11079.2	13.5%	86.5%
North West	*2135.5*	*1080 6*	*1054.9*	*312.5*	*1823*	*14.6%*	*85.4%*
North East	*10676.1*	*5248.4*	*5427.7*	*1419.9*	*9256.2*	*13.3%*	*86.7%*
Ha giang	555	271.2	283.8	50.5	504.5	9.1%	90.9%
Tuyen quang	668.8	330	338.8	69.3	599.5	10.4%	89.6%
Cao bang	648.6	321.6	327	67.9	580.7	10.5%	89.5%
Lang son	716.3	331.4	384.9	96.1	620.2	13.4%	86.6%
Lai chau	545.6	276.4	269.2	77.5	468.1	14.2%	85.8%
Lao cai	575.1	291.3	283.8	80	495.1	13.9%	86.1%
Yen bai	675.1	328.5	346.6	123.4	551.7	18.3%	81.7%
Bac thai	1205.2	604.3	600.9	233.6	971.6	19.4%	80.6%
Son la	832.5	421	411.5	110.9	721.6	13.3%	86.7%
Hoa binh	757.4	383.2	374.2	124.1	633.3	16.4%	83.6%
Vinh phu	2328.5	1137	1191.5	173 8	2154.7	7.5%	92.5%
Ha bac	2378.1	1156.9	1221.2	119.8	2258.3	5.0%	95.0%
Quang ninh	925.4	476.2	449.2	405 4	520	43.8%	56.2%
Red river delta	**14488.6**	**6993.1**	**7495.5**	**2667**	**11821.6**	**18.4%**	**81.6%**
Ha noi	2268.4	1081	1187 4	1244.7	1023.7	54.9%	45.1%
Hai phong	1667.6	825.1	842.5	574	1093.6	34 4%	65.6%
Ha tay	2330.5	1115.5	1215	186.9	2143.6	8.0%	92.0%
Hai hung	2779.4	1345.1	1434	150.2	2628.9	5 4%	94.6%
Thai binh	1830.6	871.3	959.3	109.6	1721	6.0%	94.0%
Nam ha	2720.9	1322 3	1398 6	319	2401.9	11 7%	88.3%
Ninh binh	891.5	432 7	458 8	82 6	808.9	9 3%	90.7%
North Central Coast	**10042**	**4951.2**	**5090.8**	**1111.2**	**8930.8**	**11.1%**	**88.9%**
Thanh hoa	3496.5	1716 1	1780 4	331.9	3164.6	9.5%	90.5%
Nghe an	2830.2	1404.3	1425.9	238.6	2591.6	8.4%	91.6%
Ha tinh	1312.5	661.2	681.3	80.9	1261.6	6.0%	94.0%
Quang binh	792.5	392.5	400	93.9	698.6	11.8%	88.2%
Quang tri	553.2	268	285.2	97.4	455.8	17.6%	82.4%
Thua thien Hue	1027.1	509.1	518	268.6	758.5	26.2%	73.8%
South Central Coast	**7822.5**	**3802.1**	**4020.3**	**1885.2**	**5937.3**	**24.1%**	**75.9%**
Quang nam-Da nang	2015.4	976.1	1039.3	652.8	1362.6	32.4%	67.6%
Quang ngai	1215.3	589	626.3	109	1106.3	9.0%	91.0%
Binh dinh	1,455.1	708 8	746.3	267.9	1187.2	18.4%	81.6%
Phu yen	757.6	365 4	392.2	143.4	614.2	18.9%	81.1%
Khnh hoa	978.8	487	491.8	374.5	604.3	38.3%	61.7%
Ninh thuan	475.8	233 9	241.9	118.1	357.7	24.8%	75.2%
Binh thuan	924.5	441.9	482.6	219.5	705	23.7%	76.3%
Central Highlands	**3209.6**	**1566.3**	**1643.3**	**752.9**	**2456.7**	**23.5%**	**76.5%**
Gia lai	815.1	391.5	423.6	186.3	628.8	22.9%	77.1%
Kon tum	265.3	127.7	137.6	58.2	207.1	21.9%	78.1%
Dak lak	1301.6	647.5	654.1	219.8	1081.8	16.9%	83.1%
Lam dong	827.6	399.6	428	288.6	539	34.9%	65.1%
South East	**9563.8**	**4698.7**	**4865.1**	**4533.3**	**5030.5**	**47.4%**	**52.6%**
Ho chi Minh city	4856.1	2385.7	2470.4	3590.1	1266	73.9%	26.1%
Song be	1170.3	568 9	601.4	79	1091.3	6.8%	93.2%
Tay ninh	918.1	452.2	465.9	110.1	808	12.0%	88.0%
Dong nai	1913.1	942.6	970.5	509.2	1403.9	26.6%	73.4%
Ba ria - Vung tau	706.2	349.30	356.9	244.9	461.3	34.7%	65.3%
Mekong river delta	**16372.4**	**7923.7**	**8448.7**	**2549.6**	**13822.8**	**15.6%**	**84.4%**
Long an	1284.7	620.8	663.9	164.5	1120.2	12.8%	87.2%
Dong thap	1537.2	745.4	791.8	248.9	1288.3	16.2%	83.8%
An giang	2026.9	994.7	1032.2	384.3	1642.6	19.0%	81.0%
Tien giang	1703.1	816 8	886.3	210.1	1493	12.3%	87.7%
Ben tre	1372.6	657.6	715	103.3	1269.3	7.5%	92.5%
Vinh long	1095.3	528.1	567.2	150.2	945.1	13.7%	86.3%
Tra vinh	990.1	479.3	510.8	60.1	930	6.1%	93.9%
Can tho	1875.5	911.2	964.3	372.1	1503 4	19.8%	80.2%
Soc trang	1235.5	591	644.5	207	1028.5	16.8%	83.2%
Kien giang	1420.6	693.8	726.8	299.9	1120.7	21.1%	78.9%
Minh hai	1830.9	884 9	946	349.1	1481.8	19.1%	80.9%

