

**INSTITUTE FOR POPULATION AND SOCIAL RESEARCH**  
**Mahidol University**

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**ASSESSMENT OF NEEDS AND SUPPLY**  
**AVAILABILITY FOR SURVIVAL AND BASIC**  
**SERVICES FOR MOTHERS AND CHILDREN IN**  
**REMOTE AREAS OF THAILAND**

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**Pimonpan Isarabhakdi, Ph.D.**

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**Buppha Sirirassamee  
Pimonpan Isarabhakdi**

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**Project Title:** Assessment of Needs and Supply Availability for Survival and Basic Services for Mothers and Children in Remote Areas of Thailand.

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### **Abstract**

The current economic crisis has created many problems, with those in disadvantaged situations coming under increasing pressure. Large disparities exist in the health and educational opportunities and quality of care provided to the general Thai population versus that of disadvantaged woman and children living in remote rural areas. This study aims at assessing the needs and availability of supplies required for survival and access to basic services for mothers and children in remote areas, identifying items that should be provided to the population in remote areas, and to compare the supply needs at the level of the household, health center and schools for two most disadvantaged regions of Thailand: the North and Northeast. In total, 257 mothers and 70 care givers of children aged under five were interviewed. In addition, health personnel who were responsible for maternal and child health services were interviewed in-depth. The needs of school age children were identified through group interviews with primary school principals and their staff.

The study revealed that women in the two regions have adequate access to family planning services. In 80 percent of cases, such services were obtained from the public sector. Similar to family planning services, women also have access to maternal care services. Overall, 99 percent of mothers had received ante-natal care (ANC). The pattern of ANC utilization, however, differed between the two regions. A higher proportion of Northern mothers sought ANC services from health center while the Northeastern mothers went to community hospitals. Most mothers received blood tests, multivitamins and health education during ANC visits. Most births in both regions occurred in hospitals, however, only 37 percent of mothers received home post-natal care visit. Home PNC visit was more common in the North than the Northeast (43 and 33 percent respectively). Although, health personnel noted that home PNC visit is an essential service, they cannot provide the service as often as they wished, since their work schedules were already very heavy.

Moreover, for those mothers who received PNC at health centers, they often do not comply with the appointment schedule.

For children aged under five, of the 327 in the survey, almost all were immunized. Other services included providing formula, supplementary food, vitamins and weighing. Almost all children were participating in the routine nutritional surveillance schedule. Records were kept at health centers, and malnourished children could be identified. Breast-feeding was almost universal among mothers of children aged 2 years and under. The most prevalent illnesses in the past 12 months among children under five were diarrhea, influenza and pneumonia. A higher proportion of children in the North than the Northeast reported having diarrhea and pneumonia. The perceived needs of mothers regarding child services/supplies most frequently cited were supplementary food, formula/UHT milk, while others were medicines and toys.

Supplies needed at health centers were those equipment such as haematocrit centrifuge machine, antropometric equipment (weighing scales, length measurers), sphygmomanometers and stethoscopes, child development test kits, essential drugs (such as paracetamol, multivitamins, vitamin B complex, calcium tablets, and ferric tablets) good quality rubber gloves and condoms. Educational materials such as demonstration models, flip-charts, posters and leaflets for ANC, family planning, breast-feeding and specific health and nutrition problems (Anemia and thalassemia) were found to be lacking in remote areas.

The government's school lunch budget has been severely cut and the lack of financial input is the greatest limiting factor. Hence, money to buy raw materials to support self-help food production of schools is needed. School playgrounds were found to be empty with rough surfaces. In some schools, available equipment was very old, broken or did not function. Basic school supplies such as books, notebooks and uniforms, including shoes, were lacking. Tooth brushes, toothpaste and water glasses were needed for school dental health programs. Water filters were also required to produce safe drinking water for school children.

Lastly, this study identified school children whose parents had died of AIDS. These children lived with their grandparents and were facing a complex set of challenges (economic, social, and emotional). Some of them exhibited behavioral problems in terms of isolation and aggression. They needed urgent assistance and support to help them cope with the situation.

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# ASSESSMENT OF NEEDS AND SUPPLY AVAILABILITY FOR SURVIVAL AND BASIC SERVICES FOR MOTHERS AND CHILDREN IN REMOTE AREAS OF THAILAND

*Buppha Sirirassamee, R.N., Ph.D.*  
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## INTRODUCTION

UNICEF defines its mission in terms of pursuing children's basic needs as human rights. Child rights are enduring ethical principles and international standards of behavior towards children. Children's rights, however, cannot be achieved without the availability of and accessibility to essential supplies necessary to meet basic needs. Vaccines, essential drugs, medical items, vitamin supplements, basic foods, textbooks, school materials, safe drinking water, clothing and shelter are some of the supplies whose use governs the ability of families to ensure that children survive, develop and are protected in all types of situations. As a result, the supply function of UNICEF needs to be oriented to the promotion and fulfillment of child rights.

A recent situation analysis of children and their families in Thailand noted that the country has achieved much in the areas of health and social development.<sup>1</sup> Thailand has achieved most of its Mid-Decade Goals, with the health, education, and water supply and sanitation goals for the year 2000 being on track or already attained. Thailand has accomplished much in the areas of primary health care, quality of life and education improvement, and in the process has provided its own models which are the subject of frequent study by other countries.

Yet despite such achievements, and recently exacerbated by the country's economic downturn, the quality of many children's lives—especially those marginalized, in need of special protection, and/or

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<sup>1</sup> UNICEF Office for Thailand. 1997. *Children and Their Families in a Changing Thai Society*. Bangkok.



suffering from the health and social consequences of HIV/AIDS—shows little to no improvement compared to the general population.<sup>2</sup> Children and women, and particularly those living in remote areas, are one of the most disadvantaged groups, since they are the last in line to receive the benefits of basic social services (i.e., health, education). Preventable diseases and malnutrition are still the major causes of illness among children in remote areas. Such children are thus most at risk of poor health, retarded growth and development. Reaching these children and their mothers, securing their basic needs, and increasing their access to essential supplies for survival and basic services must therefore become a priority concern if these children's rights are to be ensured.

This study takes an initial step in this direction. Its major objective is to assess, analyze and suggest actions to close specific gaps in meeting the supply and service needs of mothers and children in remote areas. To achieve this objective, the study focused on assessing the need and availability of supplies for survival and basic services for mothers and children in remote areas, identifying supply items that should be tracked down up to the end users level in remote areas, and to compare the supply needs at household, health center and school levels for two of Thailand's most disadvantaged regions: the North and Northeast.

## STUDY AREA AND DESIGN

The study was conducted in Northern and Northeastern Thailand during February 1998. Thailand's Northern region is mountainous with narrow river valleys formed by the tributaries of the Chao Phraya river. Rice, forestry and horticulture (fruit and especially orchid cultivation) are major industries. The valleys are inhabited by the Thai people, but the mountains contain ethnically distinct tribal peoples. The Northeast region is a relatively arid plateau, containing high saline soils, and drained by tributaries from the Mekong River. This is the poorest and most isolated part of the country with the highest number and proportion of people below the poverty line and

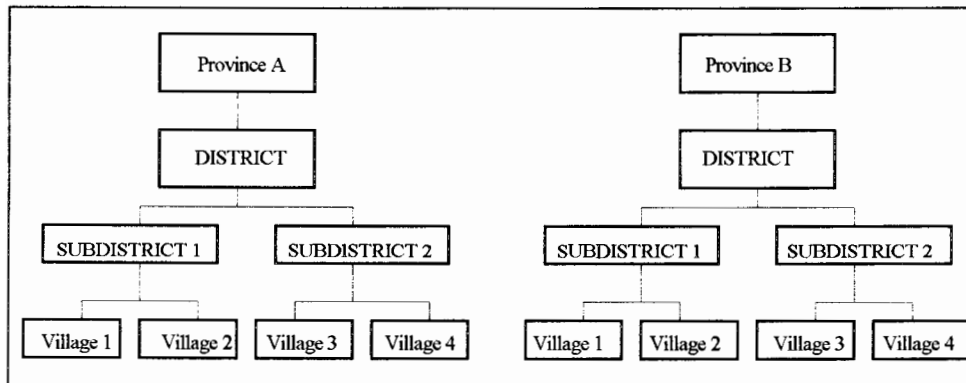
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<sup>2</sup> Attig G. 1997. *Health and Nutritional Challenges of the Thai People: Issues, Causes and Avenues for Action*. Discussion paper prepared for the UNICEF Office for Thailand workshop on the Situation of Children in Thailand. Mahidol University at Salaya: Institute of Nutrition.

with the lowest educational level. Although most people grow rice, the region is poorly suited to its cultivation, and alternative crops (kenaf, maize) are being promoted by the government.

Khon Kaen province, Northeastern Thailand, and Chiangrai province, Northern Thailand, were selected as the study areas because of their large population sizes, and the fact that many districts within these two provinces are located far from their provincial centers. Hence, they have a high frequency of remote locations. Mae Chan district in Chiangrai and Nong Song Hong district of Khon Kaen were then selected using the same parameters. Thereafter, two subdistricts in each district, and two villages per subdistrict were purposively selected. The subdistricts were located far from the district center and community hospital, while villages were located far from health centers and/or were on the border between two subdistricts. Altogether, eight villages in four subdistricts in two districts and provinces served as the research area (Figure 1).

Figure 1. Study area selection process



The study used a combination of data collection methods. A documentary review determined what survival and basic services and supplies should be available for mothers and children as supported by UNICEF through programs implemented by Thai government agencies, most notably the Ministry of Public Health and Ministry of Education. Furthermore, documents of projects being conducted in remote rural areas of Northeast Thailand were also consulted to

identify priority service and supply issues surrounding health centers and schools.<sup>3</sup> This documentary review thus aided in developing interview guides and questionnaires, served as a basis for identifying disparities between what services and supplies should be available compared to what is actually available, and provided in-depth contextual data to better understand and explain the situation and constraints surrounding the delivery of services and supplies.

To assess whether services are available, and used, by mothers and children living in remote rural areas, a household survey was conducted among 327 mothers and other primary child caregivers of children under age five in the eight research villages. If a household contained two or more children under five, then information was collected about the youngest child. Moreover, presently many young children are under the care of grandparents, since the children's parents have migrated to work in other places such as Bangkok and its periphery. Nonetheless, these children also need health services from the health centers and other medical/health facilities. In this case, if mothers were not present, information was collected from the children's primary caregivers. In total, 257 mothers and 70 caregivers were interviewed. Interviews were performed by experienced interviewers who were able to communicate with respondents using local dialects.

In addition to the documentary review and quantitative survey, in-depth and group interviews were also conducted to collect qualitative data. In-depth interviews obtained information from health personnel who are responsible for maternal and child health care clinics at four health centers. Group interviews were conducted with staff from the health promotion division of provincial health offices. Moreover, this study also identified the needs of school age children through group interviews with four primary school principals and their staff.

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<sup>3</sup> cf. Attig G, Promchan S, Rojroongwasinkul N, Tontisirin K. 1998. *The CHILD Project: Applying the CRC as an Integrated Action Framework in Thailand*. A joint publication of the Institute of Nutrition, Mahidol University, and the UNICEF Office for Thailand, Bangkok.