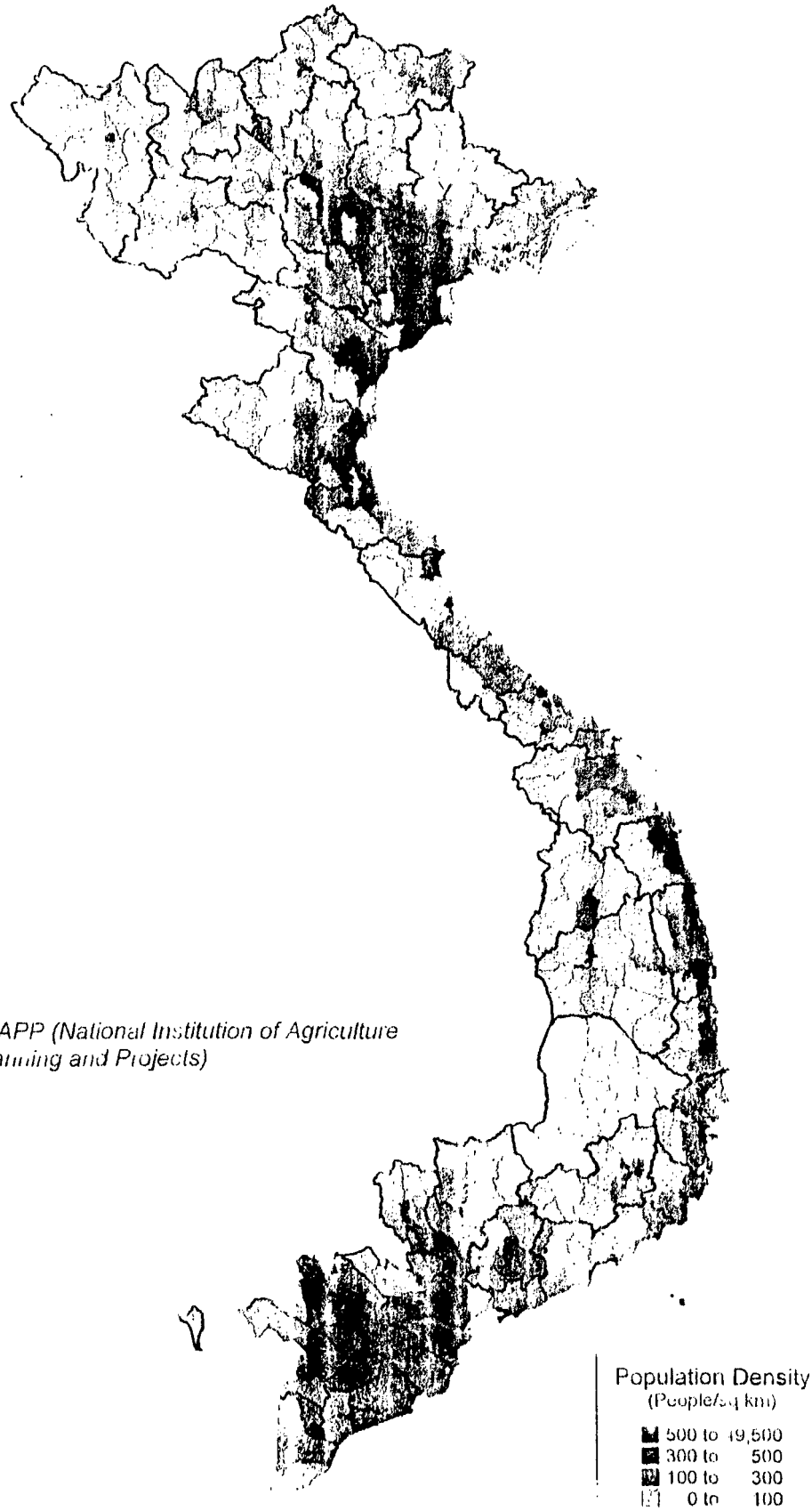
Source Department of Population, General Statistic Office, Hanoi

POPULATION DENSITY
Provinces 1996



Source: GSO (General Statistic Office)

POPULATION DENSITY
Districts 1992



Source: NIAPP (National Institution of Agriculture Planning and Projects)

POPULATION DENSITY BY REGION AND PROVINCE

Region/Province	*Area (km2)*	Population (000p.)		Population Density (p/km2)	
	Total (94)	1995	1996	1995	1996
Whole country	330955	73962.4	75355.2	223	228
Northern Uplands	***102961***	***12606***	***12811.6***	***122***	***124***
North West	***35955***	***2097.4***	***2135.5***	***58***	***59***
North East	***67006***	***10508.6***	***10676.1***	***157***	***159***
Ha giang	7831	545.8	555	70	71
Tuyen quang	5801	657.7	668.8	113	115
Cao bang	8445	640.5	648.6	76	77
Lang son	8187	703.1	716.3	86	87
Lai chau	17133	535.2	545.6	31	32
Lao cai	8050	565.7	575.1	70	71
Yen bai	6808	663.6	675.1	97	99
Bac thai	6503	1187.7	1205.2	183	185
Son la	14210	818.1	832.5	58	59
Hoa binh	4612	744.1	757.4	161	164
Vinh phu	4827	2288.9	2328.5	474	482
Ha bac	4616	2340.5	2378.1	507	515
Quang ninh	5938	915.1	925.4	154	156
Red river delta	***12510***	***14279.3***	***14488.6***	***1141***	***1158***
Ha noi	921	2230.1	2268.4	2421	2463
Hai phong	1503	1642.8	1667.6	1093	1110
Ha tay	2148	2293.7	2330.5	1068	1085
Hai hung	2550	2743.8	2779.4	1076	1090
Thai binh	1509	1810.1	1830.6	1200	1213
Nam ha	2492	2682.1	2720.9	1076	1092
Ninh binh	1387	876.7	891.5	632	643
North Central Coast	***51174***	***9888***	***10042***	***193***	***196***
Thanh hoa	11168	3439	3496.5	308	313
Nghe an	16371	2787.1	2830.2	170	173
Ha tinh	6054	1327.1	1342.5	219	222
Quang binh	7984	778.2	792.5	97	99
Quang tri	4588	544.1	553.2	119	121
Thua thien Hue	5009	1012.5	1027.1	202	205
South Central Coast	***45192***	***7695.1***	***7822.5***	***170***	***173***
Quang nam-Da nang	11985	1984	2015.4	166	168
Quang ngai	5177	1197.3	1215.3	231	235
Binh dinh	6076	1432.1	1,455.1	236	239
Phu yen	5278	745.5	757.6	141	144
Khanh hoa	5257	964.5	978.8	183	186
Ninh thuan	3427	468.3	475.8	137	139
Binh thuan	7992	903.4	924.5	113	116
Central Highlands	***56083***	***3101.5***	***3209.6***	***55***	***57***
Gia lai	16212	786.2	815.1	48	50
Kon tum	9934	262.1	265.3	26	27
Dak lak	19800	1255.1	1301.6	63	66
Lam dong	10137	798.1	827.6	79	82

POPULATION DENSITY BY REGION AND PROVINCE

Region/Province	Area (km2)	Population (000p.)		Population Density (p/km2)	
	Total (94)	1995	1996	1995	1996
South East	***23467***	***9229.1***	***9563.8***	***393***	***408***
Ho chi Minh city	2090	4635.1	4856.1	2218	2323
Song be	9519	1140.2	1170.3	120	123
Tay ninh	4029	905.2	918.1	225	228
Dong nai	5864	1860.5	1913.1	317	326
Ba ria - Vung tau	1965	688.1	706.2	350	359
Mekong river delta	***39568***	***16118.7***	***16372.4***	***407***	***414***
Long an	4338	1270	1284.7	293	296
Dong thap	3276	1515.6	1537.2	463	469
An giang	3424	1998.1	2026.9	584	592
Tien giang	2339	1680.1	1703.1	718	728
Ben tre	2247	1351	1372.6	601	611
Vinh long	1487	1080.6	1095.3	727	737
Tra vinh	2369	977	990.1	412	418
Can tho	2965	1846	1875.5	623	633
Soc trang	3191	1216	1235.5	381	387
Kien giang	6243	1390.2	1420.6	223	228
Minh hai	7689	1794.1	1830.9	233	238

Source: Data on population: Received from Department of Population, GSO, Hanoi
Data on area: Statistical Yearbook, 1994

Note: Population by area may not add up to the grand total due to possible exclusion of the armed forces and migrant workers.

POOR HOUSEHOLDS 1996

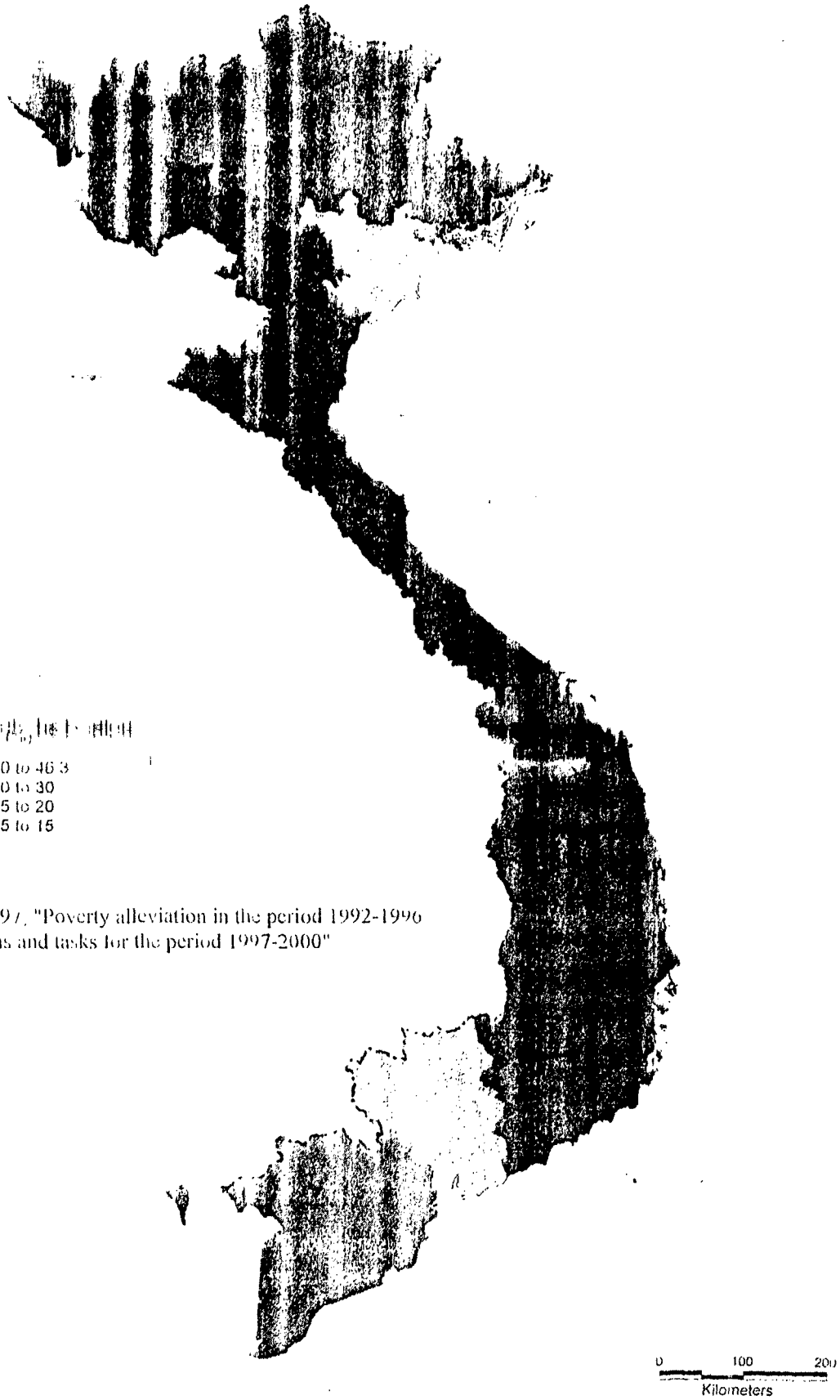
	Regions and Provinces	Number of HHs	Number of Poor HHs	Rate
I	**Northern Uplands**	**2,551,520**	**695053**	**27.24%**
a	***North West***	***379,601***	***175,647***	***46.27%***
b	***North East***	***2,171,919***	***519,406***	***23.91%***
1	Ha giang	111103	39500	35.55%
2	Tuyen quang	133,958	20866	15.58%
3	Cao bang	132,443	44,136	33.32%
4	Lang son	143,155	26000	18.16%
5	Lai chau	83,642	35,347	42.26%
6	Lao cai	114,611	29,414	25.66%
7	Yen bai	135,246	36,266	26.81%
8	Bac thai	256,962	43887	17.08%
9	Son la	144,605	56000	38.73%
10	Hoa binh	151,354	84300	55.70%
11	Vinh phu	466,873	122120	26.16%
12	Ha bac	493,846	114,455	23.18%
13	Quang ninh	183,722	42,762	23.28%
II	**Red river delta**	**3,002,897**	**330,519**	**11.01%**
1	Ha noi	542,133	20106	3.71%
2	Hai phong	335,281	58498	17.45%
3	Hai hung	676,017	46804	6.92%
4	Ha tay	507,699	44,598	8.78%
5	Thai binh	386,584	35099	9.08%
6	Nam ha	355,435	87,587	24.64%
7	Ninh binh	199,748	37,827	18.94%
III	**North Central Coast**	**1,978,482**	**609,372**	**30.80%**
1	Thanh hoa	690000	182,447	26.44%
2	Nghe an	560,000	199,500	35.63%
3	Ha tinh	268,047	84,500	31.52%
4	Quang binh	160000	73,600	46.00%
5	Quang tri	110,000	24,759	22.51%
6	Thua thien Hue	190,435	44,566	23.40%
IV	**South Coastal Central**	**1,787,767**	**413,660**	**23.14%**
1	Quang nam-Da nang	581,595	148,929	25.61%
2	Quang ngai	231,127	82,937	35.88%
2	Binh dinh	315000	51,862	16.46%
3	Phu yen	179,435	41000	22.85%
3	Khnh hoa	188,142	31507	16.75%
4	Ninh thuan	97,468	14,223	14.59%
4	Binh thuan	195,000	43202	22.15%
V	**Central Highlands**	**641,258**	**188,878**	**29.45%**
1	Gia lai	165,152	65,474	39.64%
2	Kon tum	52,000	28,288	54.40%
2	Dak lak	268,606	70,616	26.29%
3	Lam dong	155500	24,500	15.76%