## RESULTS AND DISCUSSION

### Context of Remote Rural Life and Basic Services

Life in remote rural Thailand centers largely around rice cultivation, the raising of alternative crops (tapioca, maize, sugar) where conditions permit, fishing, and the gathering of food and building materials from the natural environment (forests, rivers). Life thus revolves around farming families, often considered to be the “backbone” of the country. Despite the availability of modern farming technologies, remote rural life is still typically that of small-scale semi-subsistent farming families, with farming being done with traditional techniques especially in the Northeast region. Work is usually done by hand or with a water buffalo, under the hot sun, and shared by the entire family, who consume the products from their own fields, while selling any surplus at local markets. For those who can afford it (particularly if they have family members who have migrated to earn incomes in large cities), televisions, radios, motorcycles, pick-up trucks and refrigerators are common possessions. Even in some of the remotest villages, Thailand has been able to supply households with electricity. More often than not, neighbors are also extended family members or other relatives. This is the life pattern of the majority of the remote rural poor, who often have only a primary education. They also represent the group most directly susceptible to exploitation and deprivation in the process of industrialization and globalization.

Thailand’s health services infrastructure is comprised largely of governmental, non-governmental, and non-profit health organizations; profit-making clinics and medical institutions; and community-based organizations covering virtually all regions, provinces, districts and subdistricts in the country. The disparity between Bangkok and the rural provinces in terms of health resources, facilities and manpower has also narrowed considerably. The government has gradually strengthened the number and beds of hospital and medical establishments in rural areas. Notable increases are particularly evident for community hospitals and health institutions requiring no fee (i.e., health center, community health center). The ratio between population and major health resources

(personnel) also shows a very favorable decline particularly with regards to rates of change between Bangkok versus other provinces.

Besides primary care, Thailand has invested in making notable improvements in community-based primary health care, both on its own and as part of the nation's Quality of Life/Basic Minimum Needs approach. A concept of community participation with emphasizes mobilization of village resources, both human and financial, has been translated into concrete action mainly in rural areas. Community-based PHC has rested almost solely on unpaid village health volunteers who have established key services and programs in virtually all rural communities and who are supposed to be the first referral level. Other successes include the establishment of effective community organizations and management practices, and the exchange of information and experiences among community members within and between villages.<sup>4</sup>

The information presented above implies that government health services and providers (free or paid) are ideally available and accessible to the general Thai population. But the question remains as to whether or not this holds for disadvantaged groups, most notably the remote rural poor. As we shall see, Thailand has gone a long way in improving the coverage of basic social services (health and education alike), yet the quality of these services and the availability of even basic supplies have not kept pace with the nation's quantitative achievements, and are being further complicated by the nation's recent economic downturn.

## **Safe Motherhood Services**

### ***Age, Occupation, Education and Residence***

Mothers of children under five in both regions were predominantly young, possessed a basic or higher level education, were undertaking low-income occupations and were residing in their households. The vast majority of mothers of children under five were between the ages of 20 and 34 years (81.9% for the Northeast, 70.2% for the North), though the North also had a substantial proportion of mothers aged 35-39 (21.7%) (Table 1; Note: all tables are annexed).

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<sup>4</sup> *Ibid.*

Most of the mothers (82%) had finished primary school, and about 13% had a secondary level education. Northern mothers had a higher level of education than mothers in the Northeast as demonstrated by a higher percentage of women with a secondary education (19.5% for the North compared to 7.2% for Northeastern mothers). In terms of occupation, Northeastern mothers were predominantly agriculturalists, while a higher proportion of mothers in the North were engaged in wage labor or trading. Although the majority of mothers had not migrated, approximately 15% were not living in the household at the time of the survey. Taken together, all of these characteristics reveal that rural mothers living in remote areas are similar to those of the general rural population in the two regions. As a result, mothers in this survey are to an extent representative of the larger population.

### ***Fertility and Family Planning***

Fertility and family planning can have a dramatic impact on the survival and development of children and women. They can potentially reduce the number of maternal deaths; lower under-five mortality rates; improve the nutritional status of both women and children; give women more health, more time and more opportunity; and promote proper care and education of children. Promoting greater access and use of quality family planning services and supplies, therefore, can be a positive step forward in ensuring the basic needs and rights of women and children.<sup>5</sup>

In terms of fertility, only slightly over 4% of mothers in this study were pregnant (2.5% in the North; 6% in the Northeast). Family sizes were small, with 90 percent of mothers having no more than two children (Table 2). The mean number of children ever born to Northern mothers was 1.5, while the corresponding figure for the Northeast was 1.8. As a result, the maternal burden for child care, at least in terms of the number of children, is low.

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<sup>5</sup> Yoddumnern-Attig B. 1995. Socio-cultural factors affecting women's health in Thailand. In Meesook A, Attig GA, Phijaisanit P., *Priority Issues for Women, Health and Development in Thailand*. Bangkok: National Committee on Women, Health and the Environment, National Commission on Women's Affairs, Office of the Prime Minister.

Family size is regulated by the use of readily available contraceptive methods. Approximately 80 percent of mothers in both regions were using contraceptives (Table 3). Pills and injectables were the most popular methods in the North, while female sterilization and the IUD were most popular among Northeastern mothers. None of the respondents mentioned male contraceptive methods (i.e., male sterilization, condoms).

Women in the two regions have ready access to family planning services. In 80% of the cases, such services were obtained from the public sector (health centers and community hospitals), while approximately 10% of mothers obtained contraceptives from private sector drug stores and clinics. The village Primary Health Care (PHC) center also served 9% of sampled mothers. The private sector and village PCH center were most preferred among Northern women, largely because these sources provide pills and injectables which are more popular among Northern mothers, while female sterilization—preferred by Northeastern mothers—must be performed by physicians in public sector hospitals. Some health center personnel in this study, moreover, were not trained nor licensed to insert IUDs, and thus cannot provide such services.

### *Maternal Care*

Similar to family planning services, women also have ready access to maternal care services. Overall, 99% of mothers had received antenatal care (ANC), with approximately 66% receiving such care from health centers (Table 4). The pattern of ANC utilization, however, differed between the two regions. A higher proportion of Northern women sought ANC services from health centers (75%) compared to the Northeast (43.4%). Mothers in the Northeast prefer to go to either community hospitals or other government hospitals, possibly due to the fact that there is a regional maternal and child hospital in Khon Kaen province. In general, mothers attended ANC services according to the appointment schedule made by physicians. Most (90%) sought ANC within the first four months of pregnancy.

Most mothers received blood tests, multivitamins (MTV) and health education during ANC visits (Table 5). However, differences exist in other types of services. For example, a higher proportion of Northern mothers received ferrous and MTV than Northeastern

mothers, while the latter were more likely to receive supplementary food than mothers in the North. Iodine tablets were also given to Northern mothers (since the North is an IDD endemic area), while these were not provided to Northeastern mothers.<sup>6</sup>

Most births in both regions occurred in hospital facilities (Table 6). Approximately 50% of children under five were delivered at community hospitals, while one-third were delivered at other government hospitals. This includes a small percentage of children delivered in hospitals outside of Khon Kaen and Chiangrai because the mothers had migrated to work outside these areas. Some mothers gave birth at hospitals that specialize in maternal and child care. Delivery at health centers was rare (0.6% in the Northeast; 1.3% in the North), partly because women delivered at hospitals where they received ANC services or in hospitals that they believed gave superior delivery services.<sup>7</sup> Moreover, interviews with health center personnel revealed that their main duty is to provide ANC and not delivery services, even though the centers are equipped to handle deliveries.

Only 37 percent of mothers received post-natal care (PNC) at home after delivery (Table 7). PNC is more common in the North than the Northeast (43% and 33% respectively). Health personnel responsible for maternal and child health care clinics noted that even though PNC is an essential service, they cannot do it as often as they wish, since their work schedule is already very heavy. Those working in the Northeast can cover only 60 to 70% of their target, and their work is complicated by a lack of vehicles. Furthermore, for women who receive PNC at health centers, they often do not comply with the appointment schedule.

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<sup>6</sup> NOTE: A UNICEF supported project in Northeastern Thailand is showing that in certain districts and schools, and especially those in remote areas, iodine deficiency prevalence rates are equal to, or exceed, those of Northern provinces (see footnote 3). As a result, the decision to distribute iodine supplements only to Northern mothers should be reviewed.

<sup>7</sup> In other areas of the Northeast (remote and non-remote), women's decisions about where to deliver their children rest on their perceptions of health service quality. When health center staff are thought to be equal in skill and quality to hospitals, health centers are more commonly used; otherwise, hospitals are preferred.



In summary, safe motherhood services in terms of family planning, ANC, delivery and PNC are readily available and accessible to mothers in remote villages within the study area. The extent to which the supplies provided by these services are adequate, however, is another issue and will be discussed subsequently.

## **Child Survival Services**

### ***Immunization and Other Health Services***

An important indicator of child health status is the proportion of children protected through immunization against potentially life threatening diseases. Of the 327 children under five included in the survey (Table 8), almost all were immunized. Though mothers and caregivers could not specify what types of vaccines the children had received, they had each child's immunization/health record book which indicated that the child was fully immunized. Immunization is also the leading service provided by health centers in both regions (Table 9). Other services included providing formula, supplementary food, vitamins, iodine tablets, fluoride and toothpaste, and weighing. Regional differences in the proportions of children who received these services and supplies reflects the particular needs of each region.

### ***Nutrition Surveillance and Breast-feeding***

Growth monitoring is one means to increase the survival of children under five. Almost all children surveyed were participating in the routine nutritional surveillance system. They were not only routinely monitored by health center personnel but also by village health volunteers who report directly to health centers. The proportions of children in the Northeast and North weighed by village health volunteers were 86.3% and 95.7% respectively. Growth monitoring records were also kept at health centers, and malnourished children could be identified.

Breast-feeding was almost universal among mothers of children aged two years and under (Table 10). Overall, 93% of mothers breast fed their children up to age two. Based on this study, breast-feeding is not a problem in the Northeast; however approximately 12% of children surveyed in the North were not breast fed. It is most likely

that some of these children's mothers were HIV positive, since this region has the highest rate of HIV infection in the country. Moreover, 85% of Northern mothers stopped breast-feeding after 12 months, while almost 60% of mothers in the Northeast still breast fed their babies up to 24 months.

### ***Major Illnesses***

The three most prevalent illnesses in the past 12 months among children five years and under were diarrhea, influenza and pneumonia (Table 11). The incidence of diarrhea one year prior to the survey was 28.4%. The incidence rate in children aged two and under (26.7%) was lower than the incidence rate of children aged 2-5 years (31.3%). A higher proportion of children in the North than the Northeast reported having diarrhea. In terms of help-seeking, children were given care at the local health center where they received ORT (including increased fluids and continued feeding).

Influenza and pneumonia were the second and the third most prevalent illnesses among children under five in this survey. The prevalence of children reported having influenza was 28% with pneumonia at 17%. The prevalence of influenza in Northeastern children was higher than that of children in the North (35% and 21%). In contrast, the prevalence of pneumonia was higher in the North than in the Northeast (20% and 14%). Nevertheless, the age distribution of children who reported having influenza and pneumonia in the past 12 months is the same. Children aged 3-5 years were more likely to have acute respiratory tract infections than children aged 2 years and under.