POOR HOUSEHOLDS 1996

	Regions and Provinces	Number of HHs	Number of Poor HHs	Rate
VI	**South East**	**1,804,349**	**116,728**	**6.47%**
1	Ho chi Minh city	910000	10000	1.10%
2	Song be	220,022	27,983	12.72%
2	Tay ninh	162,000	12,180	7.52%
3	Dong nai	372,327	60000	16.11%
3	Ba ria - Vung tau	140,000	6,565	4.69%
VII	**Mekong river delta**	**3,095,047**	**502,912**	**16.25%**
1	Long an	265,000	29,325	11.07%
2	Dong thap	334000	41,232	12.34%
2	An giang	385,320	75,535	19.60%
2	Tien giang	335000	64,259	19.18%
3	Ben tre	255,262	43,699	17.12%
3	Vinh long	210,000	22,871	10.89%
3	Tra vinh	192,000	40,699	21.20%
4	Can tho	314,933	41,174	13.07%
4	Soc trang	245,000	57,229	23.36%
4	Kien giang	244,913	44,574	18.20%
5	Minh hai	313,619	42,315	13.49%
	Whole country	**14,861,320**	**2,857,122**	**19.23%**

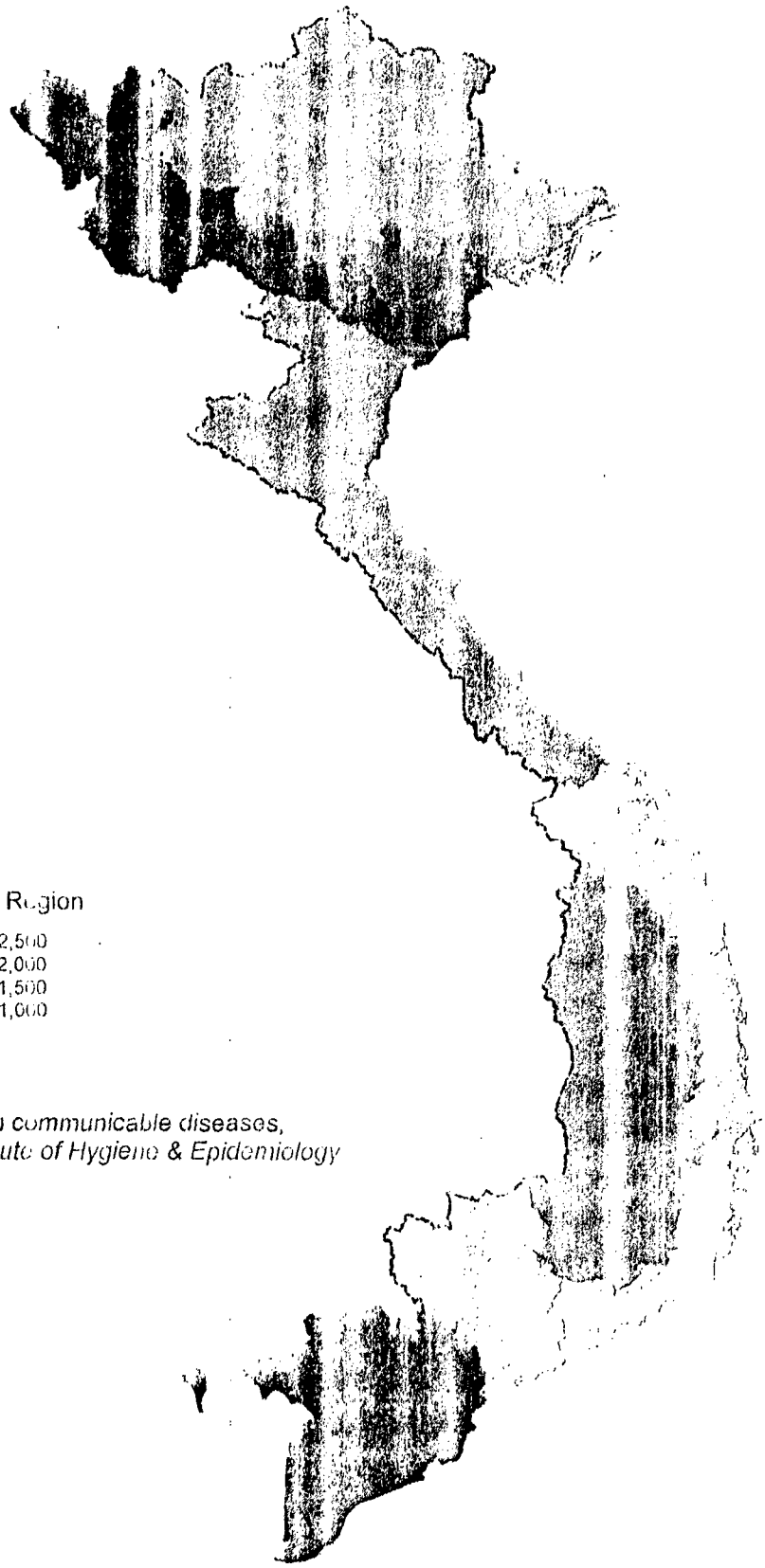
Source: MOLISA, 1997 "Poverty Alleviation in the Period 1992-1996 and Directions and Tasks for the Period 1997 - 2000"