As for malnutrition, only 2.8% of children aged five and under in the eight study villages were malnourished, however, the degree of malnutrition was not known. Approximately 4% of children in the North and 2% of children in the Northeast were reported to be malnourished. Moreover, among children under five, there were no reported cases of vitamin A deficiency. Less than one percent of children under five exhibited goiter or anemia, and these cases were restricted to the North. However, there were some thalassemia cases reported in the Northeast.

### *Perceived Child Service Needs*

To assess the perceived needs of mothers regarding child services/supplies, interviewers asked about what services/supplies mothers would like to receive from the public sector (Table 12). Responses centered primarily on child survival services and secondarily on child development. The most frequently cited need was for supplementary food, followed closely by formula/UHT milk. This finding is not surprising in that people living in remote areas often suffer from household food insecurity. Food is also perceived to be the most basic of needs compared to others. Other perceived needs were medicine, toys (especially in the North) and child care centers (particularly in the Northeast).

## **HEALTH SECTOR SERVICES AND SUPPLY NEEDS**

### *Key Health Issues and Services*

Macro-level data on what health sector needs and services exist were collected through observations and discussions—both individually and in groups—with provincial and subdistrict health personnel. In collecting data, the working definition of “need” referred to supplies or services that were either lacking, in very short supply (not meeting demand), in disrepair or otherwise not functioning. The following discussion first begins with a brief description of the major MCH problems and MCH service issues in the two Northern and Northeastern provinces, followed by an itemization of supply/support needs at the health center level.

Protein-energy malnutrition among under-five children remains as a major health concern in remote areas of both regions at a rate of 15% for Khon Kaen province, Northeast Thailand, and 19% in Chiangrai province, Northern Thailand. The national average is about 10% as of 1997, while provincial rates stand at 14.6% for Northeast Thailand and 13.77% for Northern Thailand. Considering that nutritional surveillance and growth monitoring activities are reportedly conducted in remote villages, with children under-five being weighed every 3 months, these persistently high rates cast doubt on the effectiveness of such services.

Low birth weight (LBW) has been used as an indicator of maternal

nutrition, whereas it actually is also a predictive indicator of potential under-nutrition during the preschool years. Although Thailand has experienced progressive improvement in LBW—from 9.5% in 1989 to 8% in 1996—it remains most acute in remote villages of Northern Thailand where it can reach as high as 20%. The rate for remote Northeastern Thai villages is 7%. One of the factors affecting the prevalence of LBW is the quality of ANC services which includes maternal nutrition education. The extremely high rate in Northern Thailand may be attributed to the fact that women predominantly received ANC at community or subdistrict health centers, whereas in Northeastern Thailand ANC was usually obtained from hospitals (Table 4). Moreover, Northern women have a higher propensity to seek ANC very late in their pregnancy; many at almost the time of giving birth (5+ months; Table 4). As a result, the quality of ANC services provided at health centers in remote rural villages and the factors affecting maternal decisions to seek ANC in Northern Thailand must be re-evaluated and measures taken for improvement.

AIDS is also a major MCH issue in Northern Thailand. Approximately 7% of pregnant women were HIV infected, and about 5% of newborn babies tested positive for the disease. This small-scale study also uncovered eight orphans of parents who had died of AIDS. These children live with their grandparents, and most were the offspring of mothers who were former commercial sex workers.

Discussions about support received from UNICEF revealed that direct support for MCH activities occurred during 1988-1989. Since 1993, UNICEF support has been channeled through the Family Development Project (FDP) which was jointly implemented through the cooperation of the Ministries of Education, Interior, Public Health, and Agriculture and Cooperatives. One major difficulty has been that the focus of FDP activities is changed every time the project's leader is changed. As it stands now, this person is newly appointed every year. Hence, MCH activities are not directly, systematically nor continuously supported.

### ***Supply Needs at Health Centers***

Health centers are the first step in Thailand's PHC hierarchy and referral system. Their proper functioning is thus crucial if health

problems are to be addressed at the earliest possible moment. Unfortunately however, ANC clinics, particularly those under the responsibility of health centers, as well as Well Baby Clinics are ill-equipped (Chart 1). Basic equipment such as sphygmomanometers, stethoscopes and weighing scales are not in working order. Necessary equipment such as a haematocrit centrifuge machine are not available. Anthropometric equipment (weighing scales, length measurers) are inappropriate and inconvenient to use with children of different ages. Child development kits, which are cited as being essential to promote and monitor child development, are also not available.

Also lacking or in short supply are essential drugs such as paracetamol (tablets and syrup), multivitamins (usually given during ANC), vitamin B complex, calcium tablets and ferric tablets. Even in Northern Thailand where the HIV/AIDS epidemic is most acute, there is a shortage of good quality rubber gloves. Likewise, there is an inadequate supply of condoms in this region. Regarding family planning, training and material support for IUD insertions is needed, particularly in Northeast Thailand, while refresher courses in MCH are needed in Northern Thailand.

Health education and counseling can play an important role in preventing many health and nutritional problems. However, while health centers and clinics in non-remote areas may have greater access to education materials, these are lacking in remote areas. Demonstration models for family planning and ANC, as well as flip-charts, posters and leaflets for ANC, family planning, breast-feeding, and specific health and nutrition problems (anemia and thalassemia) are not available or are insufficient to the task.

**Chart 1. Supplies/supports needed at remote health centers in Northern and Northeastern Thailand.**

Supplies/Supports Needed	Regions	
	North	Northeast
<b>1. Essential Drugs</b>		
(e.g., Paracetamol, MTV, Vitamin B. Complex, Calcium tablets, Ferric tablets)	✓	✓
<b>2. Equipment at ANC clinics and Well Baby Clinics</b>	✓	✓
2.1 Sphygmomanometer	✓	✓
2.2 Stethoscope	✓	✓
2.3 Weighing scal	✓	✓
2.4 Haematocrit centrifuge machine	✓	✓
2.5 Body length measurer	✓	✓
2.6 Child development test kits	✓	✓
2.7 Rubber gloves (good quality)	✓	✗
<b>3. Family Planning Service</b>		
3.1 IUD inserters	✗	✓
3.2 Training of the staff on IUD insertion	✗	✓
3.3 Condoms	✓	✓
<b>4. Health Education Activities</b>		
4.1 Models for demonstration (Family Planning, ANC)	✓	✓
4.2 Flip-charts (ANC, Family Planning, Breast feeding, Nutrition, Thalassemia and anemia)	✓	✓
4.3 Posters (ANC, Family Planning, Breast feeding, Nutrition, Thalassemia and anemia)	✓	✓
4.4 Leaflets (ANC, Family Planning, Breast feeding, Nutrition, Thalassemia and anemia)	✓	✓
<b>5. Vehicles</b>	✗	✓
<b>6. Training/ Workshop</b>		
6.1 MCH	✓	✗
6.2 IUD insertion	✗	✓
<b>Note</b>	( ✓ ) = Needed	
	( ✗ ) = Not needed	

## PRIMARY SCHOOL SERVICES AND SUPPLY NEEDS

### *School Supplies/Supports*

Great variation exists in the quality and functioning of school lunch programs, which further complicates school children's nutritional and health status. Among primary school children in both regions, 10-15% of children were malnourished. Although school lunch programs are being implemented with support from the district education office, the budget is exceedingly limited and thus insufficient to provide children with lunches on a daily basis. Some children go without lunch. Traditionally, the main problems in implementing school lunch programs have been poor management by the schools themselves and/or the lack of resources as well as interest. Today, with the government's school lunch budget being cut tremendously, the lack of financial input is the greatest limiting factor (in one remote school in Northeast Thailand, for example, the headmaster noted that his budget has been cut in one year from 5 baht per child to only 1.25 baht per day [1 US\$ is approximately 40 baht]). Milk was formerly provided for young school children (up to grade 3), but at present it is also being cut-off as a result of the economic crisis.

Teachers in Northern and Northeastern Thailand, however, differed in their opinions about what type of support is needed for school lunch programs. In Northeastern Thailand, the recommendation was support for initiating self-help food production in schools, in collaboration with communities and subdistrict development organizations (Chart 2). In Northern Thailand, however, teachers responded that they were too under-staffed to undertake school agricultural activities. Instead, they preferred support in terms of a budget to buy raw materials. Teacher could then request parents to participate in the school lunch program by taking turns cooking lunches for the children.

Playgrounds with appropriate equipment are considered essential for promoting child growth and development (physically, mentally and socially). These are lacking in primary schools in rural/remote areas of Khon Kaen. What can be seen is only empty ground with rough surfaces. While playgrounds exist in Chiangrai, all of the equipment is

very old, broken and non-functioning. In some cases, the equipment is hazardous to children's health by leading to physical injury.

Basic school supplies such as books, notebooks and uniforms including shoes are lacking. In Khon Kaen, about 70 percent of school children have only one uniform and it is worn 5 days a week. For footwear, instead of wearing shoes, the school children wear adult-sized rubber sandals. In Chiangrai, school uniforms including shoes are lacking or are too small. For book supplies, often schools are in competition with each other to obtain these supplies from the district office. As a result, even notebooks are in short supply in many schools.

School dental health programs exist, and school children are educated and trained to take care of their oral hygiene. However, toothbrushes, toothpaste and water glasses are not sufficient. Furthermore, although in most schools drinking water is available for children all year round, the quality is unsafe, since there are no water filters. School children are thus at risk of diseases due to drinking unsafe water, which helps to contribute in part to the high rate of diarrhea. The rate of infectious diseases such as influenza is also aggravated by the communal use of water glasses.



**Chart 2.** Supplies/supports needed by remote primary schools in Northern and Northeastern Thailand

Supplies/Supports Needed	Regions	
	North	Northeast
<b>1. School Lunch Program</b>		
1.1 Support for self-help food production (Chicken raising, fish raising, vegetable gardening, etc.)	✘	✓
1.2 Budget support	✓	✓
1.3 Materials (Glasses, Food trays)	✓	✓
<b>2. Playground and Equipment</b>		
<b>3. School Kits</b>		
3.1 Books	✓	✓
3.2 Note-books	✓	✓
3.3 School uniforms	✓	✓
3.4 Shoes	✓	✓
<b>4. School Dental Health Program</b>		
4.1 Toothbrushes	✓	✓
4.2 Toothpaste	✓	✓
4.3 Water glasses	✓	✓
<b>5. Reliable Sources of Filtered, Safe Drinking Water</b>	✓	✓
<b>6. Supplementary Food/Milk</b>	✓	✓
<b>7. Services and support for AIDS orphans</b>	✓	✘
<b>8. Services and support for children with disabilities</b>	✓	✓
<b>9. Day care center establishment and provisioning</b> (curriculum, lunch, milk, teachers, etc.)	✓	✓
<b>Note</b>	( ✓ ) =	Needed
	( ✘ ) =	Not needed

In some schools in the Northeast, access to water is limited during the dry season (November - May). For some, the closest water supply is several kilometers away in a village, but this supply is only enough to provide for the community's needs. On days of short supply (particularly during the long dry season), school children have very limited access to drinking water and water for latrine use. Consequently, a school may close half of its latrines and encourage students to use as little water as possible. As a result, environmental sanitation levels become unacceptable. It is not uncommon,

moreover, that a school will close for some time until an adequate water supply is collected. As a result, the quality of the children's health and education is suffering due to preventable infrastructural problems associated with basic child survival.