POOR HOUSEHOLDS BY REGIONS (1996)



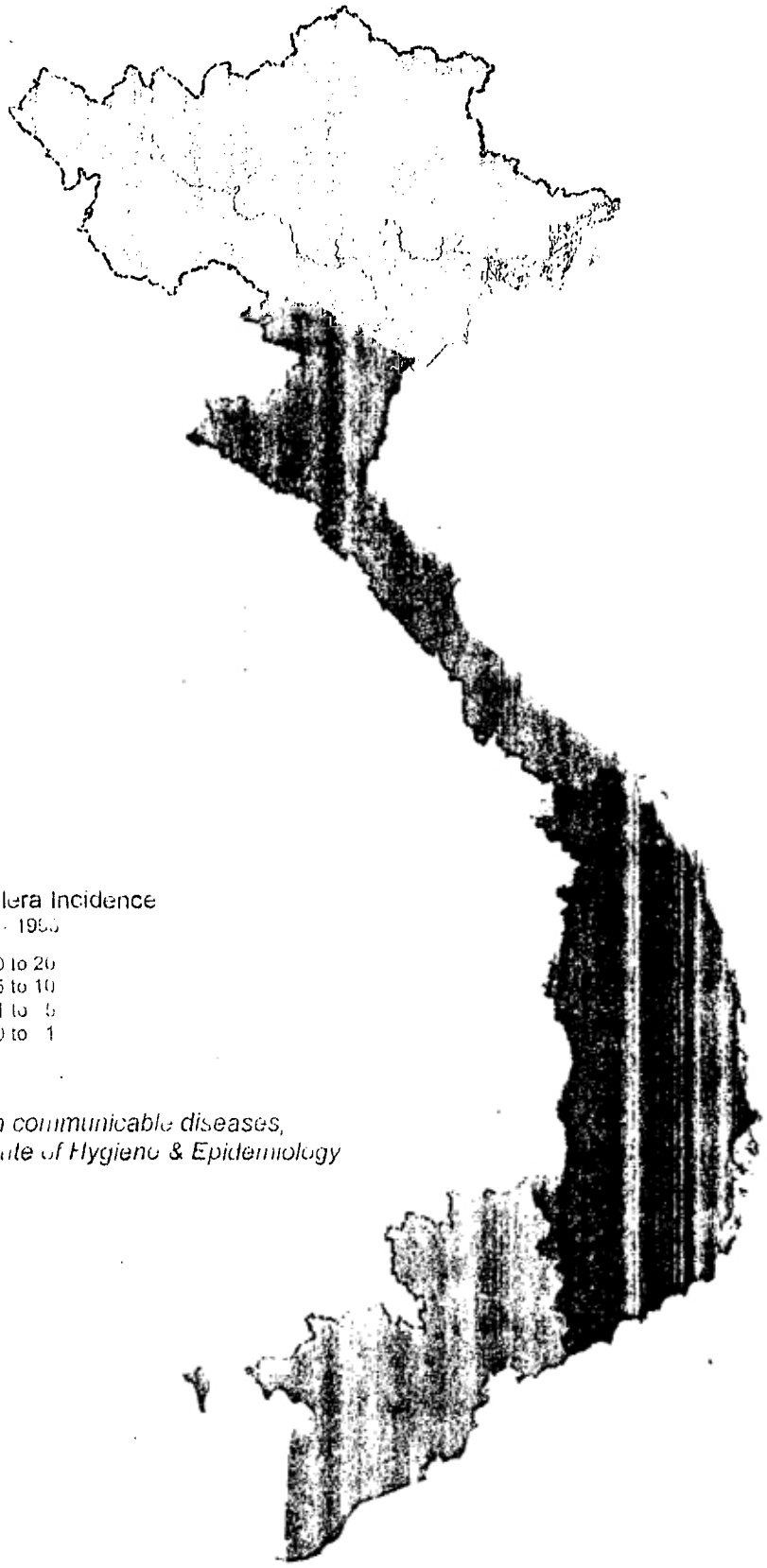
Source: MOLISA, 1997, "Poverty alleviation in the period 1992-1996 and directions and tasks for the period 1997-2000"