### ***Children with Special Needs***

There are also special groups of children in need of assistance, especially in Northern Thailand. The study uncovered children who do not attend school because they have been classified as "mentally retarded," a term which often refers to the child's outward behavioral appearance rather than his/her exact physiological or psychological state. The difficulty here is that this classification covers a wide range of children, all of whom need different types of services and supports for themselves, their schools and families; for instance, those children with cognitive disabilities, those suffering from Down's syndrome, those with behavioral problems that are not caused by biological disorders (discussed below), or those afflicted with cretinism due to iodine deficiency.

While school drop-out is not a problem, some children must stay at home periodically to take care of younger siblings when their mothers must migrate for wage work. As a result, community day care centers (and most notably those located within schools) with adequate early childhood learning programs are in urgent need of support. This problem has been exacerbated by the fact that due to the economic crisis, children three years of age can no longer be admitted into kindergarten, as they were before the crisis hit. Hence, child care responsibilities on the part of siblings has grown in extent and complexity.

Lastly, the study uncovered school girls whose parents had died of AIDS or AIDS-related complications. These children live with their grandparents, and some exhibit behavioral problems in terms of isolation and aggression. These children face a complex set of challenges (economic, social, emotional) and are in need of urgent assistance to help them to cope with their situation.

## CONCLUSION

Due to the Royal Thai Government's political and economic commitments to improve the Thai health status, access to health care services now reaches virtually all communities through an extensive primary health care system that reaches even into remote rural communities. Likewise, there is near universal access to basic education including female education, and high adult literacy (over 90%) among both men and women.

Yet Thailand is now at a cross-roads. On the one hand, its early commitments have built the infrastructure needed to provide accessible basic social services; yet, the quality of human resources and the quality of services have not kept pace with quantitative coverage rates. Hence, large disparities exist between the health and educational opportunities and quality care given to the general Thai population versus that of disadvantaged women and children living in remote rural areas.

The current economic crisis exacerbates these problems, with those in disadvantaged situations coming under even more pressure. Reports from the field are revealing that the most drastic budgetary cuts are occurring at the bottom, and progressively declining the higher up the organizational ladder one goes. Evidence of this can be seen from this study, where even the most basic and essential items such as milk and food for school children, school supplies, safe water, essential drugs like paracetamol and even basic equipment like stethoscopes are not available or in very short supply. In some cases, health center personnel working in remote communities (some of whom have only a high school education) have little more than alcohol, cotton and expired drugs to use in treating their fellow villagers. In emergency situations, lack of transportation and poor road conditions inhibit the immediate transfer of patients to higher level medical facilities.

This situation has led to persistent health and nutritional problems among mothers and children, many of which have declined dramatically in the general Thai population, but remain as important obstacles to the development of remote areas and the fulfillment of children's rights. Simultaneously, remote populations must not only

deal with unfinished health and nutrition agenda associated with under-development; they, and particularly young children, are facing emerging threats, the most obvious of which is HIV/AIDS. As a result, disadvantaged mothers and children are not suffering from single problems, but multi-dimensional ones that only multisectoral actions can effectively solve.

Finally, policy changes are also having an impact. In remote areas bordering Laos, for example, the Thai Ministry of Public Health has announced that Laotians can receive treatment from Thai health centers the same as Thai nationals. The rationale is that such treatment will reduce the cross-border transmission of preventable diseases. Yet with the cost of essential drugs and other supplies rising due to the economic crisis, local health workers are having to come to terms with who should have priority in receiving them, the Lao or the Thai. In most cases, they adopt a first come, first served system, one that discriminates not on the basis of nationality, but on timing. Essential drugs are dispensed not on the basis of need, but on who comes first.

Likewise for education, Thailand has just adopted a new Constitution which envisions extending compulsory education to 12 years (currently it stands at 6 years). In this era of economic uncertainty, questions are already emerging about how to pay for the human and material resources needed to provide 12 years of schooling for Thailand's children, as well as the impact this will have on the nation's workforce and level of productivity.<sup>8</sup>

This is the overarching reality of the situation. If UNICEF continues to define its mission in terms of pursuing children's basic needs as human rights, then UNICEF's supply function must be re-oriented in Thailand to focus more heavily on promoting and fulfilling the survival, development and protection needs of women and children living in remote rural areas where governmental resources cannot (or will not) reach. At the same time UNICEF's advocacy role must

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<sup>8</sup> Thai children can enter the labor force as early as 13 years, though a new 15 year age requirement is under consideration. Between 2 to 3 million children live below the poverty line with limited to no access to education. With about 1.6 million children being out of primary and lower secondary school, child labor remains widespread; more girls enter the labor force at a young age compared to boys.

push for improvements in the quality and functioning of basic social services, not simply their coverage.

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## ANNEXES

**Table 1.** Characteristics of sampled mothers by region

Characteristic	Northeast	North	Total
<b>Age</b>			
• 15-19	4.8	3.7	4.3
• 20-24	29.5	23.0	26.3
• 25-29	31.9	24.8	26.3
• 30-34	20.5	22.4	28.4
• 35-39	8.4	21.7	21.4
• 40-44	3.6	3.1	3.4
• 45-49	1.2	0.6	0.9
• 50+	0.0	0.6	0.3
<b>Education</b>			
• Illiterate	1.2	2.5	1.8
• Lower than Pathom 4	1.2	1.3	1.2
• Pathom 4	34.3	23.9	29.2
• Pathom 6	56.0	50.2	53.3
• Mathayom 1-6	7.2	19.5	13.2
• Vocational	0.0	1.3	0.6
• Bachelor	0.0	1.3	0.6
• Others	0.1	0.0	0.1
<b>Presently living in household</b>			
• No	15.7	14.4	15.0
• Yes	84.3	85.6	85.0

**Table 2.** Number of children ever born (CEB)

Number of children ever born	Northeast	North	Total
• 1	44.6	54.0	49.2
• 2	42.8	39.8	41.3
• 3+	12.6	6.2	9.5
<b>Mean number of children</b>	<b>1.8</b>	<b>1.5</b>	<b>1.6</b>

**Table 3.** Contraceptive use of mothers by region

Contraceptive use/ sources	Northeast	North	Total
<b>Currently using</b>			
• No	23.4	16.6	20.2
• Yes	76.6	83.4	79.8
<b>Method currently using</b>			
• Pills	22.3	48.1	35.7
• Injectables	20.7	30.5	25.8
• IUD	26.4	0.8	13.1
• Female Sterilization	28.1	17.6	22.6
• Male Sterilization	0.0	0.0	0.0
• Norplant	2.5	3.1	2.8
• Condom	0.0	0.0	0.0
<b>Sources of contraceptives</b>			
• Health Center	29.8	46.4	38.1
• Community Hospital	40.4	15.2	27.9
• Other government Hospital	22.8	7.1	15.0
• Clinic/Private Hospital	0.0	5.4	2.7
• Drug Store	3.5	10.7	7.1
• Primary Health Care Center	3.5	15.2	9.2

**Table 4.** Percentage of mothers receiving antenatal care during their last pregnancy and place of ANC services.

Receiving ANC	Northeast	North	Total
• No	0.6	1.3	0.9
• Yes	99.4	98.8	99.1
<b>Place of ANC services</b>			
• Health Center	43.4	74.4	58.7
• Community Hospital	32.7	4.5	18.7
• Other government Hospital	22.6	10.3	16.5
• Clinic/Private Hospital	1.3	10.9	6.0
<b>Months of pregnancy at first visited ANC</b>			
• 1	14.9	12.9	13.9
• 2	29.9	34.2	32.0
• 3	42.2	41.3	41.7
• 4	9.1	6.5	7.8
• 5+	1.9	3.9	2.9
• Don't know / No answer	1.9	1.3	1.6

**Table 5.** Percentage of mothers receiving specific services during ANC

<b>Receiving ANC</b>	<b>Northeast</b>	<b>North</b>	<b>Total</b>
• Immunization	98.8	100.0	99.4
• Medicine	26.7	22.4	24.6
• Blood test	93.3	98.7	96.0
• Ferrous	62.7	94.7	79.1
• Multivitamin	86.8	98.7	92.7
• Supplementary food	17.5	5.0	11.3
• Health education	83.8	82.7	83.2
• Others	11.0	7.0	9.0

**Table 6.** Birth delivery locations by region

<b>Place of birth delivery</b>	<b>Northeast</b>	<b>North</b>	<b>Total</b>
• Health Center	0.6	1.3	0.9
• Community Hospital	64.4	46.2	55.5
• Other government Hospital	26.4	39.9	33.0
• Clinic/Private Hospital	1.8	10.8	6.2
• Others	6.8	1.8	4.4

**Table 7.** Percentage of mothers reported ever receiving home PNC visits by health personnel.

<b>Ever receiving home visited</b>	<b>Northeast</b>	<b>North</b>	<b>Total</b>
• No	66.9	57.5	62.3
• Yes	32.5	42.5	37.3



**Table 8.** Age distribution of children surveyed by region

Age (in years)	Northeast	North	Total
Under 1	4.2	17.4	10.7
1	30.9	18.6	24.8
2	29.1	19.3	24.2
3	18.8	20.5	19.6
4	11.5	9.3	10.4
5	5.4	14.9	10.3
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Number</b>	<b>166</b>	<b>161</b>	<b>327</b>

**Table 9.** Percentage of children receiving services at health centers during PNC

Services	Northeast	North	Total
• Vaccine	98.8	100.0	99.4
• Formula	0.6	7.5	4.0
• Supplementary food	2.4	0.0	1.2
• Health record book	98.2	99.4	98.8
• Vitamin	4.8	19.9	12.3
• Weighing	86.1	98.1	92.0
• Others	10.9	6.8	8.9

**Table 10.** Percentage of children ever breast fed by duration of breast feeding

Duration	Northeast	North	Total
0 month	2.4	11.9	7.1
1-12 month	33.7	73.6	53.8
13-24 month	58.5	13.2	36.3
25 month and over	5.4	1.3	3.4

**Table 11.** Percent children under five having severe illnesses during the past 12 months

<b>Illness</b>	<b>Northeast</b>	<b>North</b>	<b>Total</b>
• Anemia	0.0	0.6	0.3
• Goiter	0.0	0.6	0.3
• Influenza	34.9	21.1	28.1
• Pneumonia	13.9	19.9	16.8
• Diarrhea	21.1	36.0	28.4
• Malnutrition	1.8	3.7	2.8
• Others	10.2	13.0	11.6

**Table 12.** List of services for children 5 years of age and under needed by the respondents.

<b>Services needed</b>	<b>Northeast</b>	<b>North</b>	<b>Total</b>
• Supplementary food	54.0	39.1	45.2
• Formula/ UHT Milk	23.4	40.4	33.4
• Vitamins	2.7	1.9	2.2
• Medicine	8.2	5.0	6.3
• Physical check-up	2.7	0.6	1.5
• Child care center	5.4	0.6	2.6
• Toys	0.9	11.2	7.0
• Home visit	2.7	1.2	1.8

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