DIARRHOEA INCIDENCE 1996



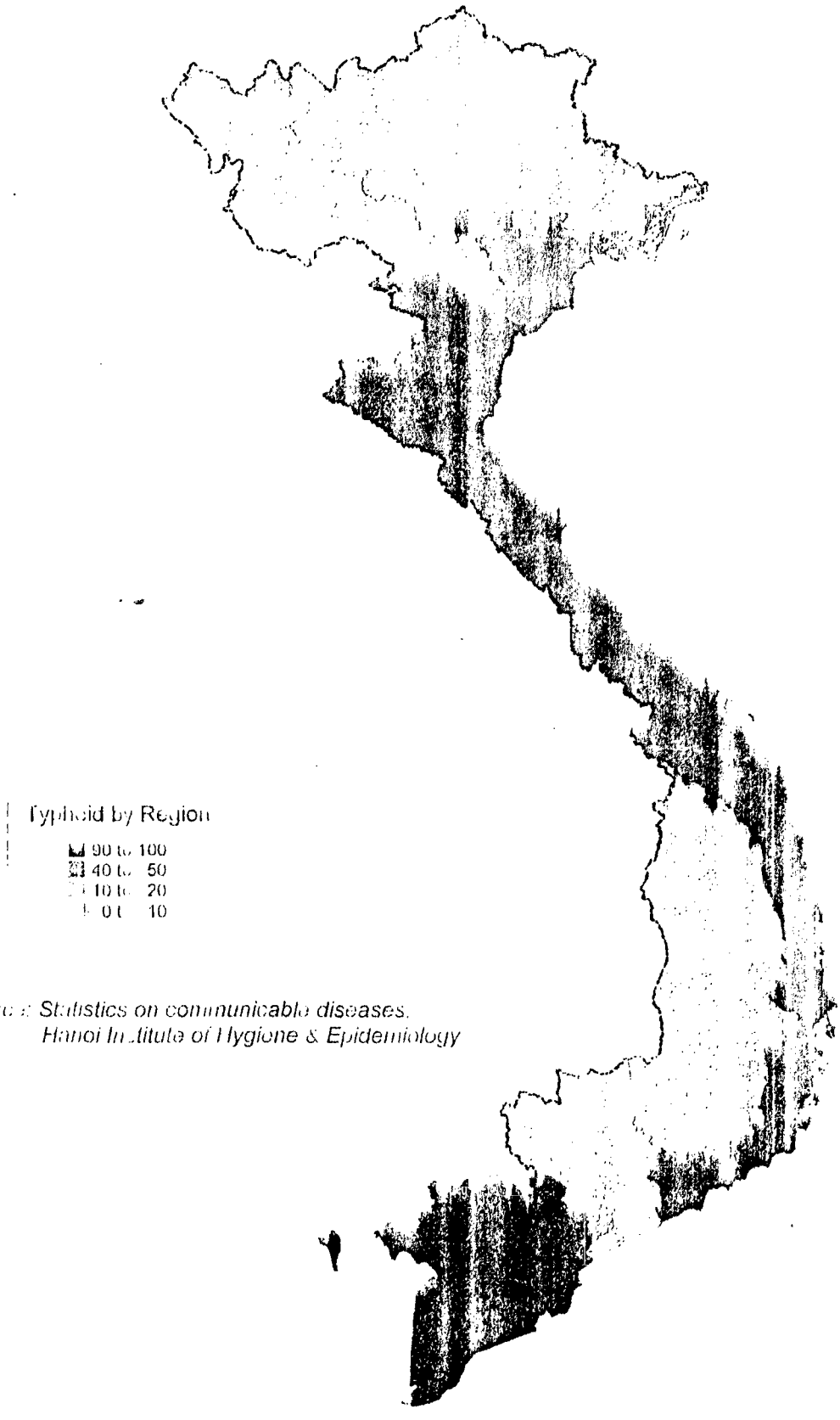
Source: Statistics on communicable diseases, Hanoi Institute of Hygiene & Epidemiology

AVERAGE CHOLERA INCIDENCE 1992-1996



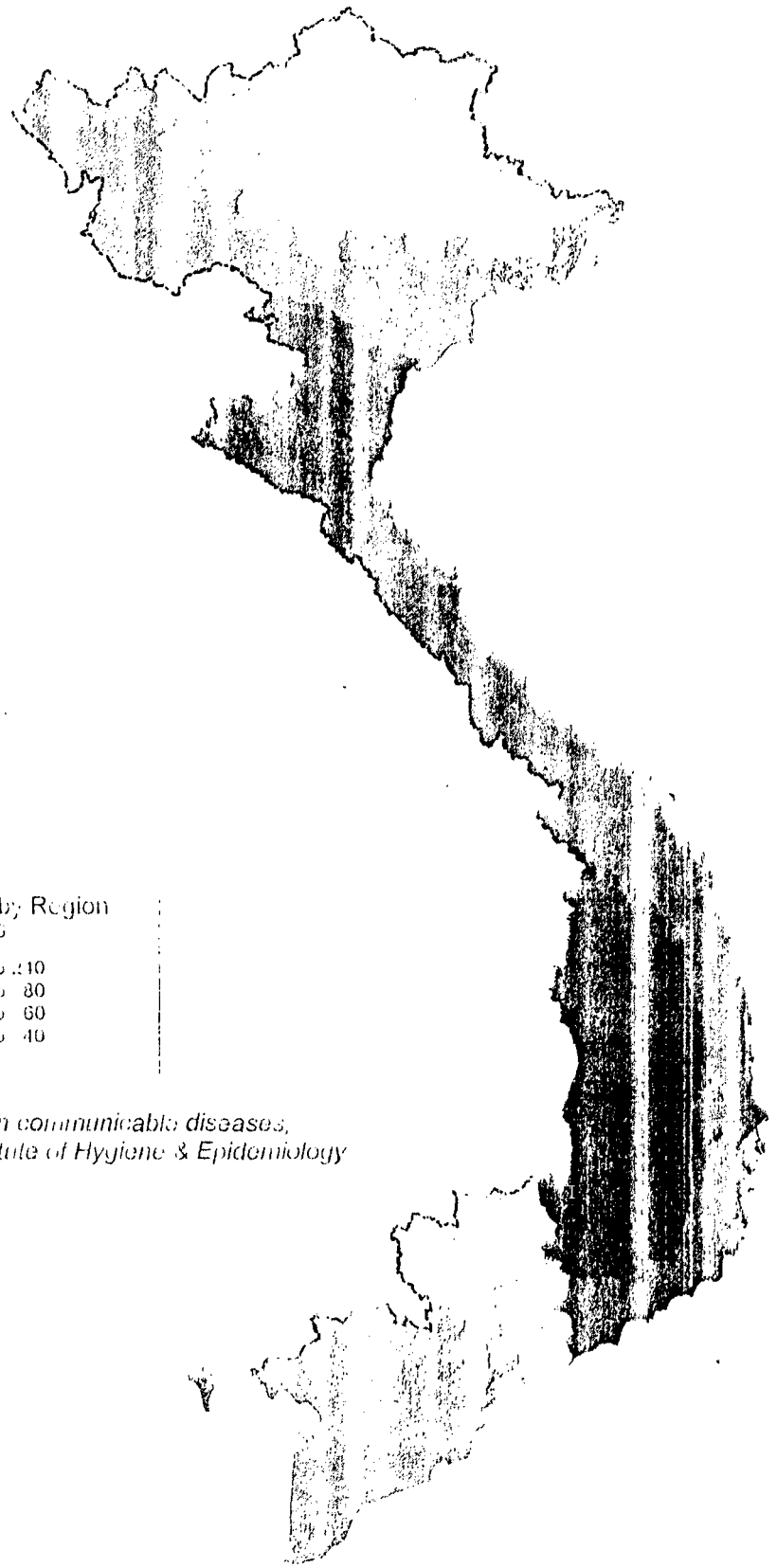
Source of Statistics on communicable diseases,
Hanoi Institute of Hygiene & Epidemiology

TYPHOID INCIDENCE 1996



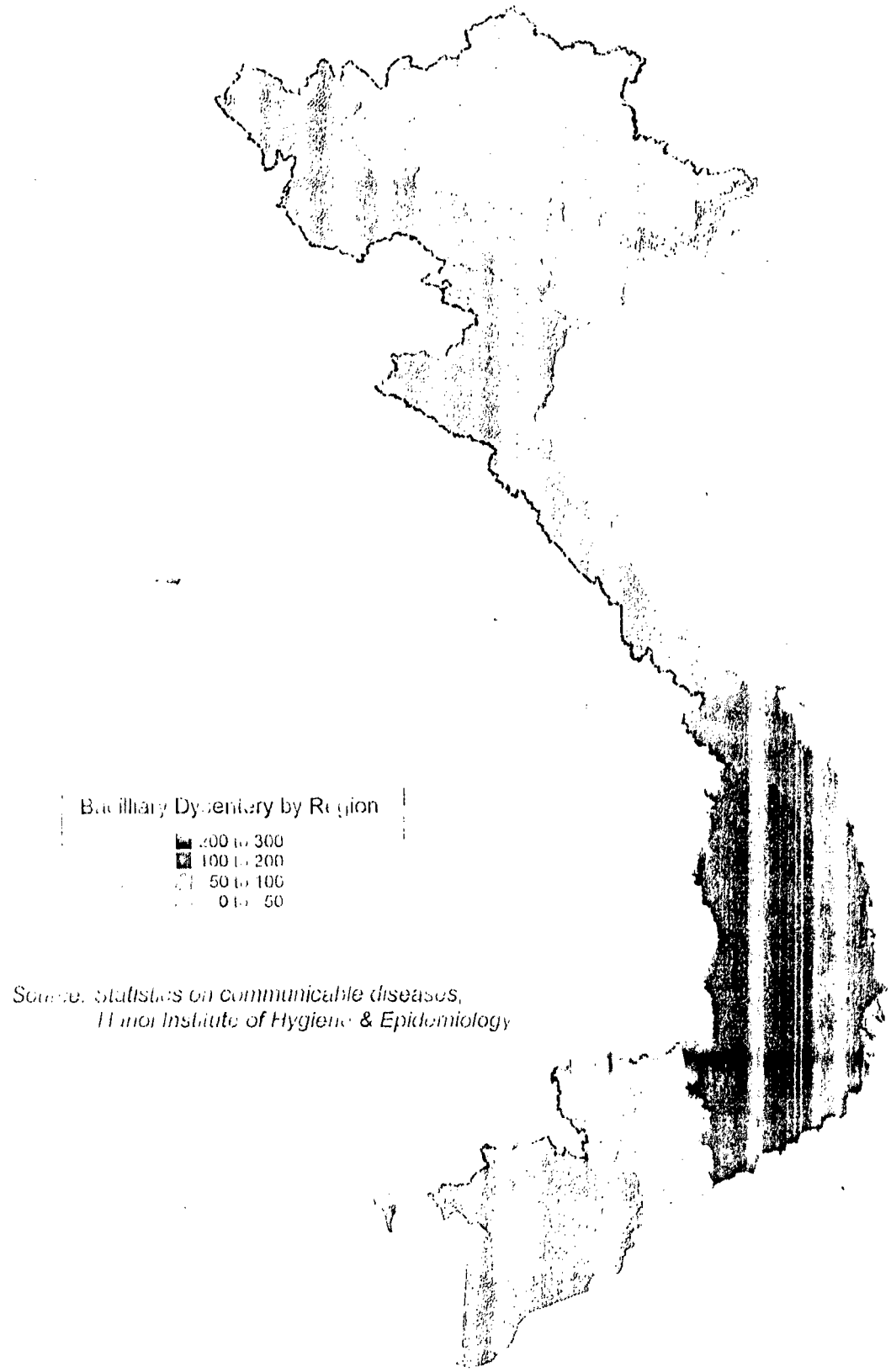
Source: Statistics on communicable diseases.
Hanoi Institute of Hygiene & Epidemiology

AMOEBIASIS INCIDENCE 1996



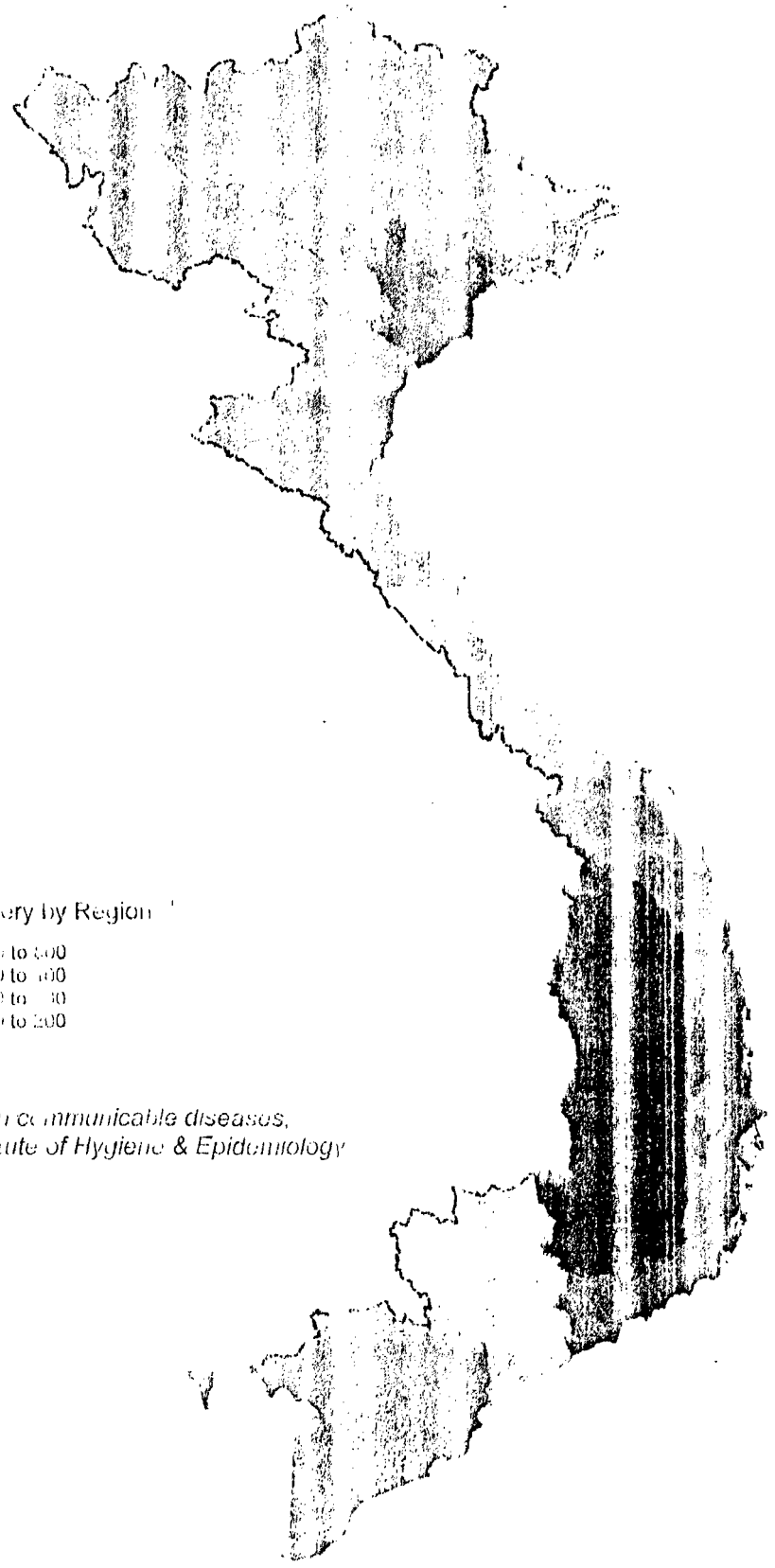
Source: Statistics on communicable diseases,
Hanoi Institute of Hygiene & Epidemiology

BACILLIARY DYSENTERY INCIDENCE 1996



Source: Statistics on communicable diseases, Hanoi Institute of Hygiene & Epidemiology

TOTAL DYSENTERY INCIDENCE 1996



Source: Statistics on communicable diseases, Hunor Institute of Hygiene & Epidemiology

CURRENT CURRICULUM ON HEALTH EDUCATION IN PRIMARY SCHOOLS

	Good habits on health
Grade 1	Personal hygiene in the morning, personal hygiene in the afternoon and personal hygiene in the evening
Grade 2	Keep activities according to the schedule Making a personal schedule

	Personal hygiene
Grade 1	Keep our body clean, keep our hands clean, protect our eyes How to wash our faces, keep our ears clean, clean nose and throat, clean our teeth and mouth
Grade 2	Importance of teeth, how to clean teeth correctly, how to protect our teeth Keep our body healthy, physical exercises, keep safe when playing
Grade 4	Personal hygiene and its usefulness, keep the ways of study more hygienic Seasonal prevention of diseases

	Clothing and hygiene
Grade 1	Wear clothes cleanly and tidily, wear clothes according to the weather.
Grade 4	Hygienic clothing

	Food and nutrition hygiene
Grade 1	Clean eating and drinking Keep the same schedule of eating, eat enough foods (quantity and quality).
Grade 2	Eat enough foods (meals), eat enough kinds of foods, how to have good appetite How to eat safely
Grade 3	Daily foods and nutrients Preserve foods correctly, food processing VAC[1] and its usefulness
Grade 5	Nutrients and not nutrients, hygienic nutrition Diseases related to nutrition and prevention Ecological system -VAC[2]

	Housing hygiene
Grade 1	Keep our houses clean and tidy, how to stay at home safely
Grade 2	Keep our houses clean, how to make our houses clean, harmfulness of dirty houses

1 VAC = *Vegetable garden, fish pond and animal pen.*

	Environmental sanitation and health
Grade 1	Keep our school clean, keep our classes clean. how to stay safely at school Keep streets clean, keep our village or town clean, keep safe in the streets
Grade 2	Keep school and class clean, harmfulness of dirty school and classes. Keep public places clean, don't throw rubbish everywhere, prevent and remove flies, mosquitoes, mice, etc. Prevention of diseases after flooding, environment and Health Diarrhoea and how to prevent, what should we do when suffering from diarrhoea Worm diseases and prevention
Grade 3	Take care of domestic animals, Intermediate vectors: flies, mosquitoes, mice, dispose of rubbish and excreta correctly Water and health, how to deal with waste water Air and health, air pollution, noise and health, green trees and health Protect respiratory system, prevent respiratory diseases Protect circulation system, prevent cardiovascular system diseases, physical exercises, eating and entertainment to prevent cardiovascular system diseases Protect urinary system HIV infection and AIDS, how to prevent AIDS Prevent nervous system diseases
Grade 4	Definition of health, how to check body temperature, take care of patients; Observe sanitation facilities, worm diseases and how to prevent. Observe traditional medicine plants, some kinds of drugs, important symbols of type A and B drugs. Introduce clean water samples, simple ways of water filter, use and keep latrines clean, dispose of rubbish, waste water, keep public places clean Concepts of communicable diseases and epidemics, Immunisation and its usefulness Prevention of rheumatic fever disease First aid with wounds, deal with foreign bodies in the eyes Vitamins and health, some health indicators
Grade 5	What is Red Cross Association Check pulse rate and respiratory frequencies Prevention of short sight Prevention of intestinal infectious diseases Prevention of respiratory infectious diseases Prevention of skin diseases Prevention of blood transfusion diseases Trachoma and how to prevent Goitre and how to prevent Worm diseases and how to prevent Malaria and how to prevent Deal with some accidents: unconsciousness, respiratory failure, electricity, snake bites, dog bites, etc. Identify appendicitis in early stage. Significance of population explosion and family planning Check health yourselves